



**NATIONAL
CONSERVATION
LANDS**

Craters of the Moon National Monument and Preserve

Proposed Management Plan Amendment
Final Environmental Impact Statement
Volume II



Craters of the Moon National Monument Draft MMP Amendment
Responses to Public Comments Received

Volume 2
Appendix L

Introduction

This appendix contains the response to comments BLM received on the Draft EIS for the Craters of the Moon Plan Amendment. The Draft EIS was made available for public review on September 30, 2016. The 90-day comment period closed on December 29, 2016.

Draft EIS Announcements

The availability of the Draft EIS and the public comment period was announced using a variety of tools:

- Federal Register – The BLM published a Notice of Availability in the Federal Register on September 30, 2016. The Notice of Availability announced the release of the BLM’s Draft EIS for Craters of the Moon National Monument and Preserve. The Notice of Availability also announced the BLM’s intent to conduct public meetings and collect public comments on the document.
- Notification mailer and e-mail – The BLM prepared a notification letter, which was mailed to interested parties. Approximately 500 letters were sent to a combination of agencies and individuals with an interest in the Monument. E-mail comments were accepted at BLM_ID_CRM@blm.gov, as well as by mail.
- Press release – The BLM prepared and distributed a press release regarding the Draft EIS comment period, public open house meetings, and to encourage public participation. The press release was distributed on September 30, 2016 to announce the release of the Draft EIS, the start of the 90-day comment period, and the public open house schedule.
- BLM Craters of the Moon National Monument Planning website – The BLM Project website and the ePlanning project website were updated to announce the release of the Draft EIS. The updates included the public meeting and comment period schedule and a link to the electronic draft EIS available for viewing and download.

Draft EIS Meetings

The BLM hosted two public meetings in November 2016 to provide information on the document and to encourage public comments on the Draft EIS. As summarized in Table 1, a total of 21 members of the public attended the two meetings.

Table 1

Meeting Date	Meeting Location	Attendance
November 3, 2016	American Falls, Idaho	5
November 16, 2016	Carey, Idaho	16
Total		21

There were 38 individual letters submitted to the BLM during the comment period and included in those letters were 475 individual comments. These letters and comments were reviewed by the planning team and responded to. Comments received during the Draft EIS comment period are addressed and responded to in Appendix L of the Final EIS. Comments are reprinted in this Table 2 as received, and have not been edited for spelling or grammar.

Table 2

Letter Number	Comment Number	Organization or individual	Comment	Response
1	i	Bob Brister	<p>I'm glad to hear that Craters of the Moon NM is updating its management plan. I've visited the monument several times and enjoy it very much.</p> <p>Livestock grazing is incompatible with national monuments. I hate seeing cattle manure on our national monuments. Please eliminate livestock grazing from Craters of the Moon National Monument.</p>	Your opposition to public land grazing is noted.
2	i	Dennis Hauser	<p>I have spent well over 200 nights camping and an additional 200 plus days hiking, hunting, and scouting Craters of the Moon Monument over the past ten years every month of the year. Before the Laidlaw fire it was common to see 200-300 grouse within the first hour of glassing for wildlife. While I prefer not to hunt around livestock or where livestock have grazed. The greater problem has been loss of sage habitat from fire.</p> <p>I would also suggest reducing grazing somewhat. Replanting sage in key areas. And while not important to sage grouse small game and big game watering systems that function though out the summer month. Cattle have a big impact, I believe some of that impact would mitigate some impact by having functioning water systems for wildlife. I sat on one water tank in a typical evening I would see 20-50 jack rabbits, 5-10 cottontail rabbits and some night up to 2-10 pygmy rabbits. Elk, deer, antelope, coyotes all sorts of birds and bats often visited.</p> <p>Grazing isn't the main problem. Unmanaged fire is the problem.</p> <p>Reduce grazing animal units. Use grazing as a tool to reduce range fire, plant sage in burns and place functioning water systems for all wildlife.</p>	Fire is managed based on decisions in ARMPA which seeks to protect intact sagebrush communities and sage-grouse habitat. Using grazing as a tool is a component of several of the alternatives analyzed.
3	i	Martha Bibb	EIS studies confirm once again that grazing on public lands needs to be greatly reduced. Environmentally degraded sage steppe habitat needs to be restored. The AUMs are woefully inadequate to fund our public land management staffs.	<p>AUM fees are outside the scope of this project.</p> <p>Please see Ch. 3 Vegetation for a</p>

			Reducing the number of grazing permits on public lands has repeatedly been cited by scientific studies as a key element to restoring both the land and the wildlife. Significant increases in AUM fees also needs to be implemented. A pregnant and lactating cow has huge feed needs. And a calf begins eating vegetation soon after its fulltime nursing ends so it basically eats on our public lands for free. We need to charge a rate similar to a private grazing rate to help fund our land management staffs.	discussion of restoration needs, specifically the reestablishment of sagebrush.
4	i	Gail Carroll	Cattle should not be grazing on public land. Taxpayers should not be subsidizing the livestock industry and then be expected to pay high prices to buy the meat later.	Your opposition to public land grazing is noted.
5	i	Katie Fite	WLD is very concerned that BLM Is only holding public meetings in small towns, away from where larger numbers of the public who use these lands for a host of recreational aesthetic and spiritual purposes live. BLM should hold meetings in: Boise, Twin Falls, the Wood River Valley. This same thing occurred with the flawed scoping process. This purposeful avoidance of population centers prejudices the Comments in favor of the livestock industry and commodity and extractive uses. Again, please schedule public meetings in places where the bulk of the population lives and conduct a fair process.	Comments have been accepted nationwide. Presence at a public meeting is not required to make a comment. Verbal comments carry no extra weight over written comments.
5	ii	Katie Fite	WLD has not yet had a chance to review the entire document but we are dismayed at the inadequate range and scope of alternative actions, the minimal loose and uncertain goals and objectives that greatly fail to conserve values of the Monument and Monument landscape like sage grouse, burrowing owl and pygmy rabbit, the lack of an adequate environmental baseline of the threats and damage pied by the grazing and facility disturbance to the Monument landscape, and the lack of necessary mitigation and monitoring of livestock grazing and livestock facility impacts in this scientifically deficient EIS.	The purpose and need for the amendment to the MMP is to address whether and how grazing is to occur, consistent with the values that supported the designation.
5	iii	Katie Fite	The EIS is a throwback to the bygone decades BEFORE the great threats posed by invasive species (including the plethora of crested wheatgrass and other exotics in this landscape) was known. The adverse effects of cwg, cheatgrass, bulbous bluegrass and other weeds is not properly addressed including in alternatives to remove these harmful plants. For example, removal of crested wheat and restoration	Alternative C, the preferred alternative, specifically allows for directed grazing toward non-native plant

			of lands with natives must be a high priority. To do this, significant removal of livestock must occur. The same with water haul sites and livestock facilities.	communities to allow for sagebrush recovery and/or to benefit the diversity of seedings. The existing 2007 MMP direction provides guidance for restoration activities. Please see Appendix D of the FEIS.
5	iv	Katie Fite	The entire allotment must be addressed not just the portions within the Monument. This is necessary so that impacts are not shifted onto other areas, including crucial sage grouse, pygmy rabbit or other habitats. The full range of cumulative effects of grazing disturbance, livestock facilities, INEL site activities and proliferation of disturbance there, agency veg treatments, failed fire rehab and ESR, extensive scorched earth herbicide use taking place, or that will take place in this landscape under this Plan must be assessed.	Indirect and cumulative effects to bisected allotments were analyzed in total.
6	i	Dave Holt	I am against cattle grazing in the Craters of the Moon National Monument. Definition of a national monument is a place (such as an old building or an area of land) that is owned and protected by a national government (public land) because of its natural beauty or its importance to history or science. Cattle grazing for the benefit of private business is not a part of that definition. Just a reminder before you consider.	Your opposition to public land grazing is noted.
7	i	Laura Menefee	I am opposed to grazing permits for BLM land. Grazing poses a significant threat to wildlife, native plants and riparian ecosystems.	Your opposition to public land grazing is noted.
8	i	Janine Neiwirth	Thank you for asking for public comments on proposed grazing alternatives in the Craters. I am in favor of Alternative D. The Craters has so many delicate native plants! I hike many areas throughout southern and central Idaho. When hiking, the impact of livestock on vegetation is so obvious whether we want to admit it or not. Please consider Alternative D for this beautiful area.	Your preference for Alternative D is noted.
9	i	Donna Porteus	In response to your request for input on proposed changes to the current grazing policies in Idaho, I wish to register my own comments for your consideration. I	Your opposition to public land grazing and

			<p>propose that nothing short of Alternative A be enacted, and I would actually like to see the amount of grazing land reduced, or closed out, entirely (Alternative D).</p> <p>The state of Idaho does not value the wildlife within its state borders and has not enacted any common sense predator management guidelines, deferring always to cattle and sheep growers. If the state cannot accommodate the very wildlife that maintains their land and keeps it healthy, then expanding, or even maintaining, the current grazing allotments will not revitalize that land. Conversely, allowing for a healthy predator population by increasing their numbers will insure healthier land, free of cattle befoulment. So, to reiterate, I vote for Alternative D, but understand that it may not be politically expedient to totally recall all land at this juncture, and would approve either a graduated loss of grazing habitat, to allowing the continuation of the allotment, with the caveat that the state adopt a more predator friendly stance.</p>	<p>your preference for Alternative D is noted.</p>
10	i	Leeanne Willoughby	<p>We do NOT support any livestock grazing on public land</p> <p>Thank you for letting us comment</p>	<p>Your opposition to public land grazing is noted.</p>
11	i	Ron Reece	<p>After reading through your proposed Amendment to Grazing policy at Craters of the Moon, (CratersDraftMMPAmendmentEIS508.pdf), I fail to see where you make the case that grazing has been the primary cause of diminished Sage Grouse populations. Rather, you state in numerous places that large quantities of the monument have been ravaged by fire, driven by widespread Cheatgrass intrusion, which would logically seem to be the ultimate cause of lack of Grouse habitation as wildfires diminish available food sources. This not only impacts Sage Grouse, but also Mule Deer, Elk, and Pronghorn populations as the sagebrush is destroyed by excessively hot, Cheatgrass fueled, wildfires.</p> <p>Thus, it appears the greatest threat to the Sage Grouse are range fires, primarily due to excessive fuel (cheatgrass, and other grasses), as well as predators such as Coyotes, Ravens.. etc. I don't see the threat to the Sage Grouse from livestock grazing. There seems to be a lack of evidence that livestock grazing must be reduced, or eliminated, in order to "save" the Sage Grouse.</p>	<p>Your comments have been noted. BLM agrees that wildfire is a primary threat to sage-grouse. However, other activities, such as improper livestock grazing, are secondary threats. Grazing and its effects on wildfire management and control are evaluated in the alternatives, with the effects under Alternative D, the no</p>

				grazing alternative (p. 190, FEIS) describing the expected increases in fine fuel loading and continuity and resultant increase in fire behavior and fire size that would occur without a well-managed grazing program.
11	ii	Ron Reece	If any step is necessary to saving the species, it is protecting it from animal predators (national park status makes human hunting a moot issue).. as well as finding a way to minimize wildfires that would destroy the sagebrush that the bird relies upon for over 60% of its food. Livestock grazing involves human presence, which is a natural deterrent to the predators that prey on Sage Grouse.	Predator control is outside the jurisdiction of the BLM. Hunting, managed by IDFG, is allowed on the BLM lands within the Monument and the NPS Preserve area.
11	iii	Ron Reece	Cheatgrass has been blamed for increasing the likelihood of extensive wildfires in the summer months.. Few Animals will eat it once it has dried out. However, my reading indicates that livestock WILL eat Cheatgrass in the early months of Spring, which would seem to indicate that increasing the AUMs of livestock would be beneficial to reducing the amount of Cheatgrass that eventually becomes wildfire fuel. Therefore, it could be perceived that INCREASING livestock grazing in Spring could have a positive impact on reducing the presence of Cheatgrass, therefore reducing the threat of massive wildfires powerful enough to destroy the Sagebrush. This is an area that deserves much more scientific research. Additional areas that require further research revolves around a microbial herbicide, D7, which holds the promise of long term mitigation of Cheatgrass. My reading indicates that applying D7 would be far less expensive than the annual cost of fighting the wildfires fueled by Cheatgrass.	Herbicide control is outside the scope of this planning effort. Alternatives C and E analyze the effects of restoring desirable vegetation through livestock management.
11	iv	Ron Reece	Finally, there's the issue of the Federal Gov't losing grazing income paid by livestock owners. Not only does this adversely impact the taxpayers, who have to	Socio-economic effects were analyzed for all

			make up the deficit, it also raises costs to the livestock owners as well, which is passed on to consumers.	the alternatives in the Draft Plan Amendment.
11	v	Ron Reece	<p>To focus on livestock grazing, while ignoring the "800 pound Gorilla in the living room" of highly destructive wildfires fueled by Cheatgrass, which results in destruction of Sage Brush forage for Sage Grouse and other fauna, is illogical and a scientific distraction. While some assert that livestock grazing provide "entree" for Cheatgrass to invade an area, once that Cheatgrass has asserted itself, grazing may be an integral part of the solution in controlling the invasive species.</p> <p>Therefore, I highly recommend that "Alternative A" (No change in grazing policy) can be the only scientifically valid recommendation at this time. Thank you for taking the time to read my comments on this matter.</p>	The purpose of the plan amendment is to address livestock grazing. Your support of Alternative A is noted.
12	i	David Dutton	Please leave grazing as is , alternative A , thank you.	Your preference for Alternative A is noted.
13	i	Wes Goff	i run about 200 pairs of cows ,i don't graze on any blm ground myself but would hate to see that way of life go away. the cattlemen have been out there for over 100 years and haven't hurt a thing, in fact done more good than harm . they also help prevent wildfires by eating all of the overgrowth. the big problem is more people need to be educated on the benefits and quit listening to the folks in DC. that are educated only out of a book. in my opinion they don't have much common sense. it still should be managed though .thanks for listening to my 2 cents	Your support of public land grazing is noted.
14	i	Karl Studer	<p>Please leave the Grazing as it. Grazing Alternative A.</p> <p>Any changes will cause increase fire danger as well economic impact to the State and Local economy.</p>	Your support for Alternative A is noted.
15	i	Dyrck Van Hying	I am a volunteer researcher on Sage Grouse (SG) in Montana working with the Hi-Line District of the BLM and the Montana Sage Grouse Oversight Team (MTSGOT) . I am assisting the Montana Land Reliance and a private landowner in his application for grant money from MTSGOT. I have worked with all aspects of Sage Grouse on public and private lands, including Habitat Assessment, ArcGIS mapping of leks and male numbers associated with those leks. I have evaluated Core (priority) and General habitat requirements.	The Monument includes Priority, Important, and General Sage-grouse Habitat.

			Not much help to you in Idaho, but there are in Montana 1289 leks spread across the state from the north east (BLM Hi-Line District) to the southwest (next to Idaho). 823 leks (64%) are in General area by Data Quality definition and 466 leks (36%) in General area that don't meet one or more of the telemetry data requirements but are very important to the overall SG numbers. Apparently Craters of the Moon is in the General habitat area definition.	
15	ii	Dyrck Van Hyning	<p>I have read the Craters of the Moon National Monument and Preserve Draft Monument Management Plan Amendment and Environmental Impact Statement (Draft MMP Amendment/EIS) for the Idaho Bureau of Land Management (BLM) Shoshone Field Office. Cattle grazing in arid land do have a tremendous effect on the land. If enforced, standard would probably reduce the grazing pressure enough to maintain native bunch grasses that</p> <p>don't burn frequently, and might solve the cycle of overgrazing and invasive weeds that are causing today's catastrophic range fires. If enforced, this standard would probably reduce the grazing pressure enough in Priority Habitats and Sagebrush Focal Areas to maintain native bunch grasses that don't burn frequently, and might solve the cycle of overgrazing and</p> <p>invasive weeds that is causing today's catastrophic range fires. If the Suitable Breeding habitat life requirement on page 376 are required and enforced, there would be no threat of listing SG as an endangered species and their numbers would stabilize to historical numbers.</p>	Idaho Standards and Guidelines for Rangeland Health are applied during the permit renewal process, at the implementation level. In addition, guidelines and objectives found in ARMPA are applicable.
15	iii	Dyrck Van Hyning	None of the alternatives seem to meet the requirement for Sage Grouse restoration. Alternative E. – A reduction from the full permitted 38,187 AUMs would be applied to those areas available to livestock grazing, setting the maximum number of AUMs allowed in the Monument to 19,388. Use levels have fluctuated in the Monument based on variations in permittee operations, fires and subsequent closures, drought, and other annual occurrences. This level takes these variations into account and sets the AUM level based on the amount of grazing (however) that has resulted in the current conditions.	All alternatives would meet sage-grouse habitat needs as required by ARMPA.
15	iv	Dyrck Van Hyning	Alternative B, emphasizes protection of Monument values and biological resources, including habitat values for greater sage-grouse, through significantly reduced livestock grazing. A 20% reduction from the 15-year average actual use would be applied to those areas remaining available to livestock grazing, setting the	Your comment is noted.

			maximum number of AUMs allowed in the Monument to 9,432. If cattle grazing were found in the biological assessment of not meeting standards and guidelines AUM reductions would be implemented immediately, not waiting years when the grazing permit renewal process would normally take place.	
15	v	Dyrck Van Hyning	<p>All of the alternatives in this analysis just play with AUM numbers. A recent study in a Montana core area that did not experience sobdusting (the number one or two cause in loss of habitat in Montana) was the “turn out time” for cattle in the allotment.</p> <p>http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1260968.pdf</p> <p>Lorelle Berkeley Ph.D. at the Montana Department of Fish, Wildlife and Parks and Joseph Smith a Ph. D. Student at the University of Montana completed this three year study with some impressive information. I would</p> <p>encourage the Craters of the Moon National Monument team to look at this study and incorporate the findings into the Draft EIS document.</p>	<p>The appropriate season of use for each allotment in the Monument will be determined during the implementation of the selected Alternative.</p> <p>This report is the preliminary findings of a long-term study.</p>
15	vi	Dyrck Van Hyning	<p>I have learned some interesting information in this document on the cost of grazing cattle on private and vs. public lands. The University of Nebraska-Lincoln Extension, Corn Husker Economics, June 27, 2012. Corn Husker Economics is quite interesting. This document comes at the end (Page 389) of this document, and after the document comment on page 277.</p> <p><i>Furthermore, if implementation of Alternative D would reduce livestock permittees’ abilities to keep ranches maintained or profitable, they could be sold and developed, causing additional loss of habitat [Wilkins et al., 2003]. Ultimately, the effects of removing livestock grazing in sage-grouse habitats on a landscape scale are unknown, and it is unclear whether complete removal would</i></p> <p><i>improve sage-grouse habitat or increase population levels.</i></p> <p>The June 27, 2012. Corn Husker Economic:</p> <p><http://agecon.unl.edu/cornhusker-economics/2012/federal-grazing-fees.pdf></p> <p><i>In 1992, the USFS and BLM commissioned a study to examine the value of grazing on federal lands in anticipation of a proposed incentive based grazing fee. As a component of that study, the total costs of grazing on 173 BLM allotments, 72 USFS</i></p>	<p>Your comment is noted. The point of the grazing fee is to equalize the costs of operating on private versus federal land. Also see http://agecon.unl.edu/cornhusker-economics/2012/federal-grazing-fees.pdf for further information.</p>

		<p><i>allotments and 151 private leases throughout Idaho, New Mexico and Wyoming were collected (Van Tassell, Torell, Rimbey and Bartlett, 1997).</i></p> <p><i>The total cost, including the lease rate, of grazing on private leases was \$19.04/AUM, while the total cost of grazing cattle on BLM and USFS leases, excluding the federal grazing fee, was \$15.41 and \$21.89, respectively. This implies that a BLM grazing fee of \$3.63 and a USFS grazing fee of -\$2.86 would equate the total costs of grazing federal and private leases. This suggests that ranchers would be better off financially if private leases could be obtained, rather than grazing USFS</i></p> <p><i>allotments compared to private leases included lost animals, association fees, moving and herding livestock, miscellaneous labor, vehicle expense and horse costs.</i></p> <p>If the Corn Husker article is well researched and applicable in this area, this BLM document statement (<i>livestock permittees' abilities to keep ranches maintained or profitable without public land grazing</i>) would have little effect on profitability. (Page 389) I.2. AUMs and Concept of Cost of Forage- The "cost" of forage on public land is not \$1.69. This is a misconception that is widely shared among people who are unaware of how the grazing</p> <p>fee is determined. It is not a proxy for the value per AUM of public forage. It is actually a means of leveling the economic playing field between those who have access to public grazing and those who</p> <p>don't within the livestock industry. It is just slightly less expensive to operate on public land when all inputs are taken into consideration. In order to prevent operators who hold public land allotments from</p> <p>enjoying a market advantage over those operators who do not have access to public grazing, a fee (our grazing fee) is calculated and levied to make approximate total costs equal between public and private land operations. The fee is calculated in AUMs for convenience, but it actually has nothing to do, on a direct basis, with the value of an AUM of forage. It's unfortunate that there is such a widespread misunderstanding about this issue. It leads many people to believe that somehow operators who hold public land allotments are getting a special deal. In reality, other costs are much larger for them than those faced by operators on private pasture.</p>	
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15	vii	Dyrck Van Hying	<p>In conclusion, the BLM completing the 11 western states biological assessments will be a major factor in stabilizing SG numbers and the other 270 species that require the same habitat. Hopefully some of this information will be helpful to the planning team in developing the Draft EIS and moving forward.</p>	Your comment is noted.
16	i	Henry Etcheverry	<p>As an active sheep rancher, I feel it is imperative that the Craters of the Moon Monument expanded area remain as it is currently being managed. This area is some of the best feed on the desert. There is a wonderful variety of vegetation along the lavas. Many wildlife species also inhabit this rangeland.</p> <p>It is important to allow livestock operators, especially sheepmen, to haul water and move our sheep camp on the many two-track roads within the monument area. There have been sheep on this area for over a century and I am sad to say, Etcheverry Sheep Company was the last sheep outfit to go into and graze Bear Park kipuka.</p> <p>Who wants to go out there in the summer months when it is hot, dusty, windy, dry, no shade and infested with rattlesnakes? This area is utilized by we sheepmen with respect and historical reverence. I encourage the public to explore this unique landscape but please keep its status as it is today. Everyone can enjoy this delicate area.</p>	Your preference for Alternative A is noted.
17	i	Don Johnson	<p>I feel Alternative D should be the Preferred Alternative. If it is not selected Alternative B is the next best alternative.</p> <p>“Relative Comparison of Impacts Among Alternatives” indicates that Alternative D has the highest potential to improve soil, water, vegetation, as well as fish and wildlife resources. In addition Alt. D has the highest potential to improve other Monument values including Native American Rights and Interests, cultural and visual resources, and wilderness characteristics; it has the least potential to conflict with Recreation and Visitor Experience. The determination that the potential to impact socioeconomics for Alt. D has highest potential; is negative for commercial livestock production due to elimination of grazing, but positive for other Monument nonconsumptive values of the general public.</p>	Your preference for Alternative D is noted.

17	ii	Don Johnson	<p>The only alternatives that do not allocate more forage to livestock than has been used over a 15 year period are Alternatives B and D.</p> <p>Alternatives A, C, and E provide no limit over existing use which cannot be expected to obtain recovery of areas currently suffering from overgrazing.</p>	This EIS analyzes a full range of alternatives for livestock grazing management consistent with land health standards and NEPA.
17	iii	Don Johnson	<p>Alternative B eliminates livestock grazing on 8% of the land currently grazed for “protection of Monument values and biological resources, including habitat values for sagegrouse”.</p> <p>This approach suggests that reductions in forage use by livestock to benefit wildlife and other Monument values could be at the discretion of the permittees rather than under control of BLM managers.</p>	Permittees and BLM have discretion to reduce livestock use to meet specific goals or objectives, but ultimately, the BLM has an obligation to manage to achieve its resource objectives, even if that management is not agreeable to permittees.
17	iv	Don Johnson	<p>Alternative D would extend that protection to all of the Monument lands now grazed by livestock. Alternative B protects the interests of a few commercial livestock producers, while Alternative D protects the long term interests of the public in Monument values. Alternative D would eliminate the commercial production of livestock on the Monument and focus management on values embraced by a broader segment of the public including “protections for greater sagegrouse (sagegrouse)”.</p>	Your comment is noted.
17	v	Don Johnson	<p>Alternative B would adjust two allotment boundaries and make 21,000 acres (about 8% of those currently available) unavailable for livestock grazing, for the protection of sagegrouse and other Monument values. Alternative B would reduce AUMs allocated for livestock grazing by</p> <p>75%. Alternative B would significantly reduce livestock grazing within the Monument. AUM reductions would be implemented by asking permittees for voluntary reductions or relinquishments. Permitted use should rest solely with BLM managers based on environmental conditions and Monument values.</p>	The BLM manages livestock grazing through consultation, cooperation, and coordination with our stakeholders.

17	vi	Don Johnson	Alternatives B and C are only minor variations of Alternative A (no action). All of those alternatives make the production of livestock on the Monument the primary management objective. Most studies on the use of livestock grazing “to improve and/or protect wildlife habitat” have pointed to no positive effects.	Your comment is noted.
17	vii	Don Johnson	Alternative E is an improvement on Alternative C, but suggests that “best science” shows that “livestock grazing could be used as a tool to improve and/or protect wildlife habitat” and it does not. The Court has noted that, “... the MMP/EIS failed to adequately address the best science and the agency’s own policies designed to protect that habitat. Moreover, the MMP/EIS failed to discuss alternatives to the status quo regarding grazing.”	Please refer to the Plan Amendment’s literature cited for references on livestock grazing as a tool to improve habitat.
17	viii	Don Johnson	"The AUM levels are not dramatically reduced in Alternative C (the Preferred Alternative) because the forage to provide for the full permitted use is currently present provided proper management is followed and permittees choose to exercise that option." This seems to indicate that livestock grazing permittees have an option whether to utilize what BLM managers determine to be “proper management”.	This phrase has been edited in the Final EIS to eliminate the confusion.
17	ix	Don Johnson	"Craters of the Moon National Monument and Preserve is a component of the BLM’s National Conservation Lands (NCL). The mission of the NCL is to conserve, protect, and restore these nationally significant landscapes that are recognized for their outstanding cultural, ecological, and scientific values." There is no mention here of any obligation to provide for commercial livestock production on these lands.	Please refer to Proclamation 7373 which allows for continuation of livestock grazing within the BLM Monument.
17	x	Don Johnson	Alternative A allocates more forage to livestock than is estimated to be currently available. This suggests that under current management commercial livestock permittees could utilize 100% of the forage leaving none for wildlife and other Monument values.	While the focus of the NCL designation is to highlight special features of a specific landscape, only rarely does the designation preclude multiple use as envisioned under FLPMA. In this case, Proc. 7373, which designated the additional lands in 2000, allows for the

				continuation of livestock grazing on the BLM-managed portions of the Monument.
17	xi	Don Johnson	Alternative C has suggested livestock grazing could be a tool (seedings, fuel breaks, restrictions, etc.) utilized to improve or protect wildlife habitat. Recent studies have been unable to show any positive effects from livestock grazing on wildlife habitat. In addition, this alternative would set the maximum number of AUMs at 37,792 which is more than twice as much forage as has been used in any of the 15 years cited.	Please refer to the Plan Amendment's literature cited for references on livestock grazing as a tool to improve habitat.
17	xii	Don Johnson	Alternative E suggests no difference from Alt. A (no action) which currently allocates more than 100% of available forage. That seems to remove grazing limitations from the discretion of BLM managers with limits determined by commercial use permittees by asking "for voluntary reductions or relinquishments".	Voluntary reductions would be the first step in the process of making reductions required for Alternative E. The final decision would rest with the BLM.
18	i	Charles Trost	I am in favor of alternative plan D, which reduces livestock grazing on the Craters of the Moon monument. I have been conducting a Breeding Bird Survey on 25 miles of the Carey-Kamimah (sic) Road. This survey is conducted in early June annually since the early 1990s. I have seen the damage that a moving herd of sheep can do to the habitat, and the lack of singing birds after the sheep have gone by. I have found dead birds in the water troughs without escape ladders. I feel that livestock grazing has a negative effect on sage grouse, as well as other wildlife on this sensitive stretch of desert. Please get the livestock off the monument.	Your preference for Alternative D is noted.
19	i	Milo Mecham	After talking to the BLM rep, it would appear to me that option "C" would be the best choice to ensure the most flexibility for optimal management of this area.	You preference for Alternative C is noted.
20	i	Shoshone-Bannock Tribes	Under Article 4 of the Fort Bidger Treaty of 1868, the Tribes "have the right to hunt on the unoccupied lands of the United States as long as game may be found thereon, and so long as peace subsists among the whites and Indians on the borders of the hunting districts". Therefore, it is important that the BLM and National Park Service acknowledges in the Management Plan that the Tribes have inherent and	The Fort Bridger Treaty of 1868 and the Tribes' treaty-reserved rights are recognized in the Plan Amendment in Ch.

			Treaty-reserved rights within the management area. In general, the Tribes do NOT support any occupancy of the land, and surface disturbance activities, land sales or transfers to non-federal entities. The Tribes DO support vast open spaces and landscapes that support abundant populations and habitats of native fish, wildlife and plant species.	3 Section 3.2.5 Native American Rights and Interests.
20	ii	Shoshone-Bannock Tribes	The Tribes are also concerned with climate change and the impacts to Tribal resources located within the management area. We would like to see the management plan include adaptability strategies for management of climate change impacts. The Tribes are requesting the Plan establish management objectives and actions to promote climate regulating ecosystem services, and maintenance and enhancement of large landscapes that are dominated by native vegetation. We are including our Climate Change Policy to these comments.	This Plan Amendment is of limited scope to specifically address livestock grazing. However, the original 2007 MMP was amended by ARMPA, which included management objective VEG-1 to accommodate the future effects of climate change. (See pg. 334 Appendix C of the draft plan amendment.)
20	iii	Shoshone-Bannock Tribes	The Tribes have a policy on land tenure adjustments. The Tribes oppose any federal land disposition, sale, or transfer to private entities, or state and local governments, based on two fundamental reasons. First, the United States government entered into a solemn treaty with the Shoshone and Bannock people in which the Tribes reserved certain off-reservation hunting, fishing, and gathering rights which we continue to exercise on unoccupied lands of the United States. Secondly, the United States, including its federal agencies, have a trust responsibility as established in the Fort Bridger Treaty and other federal laws, policies and executive orders to protect and preserve the rights of Indian tribes, and to consult with the Tribes prior to such land sales or transfers. To better understand our position we have attached our position statement regarding the transfer of federal lands. Therefore, we expect the Management Plan will continue to recognize, and provide the opportunities for Shoshone-Bannock Tribal members' access to pursue their practices of cultural activities, traditions and ceremonies, in accordance with inherent rights and treaty rights.	The Plan Amendment does not include any land tenure adjustment alternatives. The Fort Bridger Treaty of 1868 and the Tribes' treaty-reserved rights are recognized in the Plan Amendment in Ch. 3 Section 3.2.5 Native American Rights and Interests.

20	iv	Shoshone-Bannock Tribes	<p>Traditionally the Shoshone and Bannock peoples were nomadic and migrated throughout the region to sustain our livelihoods. We had no understanding of the concept of “permanent settlement” until the United States forced our people to the Fort Hall Reservation. Tribal elders have indicated that when Tribal members went to pursue subsistence there was no boundaries and would freely take subsistence as the need arose. However, federal land managers have since developed campground reservation systems, lotteries and fees limiting Tribal members’ access to traditional subsistence opportunities and reduce or limit access when exercising off-reservation rights to hunt, fish, and gather on unoccupied lands. As the Tribes exercise inherent and reserved treaty rights within our own authorities and responsibilities, federal land developed campground fees, access points, reservation systems, and any other fee-based campground services <i>shall not apply</i> to the enrolled members of the Shoshone-Bannock Tribes. This is in accordance with Article IV of the Fort Bridger Treaty, which does not state, nor was it the intent of our leaders at the time of signing, to impose or restrict Tribal members from exercising off-reservation rights. Again, we have attached our positions statement on camping on federal lands.</p>	<p>There are no reservation- or fee-based campgrounds within the BLM planning area. Such recreation management is outside the scope of this amendment. The Fort Bridger Treaty of 1868 and the Tribes’ treaty-reserved rights are recognized in the Plan Amendment in Ch. 3 section 3.2.5 Native American Rights and Interests.</p>
20	v	Shoshone-Bannock Tribes	<p>The Tribes have an expanded definition of cultural resources, utilizing a holistic perspective that encompasses plants, water, animals, minerals and humans, and the relationship existing between them because they directly contribute to the Shoshone and Bannock peoples’ unique cultural heritage. Simply stated, a cultural resource is any resource of cultural character. Cultural resources are those social institutions, practices, beliefs, religious and spiritual practices, sacred landscapes and objects, archaeological sites, natural resources and their use, intellectual property, oral traditions, language, historical documents and structures, secular and non-secular items are cultural resources. An expanded definition of cultural resources is warranted in the management plan to ensure all resources receive an inclusive analysis for project impacts.</p>	<p>The Tribes’ expanded definition of cultural resources recognized in the Plan Amendment in Ch. 3 Section 3.2.5 Native American Rights and Interests and analyzed in Ch. 4 Section 4.2.5.</p>
20	vi	Shoshone-Bannock Tribes	<p>We request the BLM and the Park Service 1) ensure management plans are consistent with the Tribes inherent and retained Treaty Rights, 2) maintain or increase open space and promote high quality habitat for native fish, wildlife, and plant communities, 3) promote population recovery of sage grouse and other special status species on public lands within the planning area, 4) protecting religious, sacred and ceremonial sites, archaeological sites and traditional use areas, 5) incorporate native traditional knowledge into the Management Plan, 6) provide opportunities to educate the public on Tribal history and use of the lands. Thank</p>	<p>The Plan Amendment recognizes and respects Tribal treaty rights, and seeks to improve habitat within the planning area. Management actions which will protect Tribal values</p>

			you for considering our comments on the Craters of the Moon National Monument and Preserve Draft Management Plan. We look forward to working with you on this management plan.	have been incorporated into the Plan Amendment. The original 2007 MMP provided for opportunities to educate the public on Tribal history and use of the land.
21	i	Karen Klitz	<p>I appreciate the opportunity to submit comments on the Draft Management Plan Amendment and EIS for the Craters of the Moon National Monument & Preserve.</p> <p>Additions to the Plan that would have been helpful:</p> <ol style="list-style-type: none"> 1. if the Table of Contents had included (perhaps in parentheses after the text page number) the page numbers as shown when the PDF is opened in Acrobat. 2. If references used in the text that are not generally available in libraries were appended or linked in the PDF. e.g.. Jurs, L., & Sands, A. (2004) was cited several times but is available only at or through the Monument. 3. if a list were appended of abbreviations and acronyms used in the Draft Plan 4. Descriptions of the alternatives which use the same units of measurement. For instance, some alternatives state total AUMs, some had percentages. Some alternatives stated total number of acres to be grazed, others propose closing certain pastures without any mention of their size or total acres closed. 5. A map showing and labeling the kipukas and other areas to be closed to livestock. <p>All my page numbers are as seen in the Acrobat or Preview apps except as noted for pages quoted from the Memorandum and Order of September 28, 2011.</p>	An acronym list is included in Appendix K of the draft. Edits to the alternative descriptions were made to indicate the acreages and locations of kipukas.
21	ii	Karen Klitz	<p>ISSUES TO BE ADDRESSED IN COURT ORDER</p> <p>Does this Plan adequately and accurately address the deficiencies in the former plan as stated in the Court Order of 2011?</p>	Edits have been made to the Vegetation and Livestock Grazing Affected Environment

			<p>Quotes from the Memorandum and Order, 9/28/11:</p> <p>(the page numbers in this section refer to the Order)</p> <p>"In 2001 and 2002, the Nature Conservancy conducted a detailed scientific study of sagebrush habitat in three critical areas of the Craters Monument, including the Laidlaw Park grazing allotment Their study found that about 38% of the study area was in poor condition meaning that it was "severely altered . . . seemingly having crossed a threshold from which recovery is not possible without seeding intervention." The Report noted that "[l]arge areas are at considerable risk for future degradation." [p.3] Also: "Laidlaw Park has experienced growing degradation – including loss of sagebrush habitat and weed invasions in its southern region – caused in part by grazing of domestic livestock. [p.14]</p> <p>Yet in BLM-preferred Alternative C there is no closing or even mention of Laidlaw Park grazing allotment as a special concern, so it would continue to be at risk.</p>	<p>sections in Ch. 3 to address these statements.</p> <p>The analysis deemed it is not necessary to close or reduce livestock grazing anywhere in the Monument in order to maintain good condition and improve conditions where necessary.</p>
21	iii	Karen Klitz	<p>"The EIS noted that 'substantial portions of the new Monument lands are currently in a degraded condition' That degraded condition applied to sage grouse habitat and numbers. The EIS noted a 36% decrease in active leks in the last 25 years in the Monument, and a 64% decrease in the last 60 years. The EIS concluded that a "major contributing factor" in the decline of sage grouse numbers is livestock grazing.</p> <p>Grazing was "primarily responsible for the declines in forb production and declines in native perennial grass production and composition," key elements of sage grouse habitat." [p.15] Yet in BLM-preferred Alternative C, AUMs could continue at 99% of present total permitted use. There is no clear requirement of livestock removal from pastures with leks when they are active. "The BLM adopted this National Strategy to respond to the potential listing of the sage grouse and demonstrate its commitment to protecting sage grouse habitat."</p> <p>[p.6]</p> <p>With its emphasis on maintaining livestock, it is difficult to find serious protections for sage grouse in any of the alternatives in the Draft Plan except Alternative D.</p>	<p>Please refer to the discussion under Wildlife, Fish and Special Status Species in Ch. 3 for discussion regarding current conditions of sage grouse habitat.</p> <p>ARMPA, MDLG 1-18, provides specific livestock grazing guidance as well.</p>

21	iv	Karen Klitz	<p>"Monument expansion (by Clinton in 2000) contained in Proclamation 7373, was to protect the kipukas because of their value to science generally and to the sage grouse specifically."... In many instances, the expanse of rugged lava surrounding the small pocket of soils has protected the kipukas from people, animals, and even exotic plants."[p.14]</p> <p>Yet today many of the kipukas have both livestock grazing and invasives, and the BLM-preferred Alternative C does not remove any kipukas from livestock grazing.</p>	Please see Section 2.2 for acres available and unavailable for grazing in each alternative.
21	v	Karen Klitz	<p>MISSING INFORMATION IN ALTERNATIVES</p> <p>1. Although mentioned in places, there is no section for assessments directed at soil crusts, a most basic element of healthy sage environments. 1. "SOIL-2: The potential for, or presence, extent and condition of, biological soil crusts would be investigated to provide specific management guidance." [p333] Why were not biological soil crusts, crucial components of health of sage steppe, included in this EIS instead of put off to the future?</p>	Edits have been made to the Ch. 4 Vegetation analysis to address soil crusts.
21	vi	Karen Klitz	<p>2. The socioeconomic assessment in the EIS fails to consider the economic benefit of ungrazed, preserved land. Studies show communities with these characteristics have higher average incomes. This is admitted in this statement: "Over time, unearned income (income from investments, rental properties, retirement accounts, etc.) has become an increasingly large source of total income within the five counties, reaching a high of around 45% of all income as of 2009." [151] People choose to live and visit places that are attractive environments. The millions of people that visit our national parks and preserves come to see scenery and wildlife, not livestock which are viewable over most of the rural U.S. and other countries. Visitors want to see the wildlife that has been removed from large parts of their former ranges. This is the most valuable economic resource that our public lands can provide. A rational conclusion would be that supporting a decreasing industry like livestock in this marginal area (low rainfall and forage) is not, especially for public land in national parks and preserves.</p>	<p>The fact that unearned income has increased within the study area is evidence that as the U.S. population ages, those who are locating or aging in place in the study area are not deterred by the presence of livestock grazing in the region. If that were the case, retirement income flows would not have shown the increase that has already occurred.</p> <p>Domestic livestock do not graze in national parks, so a reduction of</p>

				grazing on existing range allotments would not affect national parks.
21	vii	Karen Klitz	<p>3. In addition, the Draft Plan's analysis of farm income's contribution (12.5%) is misleading. It is disingenuous to compare it with farm income in the entire U.S. (1%) because most income and spending in the U.S. is in cities, which naturally have low "farm income". An honest comparison would note that 12.5% for farm earnings is unexpectedly small for a rural area. See Thomas Powers economic analysis at</p> <p>http://www.publiclandsranching.org/htmlres/wr_taking_stock.htm</p> <p>4. Similarly, this comparison is misleading: "In 2007, beef cattle operations comprised nearly 30% of all farm enterprises in the study area. " But beef operations are less than a third of that 12.5% farm income, so we are talking about $.125 \times 0.30 = .0375$ or 3.75% of farm income in the Study Area that is beef.</p>	<p>The U.S. as a whole is a standard reference area for socioeconomic analysis. There is nothing strategic intended by its use. 12.5% is not unexpectedly small for a rural area, especially in the western U.S. where private agricultural land can be a very small percentage of the overall land area. Nor is it unusually large. Recent percentages of income from agriculture vary widely in rural areas across the country, regardless of the amount of land that is private versus federal. 12.5% (the figure that was current as of the time of the study) is in fact close to the higher end of the scale.</p> <p>Dr. Power's analysis does not directly conflict with the statistics outlined within</p>

				this socioeconomic analysis.
21	viii	Karen Klitz	5. "...if livestock use shifted as a result of the AUM reductions in the planning area, management under Alternative D could result in adverse cumulative effects to wildlife and fish resources outside the Monument. [p293] This curious statement makes it sound like the BLM does not have the power to control management of their public lands. Why cannot the BLM maintain or adjust stocking rates to prevent adverse cumulative effects? Isn't this one of their basic responsibilities?	Please refer to the full discussion of cumulative impacts regarding Wildlife, which includes BLM resource management.
21	ix	Karen Klitz	<p>AMBIGUITIES and IRRATIONALITIES</p> <p>Under NEPA, an agency must articulate a "rational connection between the facts found and the conclusions made." [p.25 Memorandum and Order, 9/28/2011] The EIS in this Draft Plan has hundreds of pages describing the negative impacts of livestock which are ignored in the choice of the Preferred Alternative C which is very similar to present management which created and/or continues the impacts.</p> <p>While this Draft does include no-grazing and reduced-grazing options, it has rejected them – the proposed agency choice of Alternative C reduces grazing so little (99%) as to be no change from status quo management. If management does not change meaningfully - it's not clear what "significant" change means in the tables and text as sage grouse continue to decline - it is irrational to expect meaningful changes on the ground.</p>	Please see Table 2.2 for differences between Alternatives A and C. All impacts are described in the Draft EIS. All alternatives would provide for protection of sage-grouse habitat and ecological condition.
21	x	Karen Klitz	<p>Examples of illogical conclusions:</p> <p>1. The Desired Future Condition in your 2007 MMP "to provide sustainable forage for wildlife and livestock" [p.20] is a goal that has not been attained for sage grouse for decades. Yet there is nothing shown in BLM-preferred Alternative C to achieve this result. There is no evidence to date that past and current management has worked to protect sage habitat. Please list the allotments in which sage grouse populations have increased.</p>	See Section 3.2.4 Wildlife discussion after Table 3.5 which addresses habitat suitability within the Monument. Also see Figures 3.6 and 3.7 for recent changes in sage-grouse habitat quality. Sage-grouse populations are not analyzed at the allotment level.

21	xi	Karen Klitz	<p>2. The Draft Plan appears to recognize indirectly the cause and effect relationship between livestock and sage grouse [p.36] and "Continuity of habitat for special status species and general wildlife is emphasized." [p.47], but does not respond appropriately or logically. The impacts of livestock are described and admitted to be detrimental for the grouse, yet minimal actions are taken to protect it from the major cause of habitat degradation, livestock.</p>	<p>Potential impacts are described; however the actual impacts are analyzed separately by alternative. Recurrent wildfire, not livestock, is the major cause of habitat degradation in the Monument.</p>
21	xii	Karen Klitz	<p>3. "The greater the amount of surface disturbance, the greater the probability that accelerated erosion by wind and water would occur. " [p.160] Yet the greatest disturbance in scale and time is livestock, and minimal changes in management are proposed in BLM-preferred Alternative C.</p>	<p>This statement is an assumption on which to base the analysis. Because this is a livestock grazing EIS, that is the primary discussion. Wildfire is the greatest cause of accelerated erosion. Please see Section 4.2.1</p>
21	xiii	Karen Klitz	<p>4. "Livestock grazing can be a surface-disturbing activity, ranging from negligible to moderate disturbance impacts from uses and infrastructure associated with the activity. Impacts of this activity to vegetation resources include crushing and consuming plants. Repetition of livestock grazing can lead to reduction of plant vigor and health, or entire removal of plants in a localized area. When this happens, areas become more at risk for the establishment of noxious weeds and invasive plant species, both as expansion from existing populations and establishment of new populations. " [p.187]</p> <p>and "Livestock grazing is the dominant use of the vegetation resource in the planning area." [188] This paragraph in Vegetation Resources briefly lists some of the past and current problems with livestock for vegetation alone – there are similar statements for impacts to soils, riparian areas, wildlife, and water quality (high fecal contamination) yet the agency concludes these can be sufficiently mitigated with continued grazing to support habitat for sage grouse. Why hasn't it happened before, or if it has, where?</p>	<p>These statements are a description of how activities could affect soil resources, not an analysis of what would occur under each alternative. Potential impacts are described; however the actual impacts are analyzed separately by alternative.</p> <p>Section 4.1.5 has been edited to clarify</p>

				potential impacts vs. analysis of impacts.
21	xiv	Karen Klitz	<p>5. The "controversies about existing and potential resource allocations" [p.35] means that there are not enough resources for both healthy livestock and healthy grouse. If livestock and sage grouse have opposing needs, which is chosen by the agency? History up to the present has chosen and now continues to choose livestock. For instance, sage grouse don't need grass to eat but do need a minimal height (7") for cover (Appendix C). But livestock are allowed to eat (up to 60% utilization) and trample the grass as well as forbs which the grouse depend on. This is all admitted in the assessments and</p> <p>yet ignored in their preferred Alternative C.</p>	<p>No utilization level is described in this EIS. If utilization levels are determined necessary to provide for livestock and sage-grouse habitat, they would be set at the implementation of this plan on an allotment specific basis.</p> <p>BLM is a multiple use agency. The Final EIS provides for multiple use under all alternatives, except D.</p>
21	xv	Karen Klitz	<p>6. The plummeting of grouse populations over the last many decades is the result of agency preferences. Grouse populations were falling before fire became so frequent, indicating fire was not a factor in earlier declines.</p> <p>Likewise, cheatgrass has been present since the late 1800s, but has become a significant player in the degradation of former sagebrush lands. Yet the language and analyses focus on actions to reduce fire and cheatgrass threats as though they were unrelated to decades of land use, which is wide scale ground disturbance by livestock. The cause of disturbance is ignored in the preference of management.</p>	<p>Management within all alternatives would lead to continued improvement in vegetation and sage-grouse habitat conditions within the Monument. See Section 3.2.4 Wildlife discussion after Table 3.5 which addresses habitat suitability within the Monument.</p>
21	xvi	Karen Klitz	<p>7. "Sustainable management of livestock grazing, including deferring grazing on pastures, resting pastures, and monitoring forage utilization would likely avoid or minimize adverse impacts to wildlife and fish resources." [p213] A typically ambiguous circular statement without meaning: the methods for "sustainable"</p>	<p>Section 4.2.4.3 has been edited to clarify sustainable management of livestock grazing</p>

			grazing have not been described and the term defined. Sustainable for what or whom? What will the actual regulations, terms and conditions be and how will they be enforced? Phrases like "if carefully monitored" on the same page are meaningless without a requirement for rigorous enforcement, which is rarely observed at the present.	refers to adherence to Standards. Also see Appendix H.
21	xvii	Karen Klitz	8. "All alternatives would meet the DFCs for cultural resources outlined in the 2007 MMP and preserve the traditional, historical relationships with the land, with the exception of Alternative D." [p.234] There is no explanation of why removing livestock (Alternative D) would harm cultural resources such as the Native American use areas. One would think that a hundred or more years of trampling by livestock has already harmed many sites. If livestock ranching in general is meant as a cultural resource, then it is already preserved in hundreds of ranches in the area and does not require a National Monument to preserve it.	Proclamation 7373 specifically mentions "traditional, historical relationships with the land" as a Monument value. Alternative D would not have an adverse effect on Native American use areas.
21	xviii	Karen Klitz	9. "Livestock operations may, at times, interfere with some recreational activities, such as driving for pleasure, hunting, solitude, or sightseeing; however, some visitors enjoy observing sheep-herding or cattle-driving." [p271] What is to prevent visitors who want to watch ranching activities from doing it all over the area outside of the Monument? Most visitors to parks want to see sights they cannot otherwise easily see, such as wildlife and views of landscape without evidence of obvious human presence. The conclusion that livestock grazing must be kept for visitor enjoyment is not based on facts.	The proposed plan does not require that grazing expressly continue for the enjoyment of visitors. Recreation on the Monument takes many forms, and at times may conflict. For example, some people like watching livestock operations, while others prefer to recreate in areas without the presence of livestock. The discussion in the EIS merely points out that some people like to see working landscapes; it does not mean that livestock grazing must

				continue as a recreational benefit.
21	xix	Karen Klitz	10. The EIS states that control of weed populations through livestock grazing involves grazing an invasive species at a crucial point in its lifecycle. It says that allowing cattle to graze areas infested with cheatgrass in early spring would limit seed production. "However," the document acknowledges, "the use of livestock for this purpose is expensive and requires a long-term commitment. Expenses and factors for success in grazing invasives are timing, duration of grazing, expense to the allotment holder in moving animals and intensive management provided by the BLM. It also has the potential to impact vegetative resources by reducing ground cover, increasing soil compaction, and making the area vulnerable to new noxious weeds or invasive plant species infestation." [p.189] So, timing of grazing at a crucial time is not a realistic option. Are livestock owners or the public to pay for this expensive management? What will be the monitoring protocol and schedule during this use of livestock to ensure that the purpose and limits of this use are being followed?	Please see Section 4.1.5. Implementation of such a proposal would require site-specific analysis at the project level.
21	xx	Karen Klitz	11. Fences are a large part of livestock management, but fences are inimical to sage grouse and other wildlife, and troughs can be sources of West Nile virus, a threat to the survival of sage grouse. It is admitted that these threats would be reduced with removal of livestock, but these threats were ignored and Alternative D was not chosen.	The effects of fencing were analyzed in Alternative D. Please see Section 4.3.1.4 for cumulative effects of fencing on sage-grouse. Also see ARMPA Appendix C for required design features to reduce threats from West Nile Virus.
21	xxi	Karen Klitz	12. VEG-25C and VEG 25-E – plan ignores special status species when the agency only has to "consider" directing grazing for sagebrush recovery. Sage is the single most important element to recover in sage grouse habitat yet this recovery is left to discretion.	Directing grazing is not applicable in all situations and would require site-specific analysis at the implementation stage.

21	xxii	Karen Klitz	13. The voluntary use of less than 1/3 of permitted AUMs over the last 20 years indicate a lack of forage significant enough to impact the economic survival of the livestock operation. In other words, in the real, practical world there is not enough forage; it is a third of the amount the BLM has calculated and allocated. And yet the preferred action is to continue with the high AUMs. This is illogical and cannot be based in the stated facts.	Please refer to the discussion in Section 3.3.1 and the Forage Calculations in Appendix D.
21	xxiii	Karen Klitz	14. "Vegetation restoration projects would eventually be successful on 100 percent of the affected areas. This is for analysis purposes only and may not reflect actual success rates. Meeting stabilization, rehabilitation, and restoration objectives would result in project success." [p.160] I don't understand meaning of declaring endpoint of 100% success rate for projects and then stating this is for analysis only.	The BLM's NEPA Handbook H-1790-1 states assumptions for analysis purposes should be identified when information is unavailable, such as the success rate for future restoration projects. Because success is dependent upon many variables and is unpredictable, the BLM must assume all restoration efforts attempted will be successful. Any other figure would be arbitrary.
21	xxiv	Karen Klitz	15. "Alternative C would avoid livestock utilization in spring or early summer in sage-grouse nesting or early brood-rearing habitats, when possible, although spring livestock grazing could occur across the rest of the Monument. This would reduce impacts from livestock grazing on soils during a time of year where saturation is common. "[p.168] These are contradictory statements – either grazing is allowed in sg or not – either saturated soil is going to be compacted or not. What are the criteria and who decides this possibility? So, with summer and fall grazing allowed, Alt C could be season-long grazing.	Section 4.2.1.4 has been edited to clarify that impacts are anticipated to be negligible to minor to soils at a landscape level.
21	xxv	Karen Klitz	16. P171-175 It's clear from the EIS that only great reduction or elimination of livestock actually improves conditions on the ground. All the major impacts in	Your comment is noted.

			every category related to livestock are negative and have to be mitigated by management, yet this pervasive fact is never stated clearly so that logical conclusions can be drawn.	
21	xxvi	Karen Klitz	<p>QUESTIONS</p> <p>1. What does it mean to "use livestock grazing as a tool" or "ecological management tool" [pp.19,59,61,62, and more] or to direct grazing for sagebrush recovery? [p180] Does the permittee herd them onto an area and monitor their use of the undesirable vegetation, removing them at what time? How does sagebrush recover with grazing? How are native plants protected during this "tool use"? What are the criteria that trigger this type of livestock use and who decides? How common do you anticipate will be the use of this tool? How will you prevent the use of this "tool" to compensate when forage is lower than expected in grazed pastures? How likely is it that permittees will perform this additional management which is a time and labor cost to them?</p>	Directing grazing prescriptions would be made at the implementation stage. Details, such as timing, location, and monitoring would be analyzed site-specifically. Ch. 4 Vegetation analysis has been edited to clarify what directed grazing means.
21	xxvii	Karen Klitz	2. "The AUM levels are not dramatically reduced in Alternative C because the forage to provide for the full permitted use is currently present provided proper management is followed." [p.48]	Your comment is noted.
21	xxviii	Karen Klitz	3. "Observations made by the Idaho Department of Fish and Game indicate a significant decline in sage-grouse lek (mating area) activity at Craters of the Moon over the past half century. There are 110 leks on BLM-administered public lands in the monument, and 36 were documented as occupied in 2015." [p.129] In which Monument allotments are sage grouse populations recovering even with current livestock use at only 1/3 of full permitted use?	BLM doesn't monitor populations by allotment.
21	xxix	Karen Klitz	6. In spite of fire and invasives, "rangeland health has steadily improved in recent decades," the EIS noted". [p19] So, the range has improved, but sage grouse populations have not shown corresponding improvement but have continued to decline. What is left besides livestock impacts?	Please refer to Section 3.2.4 page 111 in the Draft EIS for a discussion of factors that affect sage-grouse habitat suitability.

21	xxx	Karen Klitz	7. Where is the science with results on the ground that supports keeping livestock if a priority goal is to protect sage grouse? Where are the examples on the ground?	Refer to the summary of HAF data in chapter 3.
21	xxxi	Karen Klitz	8. Cheatgrass increases with livestock presence, as the Draft admits: "Noticeable changes in plant community species composition caused by historic grazing (late 1800's-early 1900's) are persisting and exacerbated through frequent, sometimes recurrent wildfire." What about present grazing? Why is it not a factor in continuation of plant community changes?	Please refer to Ch. 4 Vegetation Resources, effects of livestock grazing Alternative D analysis. Also see Section 3.2.3, specifically Vegetation Condition, which discusses how current livestock grazing practices have affected biotic integrity.
21	xxxii	Karen Klitz	9. The BLM's preferred alternative (Alternative C) would make similar lands available to livestock grazing as does present use, but would slightly reduce the number of livestock permitted and include new direction for grazing management for the benefit of sage grouse. Alternative C also requires analysis of season or timing of use.	Analysis of season or timing of use would occur at implementation.
21	xxxiii	Karen Klitz	10. But what is the evidence that livestock grazing benefits sage grouse compared to no grazing?	See Section 3.2.3, specifically Vegetation Condition, which discusses how current livestock grazing practices have affected biotic integrity.
21	xxxiv	Karen Klitz	11. FLPMA requires "maintaining some lands in their natural condition to provide food and habitat for fish and wildlife and opportunities for outdoor recreation". [p.23] With the status of a National Monument & Preserve, Craters of the Moon's public land should have a higher level of protection of natural resources than lands no so designated. What is the evidence that these natural resources are protected when so much of the EIS concerns degradation by livestock?	The scope of the Draft Plan Amendment is restricted to livestock grazing.

21	xxxv	Karen Klitz	12. While the phrase "managing livestock grazing while protecting sage-grouse and its habitat" is common, I've yet to see sage grouse increasing on public lands where livestock graze. What are the peer-reviewed studies that show sage grouse increasing on livestock-grazed public lands?	See ARMPA for a discussion of impacts to sage-grouse on public lands.
21	xxxvi	Karen Klitz	13. "Fire is allowed to function as a natural process in the Wilderness and Preserve." [p.48] Why is this "natural process" not a good policy for the rest of the Monument?	See ARMPA and Secretarial Order No. 3336.
21	xxxvii	Karen Klitz	14. In the Table of Alternatives and throughout the Draft: "NPS land not available for livestock use totals approximately 463,300 acres." [p.82] What is the purpose of this statement added to every alternative when this Draft Plan concerns only BLM land?	The statement clarifies the NPS is part of the planning area, but does not permit livestock grazing.
21	xxxviii	Karen Klitz	15. What will be the changes in enforcement to "ensure" adherence to standards that have been in place for many years?	As monitoring identifies a need, changes will be made to ensure compliance with standards.
21	xxxix	Karen Klitz	INACCURACIES – MISSING INFORMATION 1. "Grasslands/Shrublands evolved with large ungulate grazing, but with different distribution, both spatial and temporal, utilization type, and intensity than typified by present day domestic livestock use." [p.187] What is the evidence for this statement? There have been no large herds of ungulates in the sagebrush steppe areas of the West since the Pleistocene, which had a wetter climate. Bison were in token numbers. [Noss and Cooperrider, Saving Nature's Legacy 1994.]	The assumption is that wildlife graze this area differently than livestock. Please see section 4.3.1.10 for a discussion of historic livestock grazing.
21	xl	Karen Klitz	2. "... removing livestock grazing could hasten habitat degradation if ungrazed fuel loads in communities comprised of dense sagebrush and an understory of annual grasses result in wildfires that burn uniformly and kill sagebrush over a large area." [p.221] Current science on fires reports that fires are driven by climate and weather, not fuel (unless the vegetation is removed to dirt).	Fuel is one of the components that influence fire behavior, regardless of ignition source.
21	xli	Karen Klitz	3. "Implementation and Monitoring. The management measures outlined in the approved MMP amendment would be implemented on the ground, and future	Monitoring would be accomplished by

			monitoring conducted to test their effectiveness." [41] I could not find details of a monitoring program; the reader is referred to the previous plan the relevant details of which are not appended or quoted. Yet the entire Plan depends on enforcement of actions; enforcement has to have the data from monitoring. If we cannot review the procedure, how can we depend on this crucial link being done?	following BLM technical references for monitoring and the guidance in ARMPA.
21	xlii	Karen Klitz	4. Fuels reduction recommended throughout the Draft Plan is an illogical reason to keep livestock present because fires are driven by climate, not fuels. Unless vegetation is removed down to dirt it will burn when a fire is started under conditions of dryness and heat.	The DEIS does not recommend fuel reduction measures as a reason to keep livestock present.
21	xliii	Karen Klitz	5. An example from my personal experience: I spent an overnight near Kamimah Road in the Craters of the Moon National Monument, within what is defined as the Primitive Zone. This area was so littered with sheep feces there was no clear space to put beds down, and the overpowering smell of feces removed our appetites. We were glad to leave, and wondered why our public lands were so unfriendly to public recreational use. Sheep grazing is a use that "significantly affects the human environment" [NEPA]. It is inaccurate to imagine that visitors come to enjoy livestock.	Localized impacts are acknowledged in the analysis.
21	xliv	Karen Klitz	6. "large gains from 1970 to 2000 in the services industry has been followed by more stability in that and other industries since the year 2000." "A recent NPS economic report shows that 200,525 visitors to Craters of the Moon National Monument and Preserve in 2013 spent \$6.6 million in communities near the park. That spending supported 94 jobs in the local area [USDI NPS, 2013]. "	Your comment is noted
21	xlvi	Karen Klitz	7. The "present law" at the time the Proclamation was signed was that the BLM had the authority to "reclassify and withdraw range land from grazing use." [Public Lands Council v. Babbitt, 529 U.S. 728, 742 (2000)]. That the BLM has the authority to close its Monument lands to livestock grazing was never mentioned, even in Alternative D which removes livestock.	Chapter 1 explains that the management actions in the plan are under the jurisdiction of the BLM, thus it is understood BLM has the authority to manage grazing.

21	xlvi	Karen Klitz	8. Livestock contribute to 14.5% or more of GHS emissions [Bailey et al. 2014]. This important fact was never stated in the Draft Plan. In addition, how can Alt C, with the most AUMs, have the least GHG emissions? [p.91]	Please see Ch. 4 for analysis of GHG emission by alternative.
21	xlvii	Karen Klitz	9. WLIFE-11A: Schedule small-scale construction and routine maintenance activities to avoid or minimize disturbance to priority species and their habitat during important seasonal periods. [p.80] What exactly would this construction be if no grazing is present?	Management under Alternative D would include the removal of water developments, fences, and associated range infrastructure. Alternative D may also include the construction of additional fencing to enforce the grazing closure.
21	xlviii	Karen Klitz	10. "The analysis in this document is based on Actual Use, the use reported at the end of the grazing season by permittees. It is an accurate account of the livestock use in an allotment throughout the grazing season." How does the BLM know it is accurate? Refer to GAO report on general lack of BLM enforcement.	Compliance is checked on a regular basis.
21	xlix	Karen Klitz	<p>POSTPONEMENT TO THE FUTURE</p> <p>Not all data and actions can be implemented immediately but if they are a basis for meaningful protections, they should be part of the Draft Plan.</p> <p>1. Alternative C requires analysis of season or timing of use, duration and/or level of use (AUMs), and grazing schedules at grazing permit renewal when livestock management practices are not compatible with meeting or making progress towards Idaho Standards for Rangeland Health. The schedule for permit renewals on the Monument was not given, so this analysis of conditions could be many years in the future. Same question: "During permit modification, use monitoring information and LHAs to develop specific management objectives and grazing management plans designed to maintain, enhance, or restore vegetation condition. "</p>	ARMPA provides guidance for the prioritization of grazing permit renewal in areas of Sagebrush Focal area and high priority habitat.
21	1	Karen Klitz	<p>RECOMMENDATIONS</p> <p>1. "Sagebrush steppe vegetation type was once common throughout the Snake River Plain, as well as in the Intermountain West and Upper Columbia River Basin.</p>	Your comment is noted.

			<p>However, fire, agriculture, and historical livestock management practices have modified composition and reduced the extent of this vegetation type throughout these regions. " "Some of the sagebrush communities in the Monument are the best remaining examples of this vegetation type on the Snake River Plain, and considered as Monument values." [p.107]"Those kipukas that have been documented and studied make it clear that these unique islands of native vegetation are important rangeland and scientific benchmarks ."[p.108] A reasonable conclusion would be that the Monument is all the more precious and should be protected from any human-caused impacts that are not essential for public use.</p>	
21	li	Karen Klitz	<p>2. "State 2 in the State and Transition models is comparable to the Poor biotic integrity rating. These sites have crossed a threshold and are generally dominated by cheatgrass and Sandberg bluegrass. Significant inputs would be necessary to improve the biotic integrity of these sites. They cannot recover to reference state without seeding. " Seeding is a disturbance on the ground, which a major cause of cheatgrass and other weed invasions. But Sandberg bluegrass can successfully compete with cheatgrass, it should be left alone to do so, and perhaps seeded in cheatgrass where appropriate.[https://www.usu.edu/weeds/plant_species/nativespecies/bluegrass.html]</p> <p>3. Deer, pronghorn antelope, and bighorn sheep utilize Sandberg bluegrass forage and birds and small mammals utilize the seed (Johnson and Larson 1999).</p>	<p>Healthy ecological conditions consist of diverse species. State 2 areas require active restoration methods to improve diversity.</p>
21	lii	Karen Klitz	<p>4. Given the focus and intention to enhance sage grouse and healthy sage steppe habitat, why persist in continuing the major contributor to degradation over which we do have control - livestock ? It's like continually greasing a slope that you are trying to climb. This habitat managed itself for millennia before humans came along; to the extent we can back off, it will begin to restore itself. Many places have shown recovery when our uses of greatest impact are removed. Refer to Soda Fire recommendations by Rosentretter.</p>	<p>The proposed grazing systems would be managed to improve condition. The EIS considers a variety of grazing systems and the impacts resulting from them. The BLM's decision will reflect the management that best addresses the agency's multiple use mandate.</p>

21	liii	Karen Klitz	5. As a former BLM manager stated, "The land will recover itself in most cases with minimal expenditure of time and money, with only the removal of livestock." [Bill Baker in Marys River Aquatic Restoration Project Report, 1996 - appended.]	Your comment is noted.
22	i	Katie Fite	<p>Following review of the alternative and mitigation actions in the Craters of the Moon DEIS, WildLands Defense is providing this scientific literature and Literature Excerpts as part of our comments on the DEIS and its analysis of direct, indirect and cumulative impacts.</p> <p>WildLands Defense requests that BLM prepare a Supplemental EIS to fully address these serious issues related to livestock grazing conflicts with conservation, enhancement and restoration of sage-grouse habitats.</p> <p>A SEIS is also necessary to develop a full range of reasonable alternatives based on the documented impacts and conflicts of livestock grazing stress and disturbance with the needs of sustainable and viable sage-grouse populations. Livestock grazing disturbance and stress amplifies the adverse effects of climate change; causes infestation and spread of weeds including exotic flammable annual grasses that can retard and truncate plant succession; causes desertification and permanently reduces and or kills sustainable perennial flows in meadows/seeps/streams that are required for sage-grouse brood rearing; conflicts with the need of the birds for large areas of habitats free from disturbance of livestock which increases the presence of nest and egg predators (Coates et al. 2016); and diminishes the ability of wild lands to heal and buffer climate stress.</p>	A Supplemental EIS is not required. The range of alternatives is reasonable and follows the Court Order and NEPA guidance. The EIS considers a variety of grazing systems and the impacts resulting from them. The BLM's decision will reflect the management that best addresses the agency's multiple use mandate.
22	ii	Katie Fite	We are also concerned that the EIS analysis and minimal and deficient mitigation appears biased and focused on continuing very high numbers of livestock and a plethora of livestock facilities across nearly all the landscape. At the same time, BLM relies on even more pinyon-juniper deforestation and sagebrush manipulation "treatments". These distract the public from the need to effectively livestock control livestock conflicts, restore exotic seeded crested wheatgrass, heal lands before cheatgrass/weeds take over, and they cause serious adverse impacts to the ability of the lands to buffer climate change effects, as well causing significant new habitat loss and fragmentation for a wealth of native wildlife including migratory birds like ferruginous hawk, northern goshawk, many species of songbirds, and pinyon jay, big game and other wildlife.	Data collected for the Monument demonstrates livestock grazing is a sustainable use of the Monument. Any vegetation treatment projects would be required to have a net benefit to sage-grouse, but no specific treatments are outlined in this EIS. Site specific analysis on the

				effects to wildlife would be required.
22	iii	Katie Fite	<p>We will be sending additional comments.</p> <p>RELEVANT LITERATURE EXCERPTS</p> <p>BESCHTA et al. Excerpts</p> <p>Beschta 2012 Excerpts – Climate Ecological Stress, Water Loss, Water Development Impacts https://www.ncbi.nlm.nih.gov/pubmed/23151970</p> <p>http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/50113/BeschtaRobertForestryReducingLivestockEffects.pdf;sequence=1</p> <p>Climate-related changes can not only affect public-land ecosystems directly, but may exacerbate the aggregate effects of non-climatic stressors, such as habitat modification and pollution caused by logging, mining, grazing, roads, water diversions, and recreation (Root and others 2003 ; CEQ 20 10; Bamosky and others 2012).</p> <p>One effective means of ameliorating the effects of climate change on ecosystems is to reduce environmental stressors under management control, such as land and water uses (Julius and others 2008; Heller and Zavaleta 2009; Prato 2011). Public lands in the American West provide important opportunities to implement such a strategy for three reasons: (1) despite a history of degradation, public lands still offer the best available opportunities for ecosystem restoration (CWWR 1996; FS and BLM 1997; Karr 2004); (2) two-thirds of the runoff in the West originates on public lands (Coggins and others 2007); and (3) ecosystem protection and restoration are consistent with laws governing public lands. To be effective, restoration measures should address management practices that prevent public lands from providing the full array of eco- system services and/or are likely to accentuate the effects of climate change (Hunter and others 2010).</p> <p>Climate change and ungulates, singly and in concert, influence ecosystems at the most fundamental levels by affecting soils and hydrologic processes. These effects, in tum, influence many other ecosystem components and processes- nutrient and energy cycles; reproduction, survival, and abundance of terrestrial and aquatic</p>	Beschta et al. 2013, has been incorporated in the Final EIS.

		<p>species; and community structure and composition.</p> <p><u>Climate Change in the Western US</u></p> <p>Anticipated changes in atmospheric carbon dioxide (CO₂), temperature, and precipitation (IPCC 2007a) are likely to have major repercussions for upland plant communities in western ecosystems (e.g., Backlund and others 2008), eventually affecting the distribution of major vegetation types.</p> <p>Future decreases in soil moisture and vegetative cover due to elevated temperatures will reduce soil stability (Karl and others 2009). Wind erosion is likely to increase dramatically in some ecosystems such as the Colorado Plateau (Munson and others 2011) because biological soil crusts- a complex mosaic of algae, lichens, mosses, microfungi, cyanobacteria, and other bacteria-may be less drought tolerant than many desert vascular plant species (Belnap and others 2006). Higher air temperatures may also lead to elevated surface-level concentrations of ozone (Karl and others 2009), which can reduce the capacity of vegetation to grow under elevated CO₂ levels and sequester carbon (Kamosky and others 2003).</p> <p>Air temperature increases and altered precipitation regimes will affect wildfire behavior and interact with insect outbreaks (Joyce and others 2009).</p> <p>Climate induced increases in wildfire occurrence may aggravate the expansion of cheatgrass (<i>Bromus tectorum</i>), an exotic annual that has invaded millions of hectares of sagebrush (<i>Artemisia</i> spp.) steppe, a widespread yet threatened ecosystem. In turn, elevated wildfire occurrence facilitates the conversion of sagebrush and other native shrub-perennial grass communities to those dominated by alien grasses (D'Antonio and Vitousek 1992; Brooks 2008), resulting in habitat loss for imperiled greater sage-grouse (<i>Centrocercus urophasianus</i>) and other sagebrush-dependent species (Welch 2005). The US Fish and Wildlife Service (FWS 2010) recently concluded climate change effects can exacerbate many of the multiple threats to sagebrush habitats, including wildfire, invasive plants, and heavy ungulate use.</p> <p>By the mid-21st century, Bates and others (2008) indicate that warming in western mountains is very likely to cause large decreases in snowpack, earlier snowmelt, more winter rain events, increased peak winter flows and flooding, and reduced</p>	
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		<p>summer flows. Annual runoff is predicted to decrease by 10-30 % in mid-latitude western North America by 2050 (Milly and others 2005) and up to 40 % in Arizona (Milly and others 2008; ITF 2011). Drought periods are expected to become more frequent and longer throughout the West (Bates and others 2008). Summertime decreases in streamflow (Luce and Holden 2009) and increased water temperatures already have been documented for some western rivers (Kaushal and others 2010; Isaak and others 2012).</p> <p>High water temperatures, acknowledged as one of the most prevalent water quality problems in the West, will likely be further elevated and may render one-third of the current coldwater fish habitat in the Pacific Northwest unsuitable by this century's end (Karl and others 2009). Resulting impacts on salmonids include increases in virulence of disease, loss of suitable habitat, and mortality as well as increased competition and predation by warm water species (EP A 1999). Increased water temperatures and changes in snowmelt timing can also affect amphibians adversely (Field and others 2007). In sum, climate change will have increasingly significant effects on public-land terrestrial and aquatic ecosystems, including plant and animal communities, soils, hydrologic processes, and water quality.</p> <p>Livestock use affects a far greater proportion of BLM and FS lands than do roads, timber harvest, and wildfires combined (Fig. 3). Yet attempts to mitigate the pervasive effects of livestock have been minor compared with those aimed at reducing threats to ecosystem diversity and productivity that these other land uses pose ...</p> <p>Livestock use effects, exacerbated by climate change, often have severe impacts on upland plant communities. For example, many former grasslands in the Southwest are now dominated by one or a few woody shrub species, such as creosote bush (<i>Larrea tridentata</i>) and mesquite (<i>Prosopis g/andulosa</i>), with little herbaceous cover (Grover and Musick 1990; Asner and others 2004; but see Allington and Valone 2010). Other areas severely affected include the northern Great Basin and interior Columbia River Basin (Middleton and Thomas 1997). Livestock effects have also contributed to severe degradation of sagebrush-grass ecosystems (Connelly and others 2004; FWS 2010) and widespread desertification, particularly in the Southwest (Asner and others 2004; Karl and others ...</p> <p>Simplified plant communities combine with loss of vegetation mosaics across</p>	
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		<p>landscapes to affect pollinators, birds, small mammals, amphibians, wild ungulates, and other native wildlife (Bock and others 1993; Fleischer 1994; Saab and others 1995; Ohmart 1996). Ohmart and Anderson (1986) suggested that livestock grazing may be the major factor negatively affecting wildlife in eleven western states. Such effects will compound the problems of adaptation of these ecosystems to the dynamics of climate change (Joyce and others 2008, 2009).</p> <p><i>Soils and Biological Soil Crusts</i></p> <p>Livestock grazing and trampling can damage or eliminate biological soil crusts characteristic of many arid and semiarid regions (Belnap and Lange 2003; Asner and others 2004). These complex crusts are important for fertility, soil stability, and hydrology (Belnap and Lange 2003). In arid and semiarid regions they provide the major barrier against wind erosion and dust emission (Munson and others 2011) ...</p> <p>If livestock use on public lands continues at current levels, its interaction with anticipated changes in climate will likely worsen soil erosion, dust generation, and stream pollution. Soils whose moisture retention capacity has been reduced will undergo further drying by warming temperatures and/or drought and become even more susceptible to wind erosion (Sankey and others 2009). Increased aeolian deposition on snowpack will hasten runoff, accentuating climate-induced hydrological changes on many public lands (Neff and others 2008) ...</p> <p>Livestock grazing has numerous consequences for hydrologic processes and water resources. Livestock can have profound effects on soils, including their productivity, infiltration, and water storage, and these properties drive many other ecosystem changes. Soil compaction from livestock has been identified as an extensive problem on public lands (CWWR 1996; FS and BLM 1997). Such compaction is inevitable because the hoof of a 450-kg cow exerts more than five times the pressure of heavy earth- moving machinery (Cowley 2002). Soil compaction significantly reduces infiltration rates and the ability of soils to store water, both of which affect runoff processes (Branson and others 1981; Blackburn 1984). Compaction of wet meadow soils by livestock can significantly decrease soil water storage (Kauffman and others 2004), thus contributing to reduced summer base flows. Concomitantly, decreases in infiltration and soil water storage of compacted soils during periods of high-intensity rainfall contribute to increased surface runoff and soil erosion (Branson and others 1981). These fundamental</p>	
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			<p>alterations in hydrologic processes from livestock use are likely to be exacerbated by climate change ...</p> <p>The combined effects of elevated soil loss and compaction caused by grazing reduce soil productivity, further compromising the capability of grazed areas to support native plant communities (CWWR 1996; FS and BLM 1997). Erosion triggered by livestock use continues to represent a major source of sediment, nutrients, and pathogens in western streams (WSWC 1989; EPA 2009). Conversely, the absence of grazing results in increased litter accumulation, which can reduce runoff and erosion and retard desertification (Asner and others 2004) ...</p> <p><i>Water Developments</i></p> <p>Water developments and diversions for livestock are common on public lands (Connelly and others 2004). For example, approximately 3,700 km of pipeline and 2,300 water developments were installed on just 17 % of the B L M ' s land base from 1961 to 1999 in support o f livestock operations (Rich and others 2005). Such developments can reduce streamflows thus contributing to warmer stream temperatures and reduced fish habitat, both serious problems for native cold water fish (Platts 1991; Richter and others 1997). Reduced flows and higher temperatures are also risk factors for many terrestrial and aquatic vertebrates (Wilcove and others 1998). Water developments can also create mosquito (e.g., <i>Culex tarsalis</i>) breeding habitat, potentially facilitating the spread of West Nile virus, which poses a significant threat to sage grouse (FWS 20 I0). Such developments also tend to concentrate livestock and other ungulate use, thus locally intensifying grazing and trampling impacts ...</p>	
22	iv	Katie Fite	<p>SAGE-GROUSE HABITAT NEEDS - Cover, Structural Complexity, Forbs</p> <p>Sage-grouse Needs Not Adequately Addressed in Integrated Manner</p> <p>Gregg et al. 1994, Connelly et al. 2000, Connelly et al. 2004, the Braun Blueprint 2006, Knick and Connelly 2011, USFWS WBP Finding, Manier et al. 2013.</p> <p>Adequate residual cover is vital to protect nests and hens in early spring from the start – from early April on - which is before grass has even started to grow in many areas. The residual cover is the dry grass left over from the previous year. But BLM clearly does not care if any grass is left over, as it does not even bother to require that sufficient residual cover be present, and allows repeated harmful use with</p>	<p>Gregg et al. 1994, Connelly et al. 2000 and 2004, the Braun Blueprint 2006 and Manier et al. 2013 have been incorporated into the Final EIS. Knick and Connelly 2011 are incorporated in ARMPA, which has</p>

		<p>additive damage to fragile native plants, especially since the decision authorizes active and critical growing period use, as well as repeated use that harms and weakens plants, resulting in stunted plants that lack vigor. It repeatedly disturbs soils and crusts, and the habitats that sage-grouse and other wildlife need their food, cover space and other requirements met. It allows grazing to be imposed on top of breeding season habitats.</p> <p>Nests must be adequately concealed and protected throughout the nesting period. By failing to apply any measurable use standard whatsoever (and also failing to even analyze any use standard sufficient to provide this amount of cover in the depleted exotic species-infested landscape), BLM has turned a blind eye to sage-grouse, pygmy rabbit and many other sensitive species needs. See Manier Summary Attachment about problems with many grazing systems, and the need for residual cover. This is the Baseline Ecological Report associated with the GRSG EIS process and relevant here.</p> <p>BLM would allowing very damaging grazing that will kill and weaken many of the remaining bunchgrasses. BLM has also turned a blind eye to the profusion of crested wheatgrass seedings and/or unproductive weedy exotics that provide minimal vegetation height and cover - and the very serious risk that they will invade and come to dominate crucial nesting ad other habitat areas as a result of this grazing abuse during drought.</p> <p>Grass height is essential for protective vegetative screening in the area of the nest to better conceal nests from visual and scent predators.</p> <p>Grass height and cover also are important components of sage grouse nest sites (Table 1). Grass associated with nest sites and with the stand of vegetation containing the nest was taller and denser than grass at random sites (Wakkinen 1990, Gregg 1991, Sveum et al. 1998a). Grass height at nests under non-sagebrush plants was greater ($P < 0.01$) than that associated with nests under sagebrush, further suggesting that grass height is an important habitat component for nesting sage grouse (Connelly et al. 1991). Moreover, in Oregon, grass cover was greater at successful nests than at unsuccessful nests (Gregg 1991). Grass >18 cm in height occurring in stands of sagebrush 40–80 cm tall resulted in lesser nest predation rates than in stands with lesser grass heights (Gregg et al. 1994). Herbaceous cover associated with nest sites may provide scent, visual, and physical barriers to potential predators (DeLong et al. 1995). Connelly et al. 2000.</p> <p>BLM fails to critically assess the adequacy of cover - and ignores alternative actions for much-reduced utilization from the very high levels in the severely depleted communities.</p>	<p>amended the 2007 MMP. Additional edits have been made to the Final EIS to address biological soil crusts. Residual cover needs and the requirements of plant communities would be provided for under all alternatives. Alternatives B, C, and E provide for increasing diversity of seedings. Use standards, if necessary, would be imposed at implementation following site specific analysis.</p>
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			<p>http://sagemap.wr.usgs.gov/Docs/Sage_Grouse_Guidelines.PDF</p> <p>Connelly et al. 2000.</p> <p>BLM fails to apply conservative measurable use level controls to limit grazing impacts, including impacts shifted and intensified due to livestock facilities, and continued high numbers of livestock being grazed likely far above actual use - to soils, crusts, native vegetation (trampling of crusts and soil displacement, browse of shrubs, utilization of grasses and forbs) that provide protective residual cover for sage-grouse nesting in early spring.</p> <p>Connelly et al. 2000: Grass height and cover also are important components of sage grouse nest sites (Table 1). Grass associated with nest sites and with the stand of vegetation containing the nest was taller and denser than grass at random sites (Wakkinen 1990, Gregg 1991, Sveum et al. 1998a). Grass height at nests under non-sagebrush plants was greater ($P < 0.01$) than that associated with nests under sagebrush, further suggesting that grass height is an important habitat component for nesting sage grouse (Connelly et al. 1991). Moreover, in Oregon, grass cover was greater at successful nests than at unsuccessful nests (Gregg 1991). Grass >18 cm in height occurring in stands of sagebrush 40–80 cm tall resulted in lesser nest predation rates than in stands with lesser grass heights (Gregg et al. 1994). Herbaceous cover associated with nest sites may provide scent, visual, and physical barriers to potential predators (DeLong et al. 1995).</p>	
22	v	Katie Fite	<p>ALTERNATIVE Standards and Mitigations Not Examined</p> <p>BLM has failed to evaluate a reasonable range of alternatives and mitigation actions and use standards that would provide protective residual cover for watersheds, riparian areas, and uplands. This represents a grave threat to the critical sensitive species habitats that these areas provide, and sustainability of use in upland and riparian habitats.</p> <p>Herbaceous vegetation characteristics that were consistently higher at successful versus unsuccessful sage-grouse nests throughout the range of studied populations included live and residual grass height (Wakkinen 1990, Sveum et al. 1998b, Aldridge and Brigham 2002, Hausleitner 2003), residual vegetative cover (Gregg et al. 1994, Sveum et al. 1998b), forb cover (Holloran 1999, Hausleitner 2003) and visual obstruction (Wakkinen 1990, Popham 2000, Slater 2003). Successful nests in southern Canada had taller grasses and palatable forbs, and less grass cover compared to unsuccessful nests (Aldridge and Brigham 2002). In California, percent rock cover (rocks >10 cm in diameter; 27.7 vs. 14.5%), total shrub height (65.5 cm vs. 49.2 cm), and visual obstruction (40.2 vs. 32.5 cm) were greater at successful than unsuccessful nest sites (Popham and Gutiérrez 2000). Nests</p>	The range of alternatives is reasonable and follows the Court Order and NEPA guidance.

		<p>destroyed by avian predators in southwestern Wyoming consistently had less overhead cover (live sagebrush and total shrub canopy cover) within 15 m of the nest and increased lateral cover (herbaceous cover and height) within 2.5 m of the nest compared to nests in general and mammalian-destroyed nests (Slater 2003). Hausleitner (2003) reported that successful nests in northwestern Colorado had higher average forb (9.3 vs. 7.2%) and grass cover (4.8 vs. 3.9%) within 10 m of the nest, and taller grasses at the nest (15.4 vs. 11.7 cm) and at 1 m from the nest (18.2 vs. 13.5 cm) compared to unsuccessful nests. Additionally, in southeastern Idaho, successful nests tended to have taller grass and more lateral obstructing cover within 2.5 m of the nest compared to unsuccessful nests (Wakkinen 1990). In central Wyoming, food-forb cover within 2.5 m tended to be higher at successful nests relative to unsuccessful nests (2.1 vs. 1.3%; Holloran 1999). Successful artificial nests placed between 800 and 1440 m from active and inactive sagegrouse leks in southern Canada consistently had more forb and total sagebrush canopy cover, taller grasses, and lower numbers of sagebrush plants within 0.5 m compared to unsuccessful artificial nests (Watters et al. 2002). DeLong et al. (1995) reported that a combination of greater amounts of tall (>18 cm) grass and medium height (40-80 cm) shrub cover within 1 m of artificial sage-grouse nests in southeastern Oregon increased the probability of success. There have been numerous explanations for these low rates of nest success and/or low rates of annual reproductive success. These include the lack of adequate forbs and low residual herbaceous cover (Barnett and Crawford 1994, Gregg et al. 1994, Hanf et al 1994, DeLong et al. 1995, Coggins 1998).</p> <p>The Connelly Guidelines also state:</p> <p>Wallestad and Pyrah (1974) also indicated that successful nests were in sagebrush stands with greater average canopy coverage (27%) than those of unsuccessful nests (20%). Gregg (1991) reported that sage grouse nest success varied by cover type. The greatest nest success occurred in a mountain big sagebrush (<i>A. t. tridentata vaseyana</i>) cover type where shrubs 40–80 cm in height had greater canopy cover at the site of successful nests than at unsuccessful nests (Gregg 1991). These observations were consistent with the results of an artificial nest study showing greater coverage of medium-height shrubs improved success of artificial nests (DeLong 1993, DeLong et al. 1995).</p> <p>Grass height and cover also are important components of sage grouse nest sites (Table 1). Grass associated with nest sites and with the stand of vegetation containing the nest was taller and denser than grass at random sites (Wakkinen 1990, Gregg 1991, Sveum et al. 1998a). Grass height at nests under non-sagebrush plants was greater ($P < 0.01$) than that associated with nests under sagebrush, further</p>	
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			<p>suggesting that grass height is an important habitat component for nesting sage grouse (Connelly et al. 1991). Moreover, in Oregon, grass cover was greater at successful nests than at unsuccessful nests (Gregg 1991). Grass >18 cm in height occurring in stands of sagebrush 40–80 cm tall resulted in lesser nest predation rates than in stands with lesser grass heights (Gregg et al. 1994). Herbaceous cover associated with nest sites may provide scent, visual, and physical barriers to potential predators (DeLong et al. 1995).</p> <p>SAGE-GROUSE Populations Are in Trouble</p> <p>Knick and Connelly 2009/2011 Garton et al. Chapter population analysis, 2015 PEW Garton et al. analysis. <i>Greater Sage-Grouse Population Dynamics and Probability of Persistence</i>. http://www.pewtrusts.org/~media/assets/2015/04/garton-et-al-2015-greater-sagegrouse-population-dynamics-and-persistence-31815.pdf</p> <p>Crist et al. 2015 highlights the perils of the fragmentation of occupied habitats, and agency habitat mapping/delineation coupled with habitat loss resulting in sage-grouse being confined to “zoos” and becoming increasingly vulnerable to stochastic events and population losses. Yet the aggressive projects may <u>increase</u> fragmentation through expanded development, Please also review current sage-grouse literature. Knick and Connelly 2009/2011 Garton et al. Chapter population analysis, 2015 PEW Garton et al. analysis. <i>Greater Sage-Grouse Population Dynamics and Probability of Persistence</i>. http://www.pewtrusts.org/~media/assets/2015/04/garton-et-al-2015-greater-sagegrouse-population-dynamics-and-persistence-31815.pdf</p> <p>Crist et al. 2015 highlight the perils of the fragmentation of occupied habitats. Yet the aggressive treatment projects may <u>increase</u> fragmentation through collateral damage and other loss of sagebrush.</p>	
22	vi	Katie Fite	<p>FENCE IMPACTS, HABITAT FRAGMENTATION, HARMS</p> <p>There are long-known significant ecological concerns with fences and sage-grouse habitats. Relevant Excerpts from Connelly et al. 2004, <i>Conservation Assessment</i> illustrate concerns:</p> <p><i>Fences provide perches for raptors, and modify access and movements by humans and livestock, thus exerting a new mosaic of disturbance and use on the landscape.</i></p>	<p>The impacts of fencing have been analyzed for each alternative. ARMPA also addresses fencing impacts and provides RDFs to mitigate effects.</p>

		<p>ES-3.</p> <p><i>The increased edge in landscapes fragmented by roads, power-lines, fences, and other linear features promote spread of exotic invasive species (Gelbard and Belnap 2003), facilitates predator movements (Tewksbury et al. 2002), and isolates wildlife populations (Saunders et al. 1991, Trombulak and Frissell 2000). Changes in quantity, composition, and configuration of sagebrush habitats have consequences on the ecological processes within the sagebrush ecosystem and the resources available to support wildlife (Wisdom et al. 2002). Few pristine and intact sagebrush ecosystems remain (Noss and Peters 1995, Noss et al. 1995, West 1996, Mac et al. 1998). 1-6.</i></p> <p><i>Livestock grazing has altered sagebrush habitats; the effects of overgrazing combined with drought on plant communities in the late 1880s and early 1900s still influences current habitats. Management of livestock grazing has influenced sagebrush ecosystems by habitat treatments to increase forage and reduce sagebrush and other plant species unpalatable to livestock. Fences, roads, and water developments to manage livestock movements have further influenced the landscape and increased access into sagebrush habitats. Energy development also influenced sagebrush landscapes by construction of wells, access roads, and pipelines. Treatments to restore sagebrush are becoming a major emphasis of land management agencies. However, revegetation and rehabilitation treatments are limited by the financial, biological, and technological resources needed to restore sagebrush landscapes that function at the spatial and temporal scales used by sage-grouse (<i>Centrocercus urophasianus</i>). 7-2</i></p> <p><i>For example, 1,258 km of fences were constructed in year 2000 on lands managed by the U.S. Bureau of Land Management (U.S. Bureau of Land Management, Public Lands Statistics 2001). Fences control livestock, modify habitats, and influence movement of predators, invasive plants, or vehicular travel. In the absence of spatial information, such as linear distance/unit area, and other regional characteristics, our ability to quantify the area over which fences might influence habitats and increase mortality rates is limited. For example, fences can increase mortality directly when sage-grouse fly into fences or indirectly because of increased predation by raptors. 7-3.</i></p> <p><i>The primary habitat treatments on lands managed by the U.S. Bureau of Land Management include construction of fences, development or control of water, and</i></p>	
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		<p><i>habitat modifications (Table 7.8). More than 1,000 km of fences were constructed each year from 1996 through 2002; most fences were constructed in Montana, Nevada, Oregon, and Wyoming. Linear density of fences exceeds 2 km/km² in some regions of the Conservation Assessment study area (Fig. 7.22; Chapter 13 presents additional information on fences and sage-grouse). In addition to influencing livestock and predator movements, facilitating spread of exotic plants, and providing additional travel and access for human activities, fences potentially increase mortality of sage-grouse due to direct collisions or indirectly by increasing predation rates by increasing the number of perches for raptors. Fences used to control grazing management among allotments further modify the landscape by creating an artificial mosaic among separate pastures (Freilich et al. 2003).</i></p> <p><i>Water developments were widespread throughout public lands (Fig. 7.23). Water developments and distribution of water sources substantially influence movements and distribution of livestock in arid western habitats (Valentine 1947, Freilich et al. 2003). Consequently, grazing pressure can be unevenly distributed and influence the composition and relative abundance of the plant relative to water sources. 7-34 and 7-35.</i></p> <p><i>The density of fences exceeds >2 km/km² of habitat in some regions and influence movements of livestock, vehicles, predators, and exotic plants (Chapter 7). 13-7.</i></p> <p><i>Others factors, such as fences, influence sagebrush ecosystems across the entire biome but at lower intensities. The cumulative impacts of the disturbances, rather than any single source, may be the most significant influence on the trajectory of sagebrush ecosystems. 13-8.</i></p> <p><i>Sage-grouse are adapted to a landscape with few vertical obstructions but now occupy areas that commonly have many kilometers of fences and powerlines. From 1962 to 1997, >51,000 km of fence were constructed on land administered by the U.S. Bureau of Land Management in states supporting sage-grouse populations (Connelly et al. 2000b); >1,000 km of fences were constructed each year from 1996 through 2002 (Chapter 7) and density of fences exceeds 2 km/km² in some regions of the sage-grouse range. Structures such as powerlines and fences pose hazards to sage-grouse because they provide perch sites for raptors. However, predator control is rarely recommended for sage-grouse and other species of</i></p>	
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			<p><i>prairie grouse for a variety of reasons including long-term consequences, relatively high cost, and public attitudes (Messmer et al. 1999, Schroeder and Baydack 2001). Grouse may also be injured or killed when they fly into these structures. In further support of this concern, an informal report was provided by the Bureau of Land Management documenting (with GPS locations and photographs) 21 incidents of sage-grouse striking a barbed wire fence in Sublette County Wyoming during spring 2003 (T. Rinkes, U.S. Bureau of Land Management, Lander, WY) ...</i></p> <p><i>(2003) assessed the impact of energy development on sage-grouse and reported that traffic disturbance associated with natural gas developments may reduce nest initiation rates and increase distances moved from leks to nest sites. 13-13.</i></p>	
22	vii	Katie Fite	<p>MANIER et al. 2013 Grazing Summary</p> <p>Manier, D.J., Wood, D.J.A., Bowen, Z.H., Donovan, R.M., Holloran, M.J., Juliusson, L.M., Mayne, K.S., Oyler-McCance, S.J., Quamen, F.R., Saher, D.J., and Titolo, A.J., 2013, Summary of science, activities, programs, and policies that influence the rangewide conservation of Greater Sage-Grouse (<i>Centrocercus urophasianus</i>): U.S. Geological Survey Open-File Report 2013–1098, 170 p., http://pubs.usgs.gov/of/2013/1098/</p> <p>This summary includes much long known scientific information in Connelly et al. 2004, <i>Conservation Assessment</i>, and Knick and Connelly 2011, Eds. <i>Studies in Avian Biology</i>, and additional information, and was prepared apparently to accompany the sets of sage-grouse ARMPA EISs. It reviews a lot of the old school, failed grazing/range schemes that have led to the collapse of the sagebrush ecosystem, but fails to look beyond grass in understories to look at the full range of adverse impacts of livestock disturbance that BLM fails to control and monitor in any real way.</p> <p>Added to the Manier grazing system summary should be an evaluation of grazing damage to microbiotic crusts, and this trampling damage promoting invasive weeds. These essential crusts have long been recognized as a critical factor in degradation of arid lands in the Interior Columbia Basin. In order to understand the interconnected processes of livestock degradation that, with chronic continued grazing disturbance, are converting the sagebrush landscape of the arid Great Basin and other sage-grouse population landscapes into a desertified weedland, BLM must not only address all of these concerns, but also trampling impacts, microbiotic crust loss</p>	<p>Manier et al. 2013, has been incorporated into the Final EIS. HAF data specific to the Monument collected in 2012-2013 has been used for the analysis in this plan. Discussion of biological soil crusts has also been included in the FEIS.</p>

		<p>and destruction, and the cumulative effects of all of this, which is also amplified by climate change effects. See Beschta et al. 2012. The livestock degradation impacts excerpted below must also be considered in this region where there is high risk flammable invasive. Nearly all the old range paradigm studies discussed below were conducted in settings not already afflicted with an immense flammable annual grass expansion problem caused by grazing degradation.</p> <p>Various failed/ineffective range schemes discussed below have not in any way halted flammable annual grass and weed expansion, and are in a large way responsible for it – by giving false legitimacy to continued unsustainable high levels of domestic livestock grazing disturbance across the landscape.</p> <p>Challenges related to fire and fuels management have become pronounced and sometimes extreme in the Great Basin (MZs III and V) and parts of the Snake River Plain (MZ IV) where cheatgrass has invaded, changed fuel profiles, and subsequently enhanced fire behavior by increasing surface intensity and decreasing return intervals (Knapp, 1996; Epanchin-Niell and others, 2009; Shinneman and Baker, 2009; Rowland and others, 2010; Baker, 2011; Condon and others, 2011). Minimizing disturbance within remnant sagebrush communities deemed important for sage-grouse conservation might include a combination of wildfire control as well as adjusting use standards (for example, grazing, energy development, and recreation) to avoid treatments and activities that remove sagebrush, degrade native herbaceous species, and (or) promote cheatgrass expansion. In areas with widespread loss of sagebrush and replacement with cheatgrass, active restoration may be required (see section III. A11. Habitat Treatments and Vegetation Management). Revegetation ...</p> <p>... the invasion by exotic annuals has resulted in dramatic increases in number and frequency of fires with widespread, detrimental effects on habitat conditions (Young and Evans, 1978; West and Young, 2000; West and Yorks, 2002; Connelly and others, 2004). For example, big sagebrush communities invaded by cheatgrass have estimated mean fire-return intervals of less than 10 years in many areas (Connelly and others, 2004), whereas the natural regime is estimated (conservatively) to be 10 to 20 times longer. Increased fire frequency or intense fire behavior typically results in removal of the sagebrush canopy in affected areas and often with replacement by annual species that provide little, to no, habitat value (Knapp, 1996; Epanchin-Niell and others, 2009; Rowland and others, 2010; Baker, 2011; Condon and others, 2011). Presumably cheatgrass (<i>Bromus tectorum</i>) was able to thrive in this region, in part because there was no pre-existing (native) dominant annual plant species. As this optimal colonist species established, chronic</p>	
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		<p>grazing by cattle, sheep, and horses combined with drought and fire to increase the distribution and frequency of disturbance and further optimize this region for dominance by an annual grass (Knapp, 1996). Importantly, research in sagebrush ecosystems has revealed an inverse relation between cheatgrass dominance and native perennial herbs, especially grasses (West and Yorks, 2002). Further, the post-disturbance response of sagebrush communities to fire and similar disturbances is strongly affected by the condition and composition before disturbance, the presence of propagules, and sprouting of native species (West and Yorks, 2002; Beck and others, 2009; Epanchin-Niell and others, 2009; Condon and others, 2011). Cheatgrass competes with native grasses and forbs that are important components of sage-grouse habitat. Cheatgrass abundance is negatively correlated with habitat selection by sage-grouse (Kirol and others, 2012) indicating that changes in composition and structure associated with cheatgrass specifically degrade sage-grouse habitat. Invasion by Medusahead (<i>Taeniatherum caput-medusae</i>), which can replace cheatgrass in some circumstances, may be even worse as it also reduces perennial productivity, degrades wildlife habitat, supports high-frequency fire-return intervals, and requires intensive treatment for restoration (Davies, 2010). Infestation of these species, and others, cause direct degradation of sagebrush habitats resulting in (indirect) effects on local sage-grouse populations by affecting forage and cover quality with potential to cause complete avoidance (functional habitat loss).</p> <p>In southern habitats (MZs III, IV, V, and VII), cheatgrass ... (p. 88).</p> <p>Large-scale restoration is needed in many areas, making minimally invaded areas highly valuable for habitat conservation. p. 88.</p> <p>Large-scale restoration is needed in many areas, making minimally invaded areas highly valuable for habitat conservation. In the sagebrush-steppe of northern habitats (all or parts of MZs I, II, IV, V, and VI), cheatgrass is less ubiquitous but demonstrates increased dominance, productivity, and elevation range on south-facing slopes (Connelly and others, 2004), which indicates the need for careful local considerations and best-practices that minimize disturbance in areas with a threat (presence) of cheatgrass expansion. Potential for cheatgrass occurrence has been modeled in the Great Basin region based on environmental correlations, which can help discern locations and habitats that have the greatest risk, either because cheatgrass is already on those landscapes (some of the risk has been realized) or the conditions are right to support cheatgrass (fig. 27A). Summary data indicate that invasion potential is widespread and similar among assessed MZs (table 20). Although the distribution of cheatgrass, and other annual invaders such as Japanese brome (<i>Bromus arvensis</i>), has been documented across shrub and grasslands of</p>	
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		<p>Colorado, Wyoming, and Montana, the currently available model was only parameterized for the Great Basin, therefore only MZs III, IV and V are described here (table 20, fig. 27A). p. 88</p> <p>Model results suggest the most serious risk of cheatgrass invasion (in these analytical units) lies in the Snake River Plain where more than 50 percent of PPH and PGH are projected to be at risk of cheatgrass invasion (table 20). Assessment of regional habitat management issues by Wisdom and others (2005) highlighted concerns regarding expansion risk for cheatgrass and further specified the need for active restoration methods to improve sagebrush habitat conditions where fire and invasive species represent an interactive threat. The northern Great Basin follows this pattern closely with nearly 50 percent of preliminary priority habitats (PPH) and 36 percent of preliminary general habitats (PGH) threatened according to this independent, non-overlapping estimate, and similarly 31 percent and 43 percent of PPH and PGH, respectively, of the southern Great Basin MZ III is projected to share this level of risk. Importantly, most (more than 50 percent) of the affected lands in each MZ are managed by BLM and < 2% of the affected areas are USFS managed shrublands according to these data (table 20). Manier p. 88.</p> <p>Map Manier p. 89. Overall, this map (data time point unknown) appears to underestimate cheatgrass risk.</p> <p>[Unfortunately, the Connelly et al. 2004 info that appears to have been used in Manier is extremely out-dated, and conditions are much worse due to continued loss of habitats].</p> <p>As this optimal colonist species established, chronic grazing by cattle, sheep, and horses combined with drought and fire to increase the distribution and frequency of disturbance and further optimize this region for dominance by an annual grass (Knapp, 1996). Importantly, research in sagebrush ecosystems has revealed an inverse relation between cheatgrass dominance and native perennial herbs, especially grasses (West and Yorks, 2002). Further, the post-disturbance response of sagebrush communities to fire and similar disturbances is strongly affected by the condition and composition before disturbance, the presence of propagules, and sprouting of native species (West and Yorks, 2002; Beck and others, 2009; Epanchin-Niell and others, 2009; Condon and others, 2011). Cheatgrass competes with native grasses and forbs that are important components of sage-grouse habitat. Cheatgrass abundance is negatively correlated with habitat selection by sage-grouse (Kirol and others, 2012) indicating that changes in composition and structure associated with cheatgrass specifically degrade sage-grouse habitat. Invasion by</p>	
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		<p>Medusahead (<i>Taeniatherum caput-medusae</i>), which can replace cheatgrass in some circumstances, may be even worse as it also reduces perennial productivity, degrades wildlife habitat, supports high-frequency fire-return intervals, and requires intensive treatment for restoration (Davies, 2010). Infestation of these species, and others, cause direct degradation of sagebrush habitats resulting in (indirect) effects on local sage-grouse populations by affecting forage and cover quality with potential to cause complete avoidance (functional habitat loss).</p> <p>Livestock grazing has been described as a diffuse form of biotic disturbance that exerts repeated pressure over many years on a system; unlike point-sources of disturbance (for example, fires that have acute perturbations from well-defined origins), livestock grazing is characterized as a “press” form of disturbance because it exerts <i>repeated</i> pressure across the landscape (Knick and Connelly, 2011b). Thus, effects of grazing are not likely to be detected as disruptions—except in extreme cases as around water sources or mineral-nutrient blocks—but rather as differences in the processes and functioning of the sagebrush system (Knick and Connelly, 2011b). Importantly, <u>effects of grazing are not distributed evenly, because historic practices, management plans and agreements, and animal behavior all dictate differential use and therefore different effects.</u></p> <p>Native perennial grasses and forbs ... were not adapted to heavy grazing ...</p> <p>Livestock grazing can affect soils, vegetation, water, and nutrient availability by consuming or altering vegetation, redistributing nutrients and plant seeds, trampling soils and vegetation, and disrupting microbiotic crusts (Connelly and others, 2004). At <i>unsustainable</i> levels of grazing, these impacts can lead to loss of vegetative cover, reduced water infiltration rates, decreased plant litter on soil surface, increased bare ground, reduced nutrient cycling, decreased water quality, increased soil erosion, and reduced overall habitat quality for wildlife including sage-grouse (Wisdom and others, 2002; Knick and others, 2011). Ultimately, livestock function as keystone species; domestic grazing does not preclude native wildlife and vegetation, but it influences ecological pathways and can influence which plant and animal species persist (Knick and others, 2011). Thus there are two important influences of detrimental grazing on sage-grouse habitat: <u>the influence on annual conditions in the near-term and the accumulation of selective pressure resulting in altered vegetation dominance over time.</u> Prolonged selective pressure can affect condition of individual plants, abundance of species, inter-specific competition, and ultimately, community composition (Miller and others, 1994; Beck and Mitchell, 2000; Wisdom and others, 2002; Erichsen-Arychuk and others, 2002; Holechek and others, 2003; Connelly and others, 2004; and Pyke, 2011). Although specific effects and conditions are localized in most cases, the cumulative effect of these transitions across the species’ range may affect the regional condition of sage-grouse habitats.</p>	
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			<p>... heavy grazing in wet meadows deteriorated hydrology and reduced the extent of habitats suitable for summer—these sites were avoided by sage-grouse, and (4) sheep and cattle trampled nests and caused nest desertions (Beck and Mitchell, 2000). P. 96.</p> <p><u>Sage-grouse population persistence has been linked to the availability and condition of sagebrush habitat</u>; the dependence of the species on sagebrush through all seasonal periods has been well documented and cannot be overemphasized (Connelly and others, 2004). Nesting sage-grouse consistently select areas with more sagebrush canopy cover and taller grasses compared to available habitats (Hagen and others, 2007); tall, dense herbaceous cover—including residual grasses—in selected dense sagebrush stands increases the probability of a successful hatch. Thermal cover, predator protection, and food availability are important for chick survival during the early brood-rearing period with tall (>30cm) grasses and sagebrush creating this habitat structure. Grazing intensity—including stocking rate, duration, and frequency—has consistently been identified as having impacts on ecosystem and rangeland health (Vallentine, 1990; Briske and others, 2008; Veblen and others, 2011) including the structure required by sage-grouse. Similarly, the timing of grazing relative to plant phenology in particular can influence the sustainability of grazing (Briske and Hendrickson, 1998; Briske and others, 2003; Veblen and others, 2011) and compatibility with wildlife requirements. Resting pastures from livestock grazing during periods of fastest growth of dominant grasses and forbs in intermountain sagebrush-steppe generally enhances herbaceous plant growth and reproduction and increases culm height, long-term tiller production, and flower and seed production (Pyke, 2011) improving range conditions and habitat. Repeated grazing during this time tends to favor sagebrush growth (Pyke, 2011) through reduced competitive ability of grasses. Seasonal monitoring of range conditions could enable removal of livestock when stubble heights required to protect nests and broods are reached; however, this information is difficult to attain accurately in a timely way across large regions; therefore, surrogate measures or indices of condition would likely benefit this effort.</p> <p>Heavy fall utilization of sagebrush habitats by livestock has been deemed detrimental to sagebrush overstories and thus may negatively influence sage-grouse habitat suitability (Wright, 1970; Owens and Norton, 1990; Angell, 1997; Beck and Mitchell, 2000). Trampling by livestock under short-duration or season-long grazing may kill sagebrush, particularly seedlings growing in interstitial spaces (Beck and Mitchell, p. 97).</p> <p>... (Van Poolen and Lacey, 1979), compiling results from 18 western grazing-system studies reported that adjustments in livestock numbers resulted in increased</p>	
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			<p>herbage production of approximately 35 percent and 28 percent when grazing-use levels were reduced from heavy (60–80 percent) to moderate (40–60 percent) and from moderate to light (20–40 percent), respectively. The authors concluded that livestock stocking intensity was more important than grazing system for herbage production (Van Poolen and Lacey, 1979), a key habitat feature associated with hatching success of sage-grouse nests and chick survival during early brood-rearing. In contrast, others found season of use to influence production: grazing heavily during the spring or during spring and fall was detrimental to herbaceous understories (Mueggler, 1950; Laycock, 1978; Owens and Norton, 1990). Insect diversity and density were positively correlated with herbaceous density and diversity (Hull and others, 1996; Jamison and others, 2002); thus, spring or spring-fall grazing could negatively impact nesting sage-grouse and young chick survival during early brood-rearing, and avoidance through rotation or rest may benefit nesting or brood-rearing success. P. 97</p> <p>However, grazing during the dormant season (late summer through winter) may influence residual-grass-stubble height (Pyke, 2011), which could influence nesting habitat quality for sage-grouse the following spring.</p> <p>A study conducted in central Wyoming compared vegetative conditions in grazed pastures to conditions selected by sage-grouse in the area and found that reduced forage utilization, extended periods of rest, and reduced spring grazing provided conditions most suitable for sage-grouse nesting and early brood-rearing, even during a drought (precipitation 68 percent of normal during study, Kuipers, 2004). Grazing system (based on rotation period) was less important relative to stocking rates and season of use in this study. Long-term removal of livestock generated a steady increase in the richness of shrubs, perennial grasses and forbs, and vegetative heterogeneity through 45-years post-removal of livestock in southwestern Idaho (Anderson and Inouye, 2001). Comparing grazed to un-grazed (not grazed for 25 to 40 years) big sagebrush communities in Utah and Idaho, researchers reported increased sagebrush canopy cover of 13 to 54 percent (Beck and Mitchell, 2000). In contrast, no increases in total herbaceous standing crop after removal of livestock for 13 years were reported in Utah (Beck and Mitchell, 2000). Studies tracking changes in vegetation after removal of livestock in sagebrush systems report that initial proportions of the different growth forms were retained, and that a minimum of 10 to 15 years was required for seed production, seedling establishment, and growth to occur (Connelly and others, 2004; Pyke, 2011). <u>Thus, well-prescribed livestock management may positively influence sage-grouse habitat suitability especially during nesting (spring), early brood-rearing (early summer), and winter, but extended rest may be required for areas that are currently degraded.</u></p>	
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		<p>(through June in most areas) will provide for long-term resilience with plant communities that include healthy bunchgrass understories and adequate residual grass cover and height to support annual objectives (Pyke, 2011). The potential exists to successfully manage for good sagebrush community condition but fail to achieve sage-grouse habitat objectives if <i>annual</i> management for sufficient residual vegetation (standing crop) is not considered. According to research conducted in sagebrush-steppe, adherence to light-utilization standards is the most dependable way to ensure a healthy plant community (Cagney and others, 2010). Conclusions from a review of the effects of herbivory on bluebunch wheatgrass (<i>Pseudoroegneria spicata</i>), an important sagebrush associate, indicated (1) utilization levels of 30 to 40 percent under deferred grazing systems is a recommended maximum use-level if maintaining the community is desirable; (2) onetime growing season utilization levels of more than 50 percent have long-term (up to a decade) impacts on plant vigor and productivity (even if followed by complete protection); and (3) grazing following the growing season has little effect, although yield reductions the following year may occur if grazed to 2-inch stubble height (Anderson, 1991). Annual and seasonal monitoring of production and standing crop, with subsequent removal of livestock as range utilization reaches capacity (Holechek and others, 1989; Thurow and Taylor, 1999) is important for providing for habitat quality rangewide and would be facilitated by development within local monitoring, planning, and adaptive management cycles. P. 100.</p> <p>Even though livestock numbers have been considerably lower since the implementation of the Taylor Grazing Act in 1934, and grazing management across the West has steadily improved, acres continue to transition away from reference (historic, potential, and [or] desired) conditions (Cagney and others, 2010). Because of lasting historic impacts (late 1800s–early 1900s), the reduced numbers of livestock in the modern era often do not simply represent reduced grazing effects (Knick and others, 2011), but rather, a slower rate of accumulation of effects. Importantly, environmental patterns, historic and current uses ... p. 100.</p> <p>reintroduction of livestock to a disturbed area prior to the native or reseeded plant community becoming established, regardless of the number of years of rest afforded the site, can result in failed rehabilitation efforts and increased levels of exotic grasses (Knick and others, 2011).</p> <p>Passive restoration is typically the most affordable approach to restoration treatment because it does not require directed human activities but rather depends on adjustments in processes and management structure that can be imparted through revised use strategies (Connelly and others, 2004, p.320). “The greatest land-use</p>	
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			adjustment within the sage-grouse region that might bring about passive restoration is to change livestock management, largely because of the prevalence of livestock grazing as a land use” (Pyke, 2011, p. 537). P. 107.	
22	viii	Katie Fite	<p>SPRINGS - Characteristics and Disturbance/Development Threats</p> <p>Environmental Characteristics of Great Basin and Mojave Desert Spring Systems Donald W. Sada Alexandra D. Lutz Division of Hydrologic Sciences</p> <p>Environmental conditions recorded at 2,256 Great Basin and Mojave Desert springs that were inventoried from the late 1980s into 2013 are summarized. These records provide information about individual springs and their spatial variability across the landscape. Insight into their changing condition is provided by records compiled at springs visited several times over more than 20 years. Although this summary considers a small proportion of springs in this region, it provides broad insight into their size, basic water chemistry, and conditions that are indicative of springs over a large portion of the southwestern US.</p> <p>This assessment examines physicochemical characteristics of all of the springs surveyed, and by segregating them by land manager or owner (e.g., U.S. Bureau of Land Management, U.S. Forest Service, U.S. Fish and Wildlife Service, and private). Springs ranged widely in size, water chemistry, vegetative cover, and substrate composition. Some springs were very large, as indicated by discharge, springbrook length, water depth, and wetted width. However, median estimated discharged from all springs was less than 10 l/min, springbrook length was less than 50 m, water depth was less than 3 cm, and median springbrook width was less than 100 cm. There was also a wide diversity in water chemistry, from cold to very hot springs, from low to very high electrical conductance (EC), moderately low to moderately high pH, and low to very high dissolved oxygen (DO) concentrations. Most were relatively moderate environments, however. Median temperature was near ambient, EC was relatively high, pH was slightly higher than neutral, and DO was moderate. Emergent and bank cover generally exceeded 50 and 68 percent, respectively, and fines dominated substrate composition in most springs. Sand, gravel, cobbles, and boulders were relatively scarce.</p> <p>THIS (disturbance such as spring piping/gutting/excavation) is precisely what the EA expands:</p>	Sada and Lutz has been considered, but does not apply to the Monument. The occurrence of springs is limited on the Monument, but any springs would be managed for PFC or reference state, depending upon the alternative selected.

		<p>Approximately 3 percent the springs were disturbed by natural factors, and evidence of human disturbance was at approximately 83 percent of springs. Approximately 65 percent were moderately or highly disturbed by either diversion, horse, burro, or cattle use, recreation, or dredging, and many springs were degraded by several of these uses. Recent studies by Keleher and Radar (2008) and Sada et al. (2015) show that these levels of disturbance represent highly degraded, unhealthy ecosystems. Moderately or highly degraded springs were most common on Bureau of Land Management land, followed by private lands, U.S. Forest Service, and finally U.S. Fish and Wildlife Service lands.</p> <p>Changes in the condition of 265 springs that were surveyed several times over 20 years found that condition improved in 16 percent of springs, were unchanged in 40 percent, but degraded in 44 percent of springs. Many Great Basin and Mojave Desert springs are occupied by rare aquatic life that occurs only in this region. Further evidence of degrading condition is exhibited by extirpation of 27 populations of these taxa between the late 1980s into 2013. Two extinctions were also documented over this period. All of this information shows that springs in this region are degraded, that degradation is continuing, and that current management is not providing for their ecological health.</p> <p>Springs provide much of the aquatic environment in arid lands as well as a substantial portion of regional aquatic and riparian biodiversity, and water for rural economies. Springs were also highly symbolic and sacred places for Native Americans who believed that landscapes and homelands are often more important than events and time. New strategies are needed to manage and restore these systems, improve ecological health, and stop the extirpation of rare aquatic life that occurs only in Great Basin and Mojave Desert springs ...</p> <p>Springs are small aquatic systems that occur where groundwater reaches the surface (Meinzer 1923). In deserts, they range widely in size, water chemistry, morphology, landscape setting, and persistence. Some springs dry each year, some dry only during extended droughts, while some persist for millennia. Desert springs are distinct from springs in more temperate or humid regions because they are typically isolated from other waters, some are more susceptible to drought, and aquifers in these regions are strongly influenced by high elevations, rugged topography, diverse lithology, and aridity (Thomas et al. 1996, Hershey et al. 2010). Geology, aquifer size, geography, climate, persistence of water, and the flow path of</p>	
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			<p>groundwater movement constitute the hydrologic context for each spring. These factors also provide the fundamental natural elements that influence spring environments and structure biotic communities. Sada and Thomas (draft manuscript) examined hydrogeology and ecology of reference Great Basin and Mojave Desert springs and found that the characteristics of benthic macroinvertebrate (BMI) communities were associated with aquifer characteristics and groundwater flow pathways.</p> <p>... a consequence of their lengthy isolation and long-term persistence, many Great Basin and Mojave Desert springs also support a crenophilic (obligate spring dwelling) and endemic fauna and flora (e.g., Sada 1990, Erman and Erman 1995, Hershler 1998, Baldinger et al. 2000, Polhemus and Polhemus 2002, Keleher and Sada 2012). When they are persistent, and unaffected by human activity, springs are generally more stable than lotic systems because they are not exposed to variability in temperature, discharge, and water chemistry (McCabe 1998). Variability in population size and assemblage structure of aquatic life in persistent springs is low compared to other aquatic systems, and springs are often occupied by animals unable to survive highly variable environments (van der Kamp 1995).</p> <p>Many authors have noted the degraded condition of desert springs caused by diversion, non-native ungulate use, excessive groundwater pumping, non-native aquatic species, etc. (e.g., Shepard 1993, Sada et al. 2001, Unmack and Minckley 2008). Effects of these activities have been reported mostly as extirpations, extinctions, or declines in abundance of crenophiles (e.g., Miller 1961, Williams et al. 1985, Minckley and Deacon 1968, Sada and Vinyard 2002, Abele 2011).</p> <p>Several studies provide insight into the ecological effects of disturbance on springs. Sada et al. (2005) and Fleishman et al. (2006) found that BMI and riparian communities in 63 Mojave Desert and southern Great Basin springs generally differed along an environmental stress gradient where highly disturbed springs supported depauperate communities composed of animals and plants that are more tolerant of harsh physicochemical environments than less disturbed springs. Statistically significant differences could not be detected between BMI and riparian communities in undisturbed and slightly disturbed springs, but differences between springs with these levels of disturbance significantly differed from communities in springs that were moderately or highly disturbed (Sada and Nachlinger 1998).</p>	
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			<p>be very sensitive to disturbance but Keleher and Radar (2008) and Sada et al. (2015) also observed that their ecological health is minimally affected with minimal levels of disturbance. In contrast, Morrison et al. (2013) found tipping points where springbrook environments were most severely altered when discharge was reduced less than 20 percent. Sada et al. (2015) found the structure and functional characteristics of a BMI community also changed when discharge was reduced by 20 percent.</p> <p>Restoration Programs: A number of restoration programs have been implemented in Nevada. Some have been successful (e.g., Duckwater Big Warm Springs, Red Spring, several Ash Meadows springs), but a number have not (Duckwater Little Warm Springs, Preston Big Spring, Torrance Ranch Springs). Successful programs have returned each spring to its naturally functioning condition, and unsuccessful programs have either used inappropriate methods (e.g., hydraulic models to determine channel morphology) or created habitats preferred by practitioners (e.g., pools), rather than functional aspects that accurately characterize the target spring. All unsuccessful programs have functionally changed the habitat and created conditions that support invasive species (e.g., bullfrogs, mosquito fish, cattails, etc.), and prevents restoration of healthy spring systems. p. 24.</p>	
22	ix	Katie Fite	<p>REISNER Dissertation CHEATGRASS AND GRAZING EXCERPTS</p> <p>See also Reisner et al. 2013. http://onlinelibrary.wiley.com/doi/10.1111/1365-2664.12097/abstract Conditions favouring Bromus tectorum dominance of endangered sagebrush steppe ecosystems</p> <p>Full article: https://eplanning.blm.gov/epl-front-office/projects/lup/36511/45862/49563/Western%20Watersheds/Cheatgrass%20and%20grazing%20-%20Reisner%20et%20al.%20(2013).pdf</p> <p>The following excerpts are from the dissertation on which the article is based. We are including them here because they provide additional information and scientific references related to the great threat livestock grazing poses to sage-grouse habitats.</p> <p>Screen 66, page 50:</p> <p>Cattle herbivory is a novel type of stress compared to the stress regimes under which native bunchgrasses recently evolved (10,000-12,000yr) in the Northern Great Basin (Mack and Thompson 1982; Adler et al. 2004). Consequently, many</p>	Reisner et al. 2013, was considered in preparation of the Final EIS.

		<p>bunchgrasses, including <i>P. spicata</i>, <i>P. secunda</i>, <i>A. thurberianum</i>, <i>S. comata</i>, <i>A. thurberianum</i>, are highly sensitive to intense grazing (Blaisdell and Pechanec 1949; Mueggler 1975; Rickard et al. 1975; Mack and Thompson 1982; Ganskopp 1988). Cattle herbivory and associated disturbances are predicted to be important drivers of <i>Artemisia</i> community composition and structure (Miller et al. 1994; Briske and Richards 1995). Interactions between herbivory and water stress would not be surprising because defoliation during water stress reduces bunchgrass recovery (Busso et al. 1989; Brown 1995).</p> <p>Cattle herbivory stress overlapped with heat stress to form the first stress gradient. The increasing heat stress was driven by changes in landscape orientation (aspect and slope). Our findings confirm the prediction of Davies et al. (2007) that heat stress is an important driver of shifts in the spatial patterns of association between <i>Artemisia</i> and herbaceous species and others that landscape orientation is an important determinant of <i>Artemisia</i> community structure (Passey et al. 1982; Hironaka et al. 1983; Jensen 1990).</p> <p>The only prerequisite to facilitation of this non-resource-based stress gradient is <i>Artemisia</i> canopy protection from cattle herbivory and amelioration of heat stress (Callaway 2007; Maestre et al. 2009).</p> <p>Cattle herbivory stress overlapped with water stress to form the second stress gradient. In <i>Artemisia</i> ecosystems, water and nitrogen are both limiting factors to plant .</p> <p>Screen 70:</p> <p>In striking contrast to natives, the non-native focal species, <i>B. tectorum</i> and <i>L. perfoliatum</i>, exhibited the strongest competition at the highest stress levels, which coincided with their ecological optima (Liancourt et al. 2005). Because of their strong herbivory tolerance and avoidance of water stress, both species may derive few benefits from facilitation but incur the costs of competition (Reichenberger and Pyke 1990).</p> <p>The strikingly different patterns of interaction outcomes between <i>Artemisia</i> and the non-natives, <i>L. perfoliatum</i> and <i>B. tectorum</i>, compared to the native bunchgrasses strongly suggest that a shift in the relative importance of selective forces has fundamentally altered the structure of <i>Artemisia</i> interactions with herbaceous species. We contend that prior to cattle introduction negative interactions between</p>	
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		<p><i>Artemisia</i> and bunchgrasses for water and nutrients were likely one of the most important selective forces (Caldwell et al. 1987; Caldwell et al. 1991; Miller et al. 1991). Positive interactions were probably limited to <i>Artemisia</i> amelioration of heat stress and water stress. Competition and neutral outcomes were probably most frequent, i.e. similar to the interaction outcomes at the lowest levels of stress in this study. The competition between <i>Artemisia</i> and the non-natives, <i>B. tectorum</i> and <i>L. perfoliatum</i>, observed in this study evidences these past interactions and forces. ...</p> <p>Screen 71:</p> <p>With the introduction of cattle, <i>Artemisia</i> protection from herbivory increased in importance as an underlying positive interaction because of the sensitivity of most bunchgrasses to such grazing (Mack and Thompson 1982). Under this novel selective force, facilitation and neutral outcomes increased in frequency and strength, i.e. similar to the interaction outcomes at the intermediate and high stress levels. The consistent <i>Artemisia</i> facilitation of native bunchgrasses provided evidence for the strength of this selective force. We contend that these changes fundamentally altered the structure of interactions between <i>Artemisia</i> and many bunchgrass species.</p> <p>Finally, our findings support for all three proposed general shapes of the ...</p> <p>Screen 73:</p> <p>Valiente-Banuet et al. (2006) found that many species lineages that evolved under more mesic climatic conditions than those of the current Mediterranean are now dependent on positive interactions from nurse plants for their persistence. Similarly, 57 many native bunchgrass species may now be dependent on <i>Artemisia</i> facilitation for their continued persistence under otherwise unsuitable levels of herbivory, heat, and water stress (Valiente-Banuet et al. 2006; Callaway 2007; Brooker et al. 2008). In contrast, the highly invasive <i>B. tectorum</i> dominates the interspace microsites where its</p> <p>collective avoidance and tolerance mechanisms minimize stress impacts, but is also present under shrubs where <i>Artemisia</i> competition limits its dominance.</p> <p>In <i>Artemisia</i> communities characterized by intermediate to high combined levels of heat, water, and cattle herbivory stress levels, sagebrush removal will simultaneously eliminate <i>Artemisia</i> competition and facilitation. Released from</p>	
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		<p><i>Artemisia</i> competition, <i>B. tectorum</i> community composition is likely to increase (Reichenberger and Pyke 1990; Chambers et al. 2007), whereas native bunchgrass cover is likely to decrease without <i>Artemisia</i> protection from herbivory and amelioration of heat and water stress. If removal is fire-driven, then the higher fire intensity beneath shrubs may result in bunchgrass mortality (Pyke et al. 2010).</p> <p>Screen 74:</p> <p>Ongoing global climate change may increase heat stress and potentially increase water stress by altering precipitation regimes in these <i>Artemisia</i> communities (Neilson et al. 2005; Chambers et al. 2009; Chambers and Wisdom 2009). Reducing cumulative cattle grazing intensities may be the only effective means of reducing cumulative</p> <p>stress levels to avoid these fire-triggered catastrophic regime shifts (Scheffer et al. 2009; Briske et al. 2008).</p> <p>Our findings suggest two factors that land managers must consider before</p> <p>Screen 75:</p> <p>The Greater Sage-Grouse was recently listed as a candidate species under the Endangered Species Act. Strategies to retain sufficient sagebrush cover necessary to ensure sage-grouse conservation will require restoration treatments that maintain minimum levels of <i>Artemisia</i> cover at the landscape level (Meinke et al. 2008; Pyke 2010). Our findings suggest that <i>Artemisia</i> and the refuge native bunchgrass communities in under-shrub microsites can play a pivotal role in passive and active 59 (sic) restoration (McIver and Starr 2001; Pyke 2010). Passive restoration involves changing management practices to recover native species, whereas active restoration</p> <p>involves some level of vegetation manipulation (Pyke 2010). In passive restoration, remnant native bunchgrass populations beneath sagebrush canopies in areas where the native understory has been depleted by cattle grazing or other land uses may serve as a vital source of seed availability and accelerate otherwise slow re-colonization rates. In active restoration, <i>Artemisia</i> canopies may serve as important locations for planting</p> <p>native seedlings as an intermediate restoration step prior to reducing the shrub</p>	
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		<p>component (Huber-Sannwald and Pyke 2005). In communities characterized by intermediate or high combined stress levels, our results suggest that <i>Artemisia</i> may increase the restoration success rates by protecting native seedlings from cattle herbivory and ameliorating heat and water stress.</p> <p>Screen 76:</p> <p>... this study has: (1) revealed strikingly different patterns of shifts in interaction outcomes between native and non-native species-including the highly invasive <i>B. tectorum</i>; (2) revealed strong <i>Artemisia</i> facilitation of many native bunchgrasses; and (3) identified novel cattle herbivory stress as one of the primary potential drivers of shifts in the structure of species interactions. These findings are likely to have profound implications for the compositional and functional stability of these endangered ecosystems.</p> <p>Screen 108:</p> <p>This study reports the first evidence of native species facilitation decreasing community invasibility. <i>Artemisia</i> facilitation increased native bunchgrass composition, which reduced the magnitude of <i>Bromus tectorum</i> invasion in undershrub compared to interspace communities. Unfortunately, this decreased invasibility did not translate into lower invasibility at the community level because of the limited spatial scale over which such facilitation occurs. Also, we report that <i>Artemisia</i> facilitation increased community compositional and functional stability at intermediate Facilitation became a destabilizing force when native bunchgrass species became “obligate” beneficiaries, i.e. strongly dependent on <i>Artemisia</i> facilitation for their continued persistence in the community.</p> <p>Finally, shifts in the structure of interaction outcomes between <i>Artemisia</i> and native bunchgrasses, from competitive/neutral at low stress to facilitative/strongly facilitative at high stress, were associated with a decrease in community compositional and functional stability. A perfect storm of factors likely explain the especially pronounced destabilizing effects we observed. <i>Artemisia</i> is a dominant foundational species that exerts strong control over negative and positive interactions in the community, increasing cattle grazing was a predominant driver of shifts in the structure of interactions between <i>Artemisia</i> and bunchgrasses, and the structure of interactions between <i>Artemisia</i> and the invasive <i>B. tectorum</i> was fundamentally different than those with native bunchgrasses. Conserving and</p>	
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		<p>restoring the stability of these communities will <i>require significantly reducing cumulative stress levels, and reducing cumulative cattle grazing levels by adjusting utilization rates and/or seasons of use.</i></p> <p>[Land Grant College research faculty appear to never allow anyone to say remove livestock entirely– they just kick the can down the road. This was funded as part of the Sagestep project, as well, which was heavily biased towards massive justifying massive treatments rather than allowing passive restoration. Land Grant colleges and “range” professionals have failed the public in never-ending embrace of trying to impose unsustainable and devastating livestock grazing disturbance in sagebrush ecosystems of the arid West. The work required here -slaving away counting cow pies, measuring cheatgrass, etc. – and running elaborate statistical models and likely worrying over nearly every word in parts of the Dissertation – to “prove” what is clearly obvious to anyone who has spent any time looking at grazed arid western landscapes. Unfortunately, without a shred of data that it will work, the land grant science departments and agency documents rely on unsubstantiated claims that “adjusting livestock utilization rates and/or seasons of use” - will make any very significant difference in stopping cheatgrass/exotic weed invasions, and the ecological collapse of grazed sagebrush landscapes. Never will they call straight out for removing livestock.</p> <p>Reisner’s painstaking research focuses primarily on herbivory. There are other harmful dimensions of livestock impacts that promote cheatgrass, too. Especially the effects of trampling and disturbance of microbiotic crusts and weed invasion due to crust disturbance, and compaction of soils, erosion and other significant impacts of livestock cover reduction and trampling impacts combined. This is also an artifact of the “range” bent of the folks overseeing this and the whole Sagestep project. The current NRCS Ecosites embraced by federal agencies minimize and largely ignore the great importance of crusts. See Mack and Thompson 1982, Fleischner 1994, Belnap et al. 2001, BLM Tech. Bull. Another important element not included here is the importance of the structural complexity – not mere flat one-dimensional canopy cover – in understanding the sagebrush community processes.</p> <p>Further, the degree to which native shrub/forest communities had been “treated” in past agency veg/fuels projects, forage seedings, rehabs, etc. and shrub cover reduced by both past treatment (from which it may never have recovered to</p>	
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		<p>anywhere near natural complexity – due to breakage and consumption by livestock) – which is quite common on depleted range.</p> <p>Some of the most minimally cheatgrass-infested communities are those with dense Wyoming big sagebrush, and <i>Poa</i> and <i>SIHY</i> understories with splendid, near-continuous microbiotic crusts. These are the communities that the range specialists often seek to manipulate and “convert” –for cow forage – using sage-grouse as cover to make projects palatable/get funding].</p> <p>Screen 111-114:</p> <p>Biotic resistance, the reduction in invasion success caused by competition with resident species, is an important determinant of community invasibility because it reduces resources available to potential invaders (Daehler 2003; Levine et al. 2004; Mitchell et al. 2006). Facilitation is predicted to increase functional stability, i.e. decrease community invasibility, by increasing resistance when one resident native species increases the abundance and/or diversity of other species, which in turn reduces the magnitude of the invasion (Zavaleta and Hulvey 2004; Fargione and Tilman 2005; Brooker et al. 2008).</p> <p>Wyoming big sagebrush, <i>Artemisia tridentata ssp. wyomingensis</i> ...</p> <p>Screen 107 –Abstract (and next several pages):</p> <p>Wyoming big sagebrush, <i>Artemisia tridentata ssp. wyomingensis</i> (hereafter <i>Artemisia</i>) communities are one of the most widespread but endangered ecosystems in North America (Noss et al. 1995). Livestock grazing and other disturbances are believed by many to have significantly compromised the ecosystem’s resistance to 96 (sic) <i>Bromus tectorum</i> (cheatgrass) invasion (Knapp 1996; Miller and Eddleman 2001; Chambers et al. 2007). <i>B. tectorum</i> currently dominates 7% of the Northern Great Basin (Bradley and Mustard 2006), and Suring et al. (2005) estimated that about 50% of the Great Basin has a moderate or high probability of <i>B. tectorum</i> dominance of the herbaceous understory. In <i>B. tectorum</i>-invaded communities, fire, the dominant historical disturbance, is increasingly triggering a “catastrophic regime shift,”(Scheffer et al. 2001; Scheffer et al. 2009) whereby native shrub-steppe communities codominated by <i>Artemisia</i> and a diverse assemblage of native bunchgrasses are transformed into annual grasslands dominated by <i>B. tectorum</i> and other non-native species (Billings 1990; D’Antonio and Vitousek 1992; Knapp 1996; Pyke and Brooks 2001; Knick et al. 2010). These regime shifts indicate that a</p>	
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			<p>combination of disturbances and stressors has compromised the functional stability of these communities (McNaughton 1977; Foster et al. 2002; Scheffer et al. 2009).</p> <p>Not only are these communities characterized by strong overlapping gradients of heat and water stress (Passey et al. 1982; Hironaka et al. 1983; West 1983; Bates et al. 2006; Davies et al. 2007), but the arrival of cattle grazing in the late 1800s introduced a novel disturbance regime in a region where most native bunchgrasses are highly sensitive to herbivory (Mack and Thompson 1982). Livestock grazing remains the most pervasive land use across this region (Knick et al. 2010).</p> <p>In a previous paper (Chapter 2), we described strong shifts in the interaction structure between the foundational shrub <i>Artemisia</i> and six native and two non-native herbaceous species driven by overlapping gradients of heat, herbivory, and water stress. The primary goal of this paper is to determine whether findings observed at the species-level translate into ecologically meaningful effects at the community level, and more specifically, on community compositional and functional stability.</p> <p>Generally, we predicted that the pronounced shift in interaction structure between <i>Artemisia</i> and bunchgrasses, a shift from competitive/neutral to facilitative/strongly facilitative outcomes, would reduce community compositional and functional stability.</p> <p>The following specific hypotheses are tested:</p> <ol style="list-style-type: none"> 1. <i>Artemisia</i> facilitation of native bunchgrasses would increase functional stability, i.e. decrease invasibility, by maintaining greater bunchgrass composition in undershrub compared to interspace communities, which in turn would reduce non-native composition of under-shrub compared to interspace communities. We had no <i>a priori</i> prediction regarding how such facilitation effects might translate to the community level. 2. <i>Artemisia</i> facilitation of native bunchgrasses would both increase and decrease community compositional and functional stability. Facilitation would increase stability at intermediate stress levels, but decrease stability at high stress levels if obligate facilitation resulted in many bunchgrass species persisting only beneath <i>Artemisia</i> canopies. 	
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		<p>Screen 125:</p> <p>Our study reports the first evidence of native species facilitation increasing community functional stability by increasing the community composition of other natives, which decrease invasibility by reducing the magnitude of non-native invasions (Bruno et al. 2003; Brooker et al. 2008). In high stress communities, there was <i>Artemisia</i> facilitation of four native bunchgrass species (Chapter 2). These species were uniquely associated with and dominated the composition of the under-shrub compared to interspace communities. In contrast, <i>B. tectorum</i> and <i>L. perfoliatum</i> were uniquely associated with and dominated interspace communities. Although not an absolute barrier to invasion, the <i>Artemisia</i>-facilitated refuge for bunchgrasses (Brooker et al. 2008) limited the magnitude of the invasion in the under-shrub community (Mitchell et al. 2006).</p> <p>Unfortunately, this facilitation-mediated decrease in invasibility at the undershrub-interspace community scale did not translate into lower invasibility at the sitelevel.</p> <p>The simplest reason for this finding is the limited spatial scale over which <i>Artemisia</i> facilitation occurs.</p> <p><i>Artemisia</i> cover ranged between 9 and 30% across our study sites (Chapter 3), and after fire, <i>Artemisia</i> cover would be near zero. Consequently, between 70-94% of these communities are beyond the influence of <i>Artemisia</i> facilitation increased biotic resistance to <i>B. tectorum</i> invasion.</p> <p>Screen 128:</p> <p>High stress communities were characterized by lower overall community stability. The increased size of and connectivity between basal gaps in these communities indicate that native bunchgrass communities were becoming increasingly aggregated beneath <i>Artemisia</i>. Increasing spatial aggregation of vegetation in semiarid systems is an early warning indicator that ecosystem resilience has been compromised and that disturbance, like fire, is likely to trigger a “catastrophic regime shift” (Scheffer et al. 2009).</p> <p>[This seems another way of saying that keeping communities in the best condition pre-fire helps to reduce threat of cheatgrass invasion post-fire].</p> <p>A perfect storm of factors likely explain the especially pronounced destabilizing</p>	
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		<p>effects associated with shifts in the structure of <i>Artemisia</i>-bunchgrass interactions: a single dominant foundational species that exerts strong control over interactions and a disturbance and invasion that alters the structure of such interactions (De Ruiter et al. 1995; Holzapfel and Mahall 1999; McCann 2000; Baez and Collins 2008). The foundational shrub <i>Artemisia</i> (Davies et al. 2007) strongly controls the structure of interactions (Chapter 2) because it simultaneously competes with herbaceous species for resources (Caldwell et al. 1987; Reichenberger and Pyke 1990; Miller et al. 1991) and facilitates them by protecting them from herbivory (France et al. 2009), ameliorating heat stress (Davies et al. 2007), and enhancing nutrient and water availability (Charley and West 1975; Doescher et al. 1984; Chambers 2001; Chambers et al. 2007; Davies et al. 2007).</p> <p>Second, increasing cattle grazing disturbance was a predominant component of the stress gradients driving shifts in the structure of <i>Artemisia</i>-bunchgrass interactions (Chapter 2). Cattle grazing is a relatively novel type of disturbance in the Intermountain West, and most native bunchgrasses are highly sensitive to such herbivory (Mack and Thompson 1982). Cattle preferentially graze interspace bunchgrasses until utilization levels reach 40% when they begin to graze bunchgrasses located under shrubs; however, cattle continue to preferentially graze interspace bunchgrasses up to utilization levels exceeding 90% (France et al. 2009). These two factors likely make bunchgrasses especially vulnerable to destabilizing “obligate” <i>Artemisia</i> facilitation.</p> <p>Third, the structure of <i>Artemisia</i> interactions with the invasive <i>B. tectorum</i> was fundamentally different than those with native bunchgrasses. In striking contrast to the shifts from competitive to facilitative outcomes between <i>Artemisia</i> and native bunchgrasses, <i>Artemisia</i> had competitive outcomes with <i>B. tectorum</i> along the entire stress gradient (Chapter 2). Because of <i>B. tectorum</i>'s high tolerance to cattle grazing and its water and heat stress avoidance strategies, <i>B. tectorum</i> is not dependent on <i>Artemisia</i>-facilitation. <i>B. tectorum</i>'s rapid growth, nutrient uptake, reproductive rates allow it to exploit increased resource availability in the interspaces left void of bunchgrasses (Chambers et al. 2007).</p> <p><i>Management Implications</i></p> <p>Conserving and restoring the stability of these communities will require significantly reducing cumulative stress levels. Cattle grazing in combination with heat and water stress has fundamentally altered the role of <i>Artemisia</i> as a driver of</p>	
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			<p>community stability. Ongoing climate change will likely increase heat stress and potentially water stress within this region by altering precipitation regimes (Neilson et al. 2005; Chambers et al. 2009). Cattle grazing is the predominate land use of these landscapes (Knick et al. 2010) and ongoing dispersal of watering locations to optimize cattle utilization of forage (Holechek 1988; Holechek et al. 2003) may inadvertently increase cumulative herbivory stress levels across <i>Artemisia</i> landscapes. These stress increases may drive communities currently characterized by intermediate stress levels where “facultative” <i>Artemisia</i> facilitation of bunchgrasses increases community stability to high stress levels where “obligate” <i>Artemisia</i> facilitation decreases community stability (Bradley 2009). Of the three stresses, management can only adjust cattle grazing. Consequently, reducing cumulative cattle grazing levels by adjusting utilization rates and/or seasons of use may be the only effective means of reducing cumulative stress levels.</p> <p>This need is especially urgent in communities similar to the high stress communities of this study. Without simultaneous reductions in stress levels and active restoration to restore native bunchgrass communities (Pyke 2010), increasingly frequent fires (Neilson et al. 2005; Baker 2010) will likely transform these communities into <i>B. tectorum</i>-dominated annual grasslands (Knick et al. 2010). In communities characterized by stress levels similar to the intermediate levels in this study, <i>Artemisia</i> facilitation plays a determinative stabilizing role by maintaining community compositional and functional stability. Our findings suggest that management actions or natural disturbances (fire) that reduce <i>Artemisia</i> cover may decrease community stability unless cumulative stress levels are simultaneously reduced.</p> <p>As bunchgrasses became increasingly dependent on <i>Artemisia</i>-facilitation, the decrease in the interspace bunchgrass community increased resource availability and substantially increased the magnitude of <i>B. tectorum</i> invasion (Beckstead and Augspurger 2004; Chambers et al. 2007; James et al. 2008)</p> <p>This seems to be another way of saying that when the only place where these bunchgrasses occur to any real degree is under sagebrush that protects them from cattle, then you are in deep cheatgrass trouble. And again, there should be more emphasis on the role of microbiotic crusts. The sage protects the both grasses and crusts like moss at its base. However, in the interspaces, the role of crusts is very important.</p>	
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		<p>Screen 152:</p> <p>The linchpin of ecosystem resilience was the size of and connectivity between basal gaps in perennial vegetation, driven by shifts in the structure of the native community, especially the spatial aggregation of the perennial bunchgrasses. Two environmental factors, landscape orientation and soil physical properties, determined the inherent resilience of these communities to disturbance and invasion. Resident bunchgrasses provided biotic resistance to invasion by reducing the size of and connectivity between basal gaps and thereby limiting available resources. Biological soil crust (BSC) communities provided resistance by reducing safe sites for <i>B. tectorum</i> establishment.</p> <p>Screen 153: <u>Invasional Meltdown</u></p> <p>Consistent with the invasional meltdown hypothesis, increasing levels of cattle grazing facilitated <i>B. tectorum</i> invasions by reducing native bunchgrass abundance, shifting bunchgrass community composition, and reducing BSC abundance, which in turn reduced community resilience. This invasional meltdown was likely the result of differences in grazing avoidance and tolerance attributes between native and nonnative species. Most native bunchgrass species lack strong grazing resistance and tolerance strategies compared to <i>B. tectorum</i>. <u>We found no evidence that cattle increased <i>B. tectorum</i> propagule pressure, or that cattle grazing increased resilience by directly reducing <i>B. tectorum</i> abundance.</u> These findings provided important insight into the role of cattle grazing as potential determinant of community resilience and place it in the context of the resilience causal network.</p> <p>[So GRAZING cheatgrass won't decrease cheatgrass, despite the livestock industry push for so-called "targeted" grazing].</p> <p>Screen 154:</p> <p>Functional stability of a community is the system's ability to resist changes in aggregate properties or processes such as invasibility (McNaughton 1977; Lehman and Tilman 2000; Foster et al. 2002). Community invasibility consists of two related concepts. Resistance is the system's ability to prevent or minimize establishment and dominance of non-native species (Sax et al. 2007). Resilience is a system's ability to recover from disturbance (Holling 1973) or withstand disturbance before transitioning to another successional state (Gunderson 2000). Invasibility is an emergent property of an ecosystem and thus under the control of</p>	
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		<p>multiple operating factors connected simultaneously by a causal network of underlying mechanisms (Lonsdale 1999).</p> <p>Successful invasion depends on: (1) characteristics of invading species or species invasiveness (Daehler 2003) and (2) community invasibility. Community invasibility is determined by: (a) the type and amount of disturbances and the relative resilience of natives and non-native species to such disturbance regimes, (b) biotic resistance to invasion that is determined by the competitive abilities of resident native species, (c) community structure and (d) propagule pressure (Hobbs and Huenneke 1992; Williamson and Fitter 1996; Lonsdale 1999; Richardson and Pysek 2006; Rilov et al. 2009). All of these factors determine resource availability and the timing of this availability relative to the interacting organisms.</p> <p>Screen 158:</p> <p>The <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> (Wyoming big sagebrush) (henceforth “<i>Artemisia</i>”) ecosystems of North America are one of North America’s most widespread and endangered semi-arid ecosystems (Noss et al. 1995; Miller et al. 2010). The invasive annual grass <i>Bromus tectorum</i> currently dominates 7% of the Northern Great Basin (Bradley and Mustard 2005; Bradley and Mustard 2006), and Suring et al. (2005) recently estimated that 50% of the Great Basin Ecoregion has a moderate or high probability of <i>B. tectorum</i> dominance of the herbaceous understory ...</p> <p>[There is a great need for updated cheatgrass presence information in all agency planning documents. Agencies, and sage-grouse studies, too use old figures on acres infested, and/or largely ignore providing any current baseline altogether, as is the case with this process. Conditions are often very significantly worse now, many more landscapes invaded. Reliance on this old info of course helps the agencies to claim conditions are not as bad as they are, conduct flawed FRH processes and analyses based on assumptions that conditions are not as bad as they really have become}.</p> <p>Screen 160-161:</p> <p>Using <i>a priori</i> knowledge from a panel of ecologists with expertise in <i>Artemisia</i> ecosystems, previous work in these ecosystems, and ecological theories, we developed a multivariate hypothesis of the causal network for a regime shift to occur. The causal network incorporates the predicted relationships between and</p>	
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		<p>among all controlling factors based on processes thought to operate in regime shifts within this ecosystem (Fig. 4.1, Table 4.1). The conceptual model was based on an <i>a priori</i> assumption that cattle grazing influences ecosystem invasibility through four primary processes: (1) Cattle grazing directly decreases invasibility by reducing <i>B. tectorum</i> abundance; (2) Cattle directly increases invasibility by serving as a dispersal vector and increasing propagule pressure; (3) Cattle grazing indirectly increases invasibility by decreasing biotic resistance because grazing reduces bunchgrass abundance and/or 144 (sic) shifts bunchgrass community composition, which in turn increase resource availability; and (4) Cattle trampling indirectly increases invasibility by decreasing biotic resistance because trampling reduces biological soil crust (BSC) abundance and thereby creates safe sites for <i>B. tectorum</i> establishment.</p> <p>Screen 160-161:</p> <p>Cattle grazing had a positive association with <i>B. tectorum</i> cover through three independent processes. Because distance from water is inversely related to cattle grazing levels, positive path coefficients indicate a negative relationship between cattle grazing and the response variable. Thus, cattle grazing had three indirect effects on <i>B. tectorum</i> cover through its direct negative effects on bunchgrass abundance 161(sic) (0.34), BSC abundance (0.29), and bunchgrass community composition (Axis 2) (0.22). There was no evidence that cattle grazing directly decreased or increased <i>B.tectorum</i> cover.</p> <p>Landscape orientation exerted a strong positive total effect on <i>B. tectorum</i> cover (0.372) that consisted entirely of indirect effects through its negative direct effects on bunchgrass community composition (Axis 2), bunchgrass abundance, and BSC abundance. Soil physical properties exerted a strong positive total effect on <i>B. tectorum</i> cover (0.416) through a direct positive effect and an indirect effect through its direct effects on safe sites as measured by bare soil cover and bunchgrass community composition (Axes 2 and 3).</p> <p>Screen 178-179:</p> <p>Shifts in community structure characterized by increases in the spatial aggregation of perennial herbaceous vegetation and size of and connectivity of basal gaps between vegetation were the linchpin of ecosystem invasibility. This finding is consistent with the growing body of evidence in semi-arid and arid ecosystems</p>	
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		<p>around the world where increases in spatial aggregation of vegetation (Scheffer et al. 2001; 163(sic) Scheffer and Carpenter 2003; Scheffer et al. 2009) and increases in the connectivity between gaps in native vegetation (Busso and Bonvissuto 2009; Okin et al. 2009) are associated with a loss of ecosystem resilience. This loss of resilience sets the stage for threshold, nearly irreversible shifts between community states (Briske et al. 2006; Bestelmeyer et al. 2009; Briske et al. 2009) and in the worst case scenario, catastrophic regime shifts (Scheffer and Carpenter 2003; Scheffer et al. 2009; Herrick et al. 2010). We provide evidence that increases in the size of and connectivity between basal gaps in perennial vegetation increases the susceptibility of <i>Artemisia</i> ecosystems to <i>B. tectorum</i> invasions (Herrick et al. 2005; Okin et al. 2009). Our findings also support the prediction by James et al. (2008 at p. 646) that “although the particular resource or combination of resources facilitating annual grass invasion may change depending on the timing and amount of water input and soil chemistry, <i>the main mechanism of invasion resistance likely depends on how species abundance is distributed in the plant community.</i>”</p> <p><i>Artemisia</i> ecosystems of the Great Basin are characterized by wide temporal ...</p> <p>Screen 180:</p> <p><i>Artemisia</i> ecosystems of the Great Basin are characterized by wide temporal variability in soil water and nutrients that peak in early spring and thereafter peak after pulse precipitation events during the spring and early summer (Miller et al. 1991; Huxman et al. 2004; Schwinning et al. 2004). <i>B. tectorum</i> is predominantly a winter annual but can germinate anytime between fall and spring (Mack and Pyke 1983). It has an early phenology characterized by rapid root and shoot growth in winter and 164 (sic) early spring before native bunchgrasses commence their period of active growth (Harris and Wilson 1970), and high nutrient acquisition rates (MacKown et al. 2009; Vasquez et al. 2009; Blank 2010). These collective attributes probably allow <i>B. tectorum</i> to preempt and exploit pulses of resource availability in gaps between perennial vegetation.</p> <p>The two environmental factors, landscape orientation and soil physical properties set the invasibility stage by determining the inherent resilience of <i>Artemisia</i> ecosystems to cattle grazing disturbance and resistance to <i>B. tectorum</i> invasion (Lonsdale 1999). The combined total effects of these two factors in our model were 0.79. All other things being equal and consistent with other studies, communities located on coarser-textured soils (Doescher et al. 1986; Link et al. 1994; Beatley</p>	
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		<p>1996) or characterized by higher potential heat loads (Stewart and Hull 1949; Hulbert 1955; Klemmedson and Smith 1964; Hinds 1975) were inherently least resilient to cattle grazing and least resistant to <i>B. tectorum</i> invasion. These communities are characterized by higher levels of heat and water stress and lower productivity (Chapter 2; Passey et al. 1982; Davies et al. 2007). The inherent structure of these communities that consists of larger and more connected basal gaps and higher amounts of bare soil makes them especially vulnerable to cattle grazing and <i>B. tectorum</i> invasion.</p> <p>[Also see Peterson’s Owyhee region work circa 2006/2007 re: Cheatgrass moving into hotter sites. At every level –including standing bunchgrass cover, grazing disturbance removes shade and snow/rain trapping potential, as well as making plants use more moisture, and trampling pocks and dries out soils earlier, all of this stressing veg and resulting in hotter, drier more cheatgrass-prone sites].</p> <p>Screen 182:</p> <p>Consistent with the theory of fluctuating resource availability (Davis et al. 2000), we found that bunchgrasses reduced the magnitude of <i>B. tectorum</i> invasions (Booth et al. 2003; Beckstead and Augspurger 2004; Humphrey and Schupp 2004; Chambers et al. 2007; Prev�y et al. 2010). Native bunchgrasses reduce water and nutrient availability and thus reduce invasibility (Booth et al. 2003; Beckstead and Augspurger 2004; Chambers et al. 2007; James et al. 2008). Our findings provide important insight into this mechanism. Nearly all of the biotic resistance effect was indirect through the strong direct effect of bunchgrass abundance and composition on community structure. Further, three species, <i>P. spicata</i>, <i>A. thurberianum</i>, and <i>P. secunda</i>, were especially important determinants of such resistance. <i>P. spicata</i> and <i>A. thurberianum</i> are dominant deep-rooted bunchgrasses with most active growth in later Spring, whereas <i>P. secunda</i> is a shallow-rooted bunchgrass that is active in late Winter and early Spring. This combination of differing structure and phenology reflect their differing abilities to acquire resources at different soil depths (James et al. 2008) and seasons and thereby provide continuous interaction with <i>B. tectorum</i>.</p> <p>Screen 182 -184</p> <p><u>We found no evidence that cattle grazing, even at the highest intensities near livestock watering developments, reduced <i>B. tectorum</i> abundance (non-significant pathway #1). To the contrary, increasing intensity of cattle grazing and disturbances</u></p>	
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		<p>was associated with a decrease in ecosystem resilience and increase in the magnitude of <i>B. tectorum</i> invasions. Increasing intensity of cattle grazing decreased ecosystem resilience by reducing native bunchgrass abundance, shifting the composition of the bunchgrass community, and increasing the aggregation of bunchgrasses beneath <i>Artemisia</i> canopies. As cattle grazing increased, <i>P. spicata</i>, <i>A. thurberianum</i>, and <i>P. secunda</i> cover decreased, <i>E. elymoides</i> cover did not change, and <i>B. tectorum</i> cover increased. These shifts parallel the relative differences in grazing avoidance and tolerance mechanisms among these species. <i>P. spicata</i> and <i>A. thurberianum</i> are highly sensitive to grazing (Blaisdell and Pechanec 1949; Ganskopp 1988). Although <i>P. secunda</i>'s small stature allows it to avoid some grazing, it is highly sensitive if grazed (Mack and Thompson 1982). <i>E. elymoides</i> is the most grazing tolerant bunchgrass (Wright 1967; Jones 1998). In contrast, <i>B. tectorum</i> exhibits a collection of grazing avoidance and tolerance mechanisms that makes it extremely tolerant of even intensive grazing (Hempy-Mayer and Pyke 2009).</p> <p>But more importantly, increasing intensity of cattle grazing was associated with a fundamental shift in the structure of the bunchgrass community and the structure of <i>Artemisia</i>'s interactions with bunchgrasses (Chapter 1 & 2). At low levels of cattle grazing, <i>Artemisia</i> interactions with bunchgrasses were neutral or competitive (Chapter 1), bunchgrasses were spatially dispersed across the landscape, and the composition of the under-shrub, interspace, and site-level communities were similar (Chapter 2). <i>B. tectorum</i> cover in these resilient communities was low (Chapter 2).</p> <p>As cattle grazing levels increased, <i>Artemisia</i> interactions with bunchgrasses shifted to facilitative or neutral (Chapter 1); however, bunchgrasses remained spatially dispersed and the under-shrub, interspace, and site-level communities remained positively related to one another (Chapter 2). <i>Artemisia</i> "facultative" facilitation of bunchgrasses maintained community resilience: although bunchgrasses likely benefited from facilitation, they were not entirely dependent upon it for their continued persistence. <i>B. tectorum</i> cover in these resilient communities remained low (Chapter 2). At the highest cattle grazing levels, <i>Artemisia</i> interactions with bunchgrasses shifted to facilitative (Chapter 1), bunchgrasses became aggregated beneath <i>Artemisia</i> canopies, and the most grazing sensitive bunchgrasses, <i>P. spicata</i> and <i>A. thurberianum</i> became entirely dependent on facilitation for their continued persistence (Chapter 2). This "obligate" facilitation increased the size of and connectivity between basal gaps in perennial vegetation and resource availability within those gaps. These gaps created the window of opportunity for <i>B. tectorum</i></p>	
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		<p>invasion (Davis et al. 2000).</p> <p>Furthermore, increasing cattle grazing intensity was associated with a decrease in BSC community abundance, an increase in bare soil cover, and decrease in soil aggregate stability. The trends for these indicators strongly suggest that cattle grazing and related disturbances may be altering soil resilience to erosion and the hydrological cycle in <i>Artemisia</i> ecosystems (Clausnitzer et al. 2003; Herrick et al. 2005).</p> <p>Screen 185:</p> <p><i>Management Implications</i></p> <p>These collective findings raise serious red flags regarding proposals to use cattle grazing to control <i>B. tectorum</i> in <i>Artemisia</i> ecosystems where remnant bunchgrass communities persist (Miller et al. 1994; Mosely 1996; Olson 1999). In contrast, numerous studies have recommended reducing cumulative livestock grazing levels as one of the most effective means of passively restoring <i>Artemisia</i> ecosystem resilience (McIver and Starr 2001; Suring et al. 2005; Wisdom and Chambers 2009; Pyke 2010). Our findings suggest that shifts in the size of and connectivity between basal gaps in perennial vegetation may serve as an important early warning indicator of when cattle grazing or other stressors are compromising <i>Artemisia</i> ecosystem resilience and resistance. Future research should focus on gathering information concerning the distribution of basal gaps for reference sites of different ecological sites.</p> <p>Inherent differences in invasibility driven predominately by environmental factors mean that <i>Artemisia</i> ecosystems consist of a mosaic of communities that differ substantially in their resilience to cattle grazing levels they can withstand before crossing a threshold to an alternative state (Bestelmeyer et al. 2009; Briske et al. 2009). If the management goal is sustaining and restoring ecosystem resilience, our findings suggest that cumulative cattle grazing levels must match levels that maintain resilience and resistance and prevent the most susceptible communities within a grazing management unit from crossing these thresholds (Bestelmeyer et al. 2009).</p> <p>Otherwise, the resilience of more vulnerable communities will likely be compromised and <i>B. tectorum</i> will dominate them. Once <i>B. tectorum</i> begins to</p>	
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			<p>expand in gaps between perennial</p> <p>These collective findings raise serious red flags regarding proposals to use cattle grazing to control <i>B. tectorum</i> in <i>Artemisia</i> ecosystems where remnant bunchgrass communities persist (Miller et al. 1994; Mosely 1996; Olson 1999). In contrast, numerous studies have recommended reducing cumulative livestock grazing levels as one of the most effective means of passively restoring <i>Artemisia</i> ecosystem resilience (McIver and Starr 2001; Suring et al. 2005; Wisdom and Chambers 2009; Pyke 2010). Our findings suggest that shifts in the size of and connectivity between basal gaps in perennial vegetation may serve as an important early warning indicator of when cattle grazing or other stressors are compromising <i>Artemisia</i> ecosystem resilience and resistance. Future research should focus on gathering information concerning the distribution of basal gaps for reference sites of different ecological sites.</p> <p>Inherent differences in invasibility driven predominately by environmental factors mean that <i>Artemisia</i> ecosystems consist of a mosaic of communities that differ substantially in their resilience to cattle grazing levels they can withstand before crossing a threshold to an alternative state (Bestelmeyer et al. 2009; Briske et al. 2009). If the management goal is sustaining and restoring ecosystem resilience, our findings suggest that cumulative cattle grazing levels must match levels that maintain resilience and resistance and prevent the most susceptible communities within a grazing management unit from crossing these thresholds (Bestelmeyer et al. 2009).</p> <p>Otherwise, the resilience of more vulnerable communities will likely be compromised and <i>B. tectorum</i> will dominate them. Once <i>B. tectorum</i> begins to expand in gaps between perennial bunchgrasses, these communities will become at risk for fires (Knick et al. 2010) and may serve as foci for subsequent spread to surrounding communities.</p>	
23	i	Katie Fite	<p>Here are additional comments of WildLands Defense on the Craters of the Moon National Monument DEIS. We are dismayed that BLM proposes to continue largely the status quo number of livestock disturbing these critical Monument lands that also face serious climate change stress. This can only be viewed as extreme bias towards benefiting the profits of the subsidized livestock permittees – at the expense of all other values of the Monument and the public lands. The unreasonable alternatives in this document thwart effective conservation, enhancement and restoration of sage-grouse and other sensitive species habitats and populations.</p>	Your opposition to public land grazing is noted.

			<p>Actual use is greatly below the current number of livestock on the permit. This is because the lands cannot sustainably support the number of livestock on the permits, and necessary AUM reductions were never undertaken at the time of adjudication and the old Land Use Plans – due to the political power of the livestock industry. In Idaho, there is along history of grossly subsidized public lands ranchers that are damaging public lands values with their cattle and sheep herds getting political pressures brought on agencies to continue the status quo.</p> <p>The EIS p. 35 admits:</p> <p><i>Actual livestock use for allotments in the Monument, however, has been much lower than the permitted numbers since 1998 when Idaho Standards were implemented. The 15-year average actual use for allotments in the Monument has been determined to be 11,791 AUMs with a range of 7,744 AUMs to 16,805 AUMs in any particular year. The full range of Actual Use, while accounting for fires, varying forage conditions, and permittee operations is 5,847 AUMs to 19,388 AUMs. This range is based on adding the low actual use for each allotment compared to the high actual use for each allotment since 1997. Approximately 1,200 acres are currently unavailable for grazing, leaving 273,900 acres of BLM land open to grazing in the Monument.</i></p>	
23	ii	Katie Fite	<p>Livestock grazing is the overwhelmingly dominant land use on almost every acre of the Monument that is not solid lava. It is leading to rapid deterioration and alteration of the native sagebrush vegetation and associated wildlife species. It is causing failure of wildfire rehab efforts, thus solidifying long-term sagebrush habitat loss and fragmentation from fires.</p> <p>Livestock grazing affects and/or degrades values and components of significance associated with the Monument. These components include: Volcanic features, scientific, educational and interpretive activities; wilderness character including naturalness, solitude, primitive and unconfined recreation; perpetuation of scenic vistas; protection of kipukas and other values and Objects of the Monument. Laidlaw Park, where harmful grazing continues, is the world’s largest kipuka. We are very concerned that that the DEIS’s analysis is constructed s as to minimize consideration of the numerous conflicts, and the magnitude of the adverse effects, of continued grazing at status quo levels on these values.</p>	Impacts to Monument values have been analyzed for all alternatives.
23	iii	Katie Fite	The West’s sagebrush wild lands had long been viewed as a throwaway landscape, and managed for commodity production under fallacies promoted by range	The BLM used the best available science for

			<p>professionals, and sagebrush including that in and surrounding the Monument has been radically altered by various treatments and exotic species seedings (projects BLM outright stated were for forage, ESR/rehab, and fuels/fuelbreak treatments). Sagebrush species and subspecies of the genus <i>Artemisia</i> are often complexly interspersed across the landscape, varying with elevation, soils and other factors. Anti-sagebrush myth-based management has been pervasive across the biome (Welch and Criddle 2003). This bias continues up to the present – as shown by the bias of the Idaho NRCS Ecosites, which fail to recognize the naturally dense and structurally complex sagebrush communities that were historically found across Idaho, Nevada, Oregon and portions of Wyoming. See Bukowski and Baker (2013) describing historically dense big sagebrush. Unfortunately, BLM monitoring and other methodologies have been developed with a bias towards forage grasses, and are often applied in ways that limit detection of livestock degradation by avoiding areas of more intensive disturbance – which are the very sites where the exotic species that are causing the death of the sagebrush ecosystem first invade. BLM typical monitoring and analysis that serves as the basis for stocking lands focuses on grass --- and not the essential microbiotic crusts, forbs, and sagebrush complexity. The NRCS Ecosites also ignore and/or minimize the great importance of microbiotic crusts, which are significantly harmed by livestock trampling disturbance which BLM in the Plan refuses to control and regulate. Belnap et al. USDI BLM Tech. Bull. 2001</p> <p>BLM’s Craters EIS remains mired in the past – and the same broken and failed range policies that aim to support as many livestock as can be crammed into an area - at the expense of all other uses and values. BLM has failed to embrace ecological and botanical concepts in Monument analysis and management. BLM must engage high caliber ecologists and botanists in charting a path forward, and not continue on its old, broken livestock-centered rangeland methods and analyses.</p>	<p>analysis of all alternatives. The Final EIS incorporates Belnap et al. 2001.</p>
23	iv	Katie Fite	<p>Nearly all sagebrush wild lands are grazed (Knick 2003, Connelly et al. 2004), with resultant alteration of species composition and structure, and disruption of ecosystem functioning (Fleischner 1994). There is now widespread recognition of the spiraling loss, fragmentation and endangerment of sagebrush habitats (Ricketts et al. 1999, Knick et al. 2003, Knick and Connelly 2009/2011, Manier et al. 2013, <i>Baseline Ecological Report</i>, Beschta et al. 2012, 2014). A conservation assessment of North American ecoregions found the Snake/Columbia Shrub Steppe bioregionally Outstanding and Endangered, “requiring protection of remaining habitat and extensive restoration”. Livestock degradation is causing irreversible changes, and sadly in many areas of the Monument this has already occurred - as cheatgrass is now infesting many Monument lands. This represents an unsustainable forage “base”. It also means that habitats in areas where there is some natural resiliency remaining must receive healing rest from livestock grazing. A SEIS must be prepared based on sufficient site-specific current inventories to identify</p>	<p>A reasonable range of alternatives has been analyzed and a Supplemental EIS is not required. Please see Section 3.2.3 Vegetation Condition which has been updated in the Final EIS. Cheatgrass is not used as part of the forage calculation. See</p>

			those areas, and need to be restored. To do so, livestock grazing must be removed for prolonged periods and/or greatly reduced. These actions constitute a reasonable range of alternatives- not continuing the gross overstocking which under actual use has resulted in the current degraded conditions. This is necessary to buffer lands from climate stress, which amplifies the risk of invasive species proliferation and dominance.	Appendix D for forage calculation methods.
23	v	Katie Fite	<p>Characterized by bunchgrasses, forbs and shrubs with soil interspaces of microbiotic crusts, the sagebrush ecosystem did not evolve with herds of large, hoofed ungulates (Mack and Thompson 1982). The current vegetation originated in the Pleistocene, with little grazing by large native herbivores, and bison scarce in the intermountain region. <i>“The vegetation of the pristine sagebrush/grasslands was relatively simple and extraordinarily susceptible to disturbance ... the native vegetation lacked the resilience, depth, and plasticity to cope with concentrations of large herbivores. The plant communities did not bend to adapt; they shattered. This tends to make the review of grazing in the sagebrush/grasslands a horror story, resplendent with examples of what should not have been done”</i> (Young and Sparks 1985 in Young 1994).</p> <p>Native perennial bunchgrasses and forbs are weakened and killed by the chronic effects of livestock grazing. Microbiotic crusts that fix nitrogen, protect against erosion and help exclude weeds are degraded and destroyed by livestock trampling. Complex sagebrush structure is simplified and reduced by livestock breakage and browse. Browse impacts are greater in depauperate landscapes, or with winter grazing – which unfortunately occurs in areas of the Monument. Alien annual cheatgrass and other weeds invade depleted understories, and soils with damaged microbiotic crusts. Cheatgrass clogs the now bare interspaces. Cheatgrass produces continuous fine fuels so fires flash across the landscape. Larger areas burn more frequently and uniformly, and few unburned patches remain. This phenomenon accelerates, with conversion to annual grassland the end result. As remaining habitat patches become smaller, species disappear.</p> <p>As fires become larger, more uniform and more frequent, the landscape changes from a species-rich matrix to a species-poor matrix dominated by exotic, annual species (Whisenant 1991), or in the case of the vast areas in the Craters landscape where BLM has seeded the harmful exotic crested wheatgrass, ever-expanding exotic grass monocultures. Plant communities set on this trajectory with repeated disturbance cross thresholds from which they cannot recover, and restoration is very difficult, or not possible (Knick et al. 2003).</p> <p>A primary element of a Monument Plan related to grazing and resilient and sustainable public lands must focus on removal of the harmful crested wheatgrass seedings in and surrounding the monument. These lands must be carefully</p>	A Supplemental EIS is not required. Impacts to soils, vegetation, and soil crusts have been analyzed and disclosed for all alternatives in this plan amendment.

			<p>identified in a SEIS, and a detailed plan developed to de-stock the lands and “treat” and remove the crested wheat and replant natives. To do anything less gravely threatens the persistence of the native vegetation communities and Monument objects of Importance. Studies on neighboring INL lands have found that crested wheatgrass is now weedily spreading into areas where it was not seeded. This jeopardizes the persistence of native sage vegetation communities that are Objects of Importance in the Monument.</p> <p>In contrast to the Monument uplands, most riparian systems will exhibit recovery following livestock removal. Highest elevation sagebrush communities are more resilient than lower elevation communities.</p>	
23	vi	Katie Fite	<p>Unfortunately, cheatgrass and other weeds are now evolving to grow at higher elevations including the northern area of the Monument that is higher elevation and previously has had less cheatgrass. <i>“The end results could be the conversion of these native ecosystems to unproductive and simplistic annual grasslands lacking not only native vertebrates but also those invertebrates involved in the operation of the ecosystem including energy flow, water cycling and nutrient balance”</i>. (Billings 1994).</p> <p>Knapweed species, musk thistle, the highly invasive rush skeletonweed, and other noxious weeds are expanding. ALL of these thrive in zones of livestock, livestock facility, water hauling, supplement feeding and other disturbance. Fire makes matter worse. So does the failed agency rehab/ESR policies which continue to this day under the GRSG ARMPA with minimal real world changes (see Arkle et al. 2014). The public has witnessed the continued failure of BLM rehab with the Soda Fire. See Soda Scientists letter. See WLD Appeal of so-called “emergency” fuels grazing, and IBLA ruling. With the Soda Fire in Owyhee BLM lands, BLM is largely squandering 67 million dollars and aggressively destroying native bunchgrasses, forbs and shrubs that survived the fire with its aggressive drill seeding, seeding of all manner of exotic species, and large-scale herbiciding. The herbicide use has killed off native understories, and kills native seeds that are trying to grow.</p> <p>The horror story of the shattering of the sagebrush landscape continues to this day in the Monument and surrounding lands, with livestock disturbing soil surfaces, grazing sensitive native bunchgrasses to levels far too low, destroying sagebrush structure, and preventing ecosystem recovery following fires. Yet, the Monument was designated to turn the tide.</p> <p>Weeds invade areas of livestock disturbance (Mack and Thompson 1982, Fleischner 1994, Belsky and Gelbard 2000, Reisner Dissertation, Reisner et al.</p>	<p>The impacts of livestock grazing and the introduction of weeds have been analyzed for all alternatives in this EIS. Goals and objectives for restoration were set in the 2007 MMP.</p>

			2013, Chuong et al. 2015). Livestock act as their vectors of dispersal, transporting weeds in fur, mud, and dung (Belsky and Gelbard 2000). Fragmentation proceeds at multiple levels – while a veneer of sagebrush may remain in some areas, livestock may have removed or simplified critical shrub structural and understory habitat components. For example, sagebrush broken and battered by livestock converging on water loses the structural complexity required by the pygmy rabbit. In many other areas in this Craters landscape, fires, failed post-fire rehab, and relentless agency seeding of exotics like crested wheatgrass and now forage kochia, including in the wake of wildfires, are preventing recovery of sagebrush communities and natural sagebrush ecosystem processes.	
23	vii	Katie Fite	<p>Sagebrush habitat loss and fragmentation at multiple levels is accelerating – from the chronic effects of ongoing livestock grazing disturbance, wildfire, failed fire rehab actions and policies, as well as road upgrades, weedy and exotic species laden fuelbreaks, and other disturbances. Fences concentrate livestock, allowing more uniform degradation and new zones of heavy disturbance. Pipelines ripped outward across the sagebrush, or unfettered water hauling and salt/supplement feeding creates hundreds of intensively disturbed sites annually, and extends chronic grazing degradation and weeds into remnant islands of sagebrush nearest to pristine conditions. Minimal rest following fire greatly hinders native species post fire rehab recovery.</p> <p>Upland water troughs or water haul sites or supplement/salt and water haul sites become sources of intense disturbance, with impacts radiating outward over large areas. Salt placed to lure cattle away from water ensures new zones of intense disturbance and weed invasion. Supplement is now being fed to try to eke out AUMs on depleted range. Supplement feeding is an overt symptom of depletion of suitable forage and desertification of the landscape – as livestock are fed supplement so they are able to eat coarse exotic grasses and weeds, and even sagebrush woody stems. It must be prohibited in the Monument and surrounding lands. Unfortunately, the EIS fails to provide and adequate environmental baseline, and take a hard look at any of these effects</p>	The impacts of livestock grazing and associated water haul sites/supplement sites have been analyzed for all alternatives. ARMPA also provides a management decision regarding the placement of supplements.
23	viii	Katie Fite	Roading grows with grazing activities. Roads pioneered to salt sites, pipeline routes, sheep wagon camps, supplement sites and fence lines become conduits for weed spread (Gelbard and Belnap 2003), and are travel corridors for nest predators. See Braun 1998, Freilich 2003, Connelly et al. 2004, Knick and Connelly 2009/2011. Fences provide elevated perches for nest predators and are physical	The 2009 Comprehensive Travel Management Plan does not allow the creation of new routes or roads in

			<p>barriers that may kill or injure native birds and bats, including species of special importance like Townsend’s big-eared and other bats inhabiting lava caves and tubes that are special features of the Monument. Bats rely on insects produced in native vegetation communities in the Monument landscape.</p> <p>Adverse ecological change in sagebrush communities happens rapidly. Once thresholds to exotic annual grasses are crossed, recovery does not occur, and restoration is extraordinarily difficult, if possible at all.</p> <p>The demise of sagebrush-steppe vegetation in special management areas where agencies fail to take strong action to halt livestock disturbance is vividly apparent in the Snake River Birds of Prey National Conservation Area (SRBOPA). Yesterday’s bright hopes for the SRBOPA, now face the cold reality of ever-expanding monocultures of cheatgrass, with some areas burning every 3-5 years, and a plethora of other invasive species as well. Here the synergistic and cumulative impacts of disturbance - livestock grazing, fire and military training - have wreaked havoc. This has drastic effects on the ground squirrel and jackrabbit prey of raptor populations, sagebrush-obligate songbirds and other native biota (BLM/IDARNG 1996). The SRBOPA demonstrates the now-unfolding fate of the sagebrush lands of the Monument and surrounding landscape if BLM fails to act firmly and decisively in this EIS to control and change livestock grazing practices and remove livestock from fragile sage habitats and areas undergoing restoration. A SEIS must be prepared that truthfully evaluate s the dire risk of continued high stocking rates and high levels of grazing, harmful late winter-sprig (sic) grazing periods, and other ecological stressors related to grazing, whose effect are al amplified by climate change. Beschta et al. 2012, 2014.</p>	<p>the Monument. Impacts of fencing were analyzed for all alternatives in this EIS. ARMPA provides required design features for fencing as well.</p>
23	ix	Katie Fite	<p>Restoration of Seedings Is Essential</p> <p>BLM must conduct necessary large-scale restoration and removal of exotic seedings, decrease effects of roading, and implement sound post-fire land management to heal lands – rather than generate livestock forage. BLM must manage these lands to be in the best possible conditions – so that if they burn, there is a better chance of natural recovery. BLM must emphasize passive restoration and act to protect remaining native vegetation communities. It is impossible to prevent wildfires under wind-driven or extreme conditions, so proactive management that removes the seeding fire hazard that, like cheatgrass, promotes many frequent fires, is vital.</p> <p>In its earlier EIS attempt, BLM claimed to emphasize aggressive restoration of sagebrush steppe communities, yet alternatives failed to take action to address livestock grazing, a primary cause of the need for restoration. And no action of any</p>	<p>Alternatives B, C, and E incorporate management actions to increase the diversity within crested wheatgrass seedings. Goals and objectives for restoration in the original 2007 MMP were not remanded by the Court.</p>

			significance has been taken to date – despite finalization of the original Craters EIS a decade ago. The EIS was built on hollow promises of restoration, and instead BLM has issued grazing decisions covering up actual use levels and making matters worse. See BLM Big Desert allotment grazing Decision.	
23	x	Katie Fite	<p>Trampling Concerns</p> <p>Livestock trample and disturb geologic surfaces at interfaces with sagebrush-steppe. Trampling promotes high rates of wind erosion of soils, which can cover rock surfaces, colorful lichenized rocks, and windblown dust now is also known to accelerate snowmelt. Trampling disturbs, displaces and pocks cinder and coarse soil/sandy areas. Windblown soil can hasten snowmelt at the local site level – especially in the case of Craters where extremely large herds of domestic sheep are grazed in late winter. Plus sheep grazed during periods when snow or snowdrifts are present typically trample and churn areas near drifts into muddy mires. Earlier melting of snow hastens site drying, and may alter site plant community composition. Earlier site drying will prolong the fire season and make it start earlier. Climate change will amplify all of these adverse effects of grazing – as temperatures are predicted to increase, and snowmelt come earlier.</p> <p>At a regional level, windblown soil transported larger distances as dust is now implicated in causing earlier melting of snow packs in the Rocky Mountains. Post-fire erosion coupled with grazing disturbance to soils during dry periods causes regional dust – promoting earlier snowmelt. See</p> <p>http://adsabs.harvard.edu/abs/2009AGUFMGC41C..04C There have been several more articles on dust effects as well.</p> <p>http://www.sfgate.com/green/article/Scientists-find-windblown-dust-hastens-mountain-3227011.php</p> <p>http://nsidc.org/news/press/20070623_PainterGRL.html</p> <p>http://www.idahostatesman.com/2013/03/29/2512363/owyhees-dust-ups-big-loser-is.html</p> <p>http://thinkprogress.org/climate/2013/04/01/1804161/idaho-dust-storm-speeds-up-snowmelt-nobody-on-our-staff-has-ever-witnessed-anything-similar/</p> <p>Earlier snowmelt amplifies the adverse effects of climate change, and at the regional level would cause earlier runoff and likely reduced perennial flows, earlier desiccation of plant communities, with the same effects as we have described at the</p>	The 2007 MMP analyzed the effects of dust on geology within the Monument and was not remanded by the Court. The impacts of livestock grazing to soil resources are analyzed for all alternatives in the EIS.

			local level. Craters landscape grazing and other activities must be managed to minimize erosion and dust.	
23	xi	Katie Fite	The full local as well as regional footprint of the tens of thousands of sheep and cattle grazed in Craters and surrounding lands in early spring may affect local and regional ecosystem processes at all levels. Such effects must be thoroughly analyzed in this RMP. The full footprint of the public lands grazing operations must be laid out in a SEIS.	The effects of winter season grazing have been analyzed for all alternatives. A Supplemental EIS is not required.
23	xii	Katie Fite	<p>Weeds Mar Visual, Recreational and Aesthetic Values, and Geological Features</p> <p>Livestock grazing disturbance across uplands including in post-fire settings, promotes large wind-blown exotic weeds like tumble mustards and tumbleweeds. These weeds dry out, break off at the plant base, and blow into scenic lava features, creating a highly unnatural and ugly appearance. The weeds blow into, land upside down in, form impenetrable piles, and otherwise mask and marring the natural lava landscape and important and unique geological features. They also blow and lodge against harmful fencelines, and can form a barrier preventing antelope or other big game movement, as well as posing a fire hazard. In fact, BLM in livestock-degraded lands of Idaho and Oregon conducts tumbleweed burns. Burns of weeds piled and lodged by wind on rocks would mar lava surface with a weathered patina, kill colorful orange, green and other lichen, and other wise harm geologic features and the aesthetics of recreational use.</p> <p>While such weeds are especially prevalent following fires, grazing disturbance retarding site recovery and healing can result in the weeds persisting for many years in grazing-disturbed uplands.</p> <p>Livestock-caused weeds mar recreational uses and enjoyment of public lands, including wild land areas and WSAs. Hiking in public lands can be very unpleasant with large amounts of cheatgrass. The cheatgrass gets in socks, may get dog ears and paws or work its way under the skin. Cheatgrass can also harm wildlife. For example, bighorn sheep in eastern Oregon have been documented with cheatgrass embedded in skin. It also greatly increases fire hazards form recreational uses. Cheatgrass outcompetes the native vegetation that wildlife require – so cheatgrass dominance results in depauperate biological communities, and reductions in opportunities to observe, photograph, study, or otherwise enjoy wildlife. Thus, Weeds diminish natural, biological and other values of WSAs and the Monument.</p>	The effects of weeds on Visual and Recreational Values were analyzed in the 2007 MMP and are outside the scope of this EIS.

23	xiii	Katie Fite	Livestock herds churn up dust, deposit large amounts of weed-promoting manure that may contain potential pathogens, and livestock facilities disturb and mar natural scenic vistas and impair visitor recreational activity. The stench, noise, weeds, and physical displacement (avoidance of livestock by native wildlife) interfere with and diminish opportunities for wildlife viewing. Livestock guard dogs also pose a hazard to public lands visitors. Stagnant water impoundments or tanks with water promote mosquitos that may harbor West Nile or other diseases. Small playas are grossly trampled and fouled by livestock trampling and waste.	The impacts of livestock grazing have been analyzed for all alternatives in this EIS. ARMPA also provides required design features for the mitigation of any West Nile virus threat.
23	xiv	Katie Fite	Wildlife disturbance or presence of nest and egg predators occurs from physical presence of livestock and associated human activities (Coates et al. 2016), and the loss and degradation of habitat leads to declines or extirpation of native species. This harms recreational use and enjoyment of wildlife and pursuits ranging from photography to scientific study to enjoying the sheer beauty of sage-grouse flying in early morning. Exotic species such as crested wheatgrass that are purposefully planted to withstand grazing impacts deplete soils, have an unnatural appearance, and provide little value to native species. Such seedings (crested wheatgrass, intermediate wheatgrass, and now forage kochia) allow continued elevated stocking rates that lead to accelerated depletion of remaining native vegetation communities – as livestock differentially use and congregate in native shrub areas. These seedings also increase fire risk – as they are planted densely, there is nothing at all to reduce winds, high continued livestock stocking (based on the coarse unpalatable grass that the livestock do not want to eat – and so they consume any other plants that are present) promotes cheatgrass in interspaces. The end result is that fires sweep very rapidly across these seeded landscapes. Fire spreads rapidly and consumes vast areas in lands with large areas of exotic seedings – as surround and at times extend into the Monument.	Recreation and restoration goals and objectives were set forth in the 2007 MMP and were not remanded by the Court. The effects of livestock grazing on these resources and resource uses were analyzed for all alternatives in this EIS.
23	xv	Katie Fite	Already at the time of the prior EIS, there was a pressing need to take strong and decisive steps to limit livestock disturbance of soils and native vegetation, and try to slow the spread of exotic species. For example, a Shoshone BLM EA described trying to rehab a hill-claim area in a WSA, and stated “rush skeletonweed is common in the general area” – which was just upwind of Laidlaw Park. The livestock-disturbed lands of the Monument are at great risk of rapid spread of this highly invasive exotic. Or has it already spread? A full and thorough current inventory of all invasive species across the Monument and surrounding lands must be conducted. How much worse have conditions gotten since the often limited information the old EIS was based on? A SEIS must be prepared to make this comparison and take a hard look at the current footprint of invasive exotic species.	Refer to Chapter 3 for information regarding the current vegetation condition. A Supplemental EIS is not required.

23	xvi	Katie Fite	<p>Desertification, Climate Change/Global Warming Concerns</p> <p>Long before there was widespread scientific and public awareness of the dire effects of climate change and global warming processes on the planet, ecologists understood the serious adverse effects to arid landscapes of livestock grazing disturbance. See Sheridan CEQ 1981, Dregne 1986, Steinfeld et al. 2006. BLM has long known of the adverse effects of climate change. A summer 2008 Conference in Boise, Idaho was comprised of scientists and state and federal land managers from across the Columbia Basin. See Committee on Environment and Natural Resources 2008, See also USDI BLM Pellant Congressional Testimony, Earthjustice Global warming Reports Defenders Of Wildlife, IUCN and other Reports, and much additional literature were provided to BLM on cd during scoping. Work by Catlin et al. 2010, Beschta et al. 2012 and 2014 demonstrate the synergistic impacts of climate change and livestock grazing disturbance.</p> <p>The role of livestock and other disturbance-facilitated desertification and global warming/climate change processes should be a consideration in all federal agency actions. This is especially the case with livestock grazing, and/or any vegetation “treatment” including non-target effects of herbicide use on arid lands, and any rehab actions following fire disturbance, have serious adverse effects.</p>	<p>The effects of climate change have been analyzed for all alternatives in this EIS. Beschta et al. 2012 has been incorporated into the Final EIS.</p>
23	xvii	Katie Fite	<p>Climate change should be among the existing and reasonably foreseeable environmental effects that agencies always seriously examine in consideration of effects of management actions, as well as cumulative effects of processes related to shrubsteppe and arid forest dependent species. The contribution of disturbance actions (such as livestock grazing) in promoting site drying and heating, in disrupting ecological processes, in release of greenhouse gases generated by the grazing disturbance, and other actions must be addressed in this process.</p> <p>Scientists now recognize that climate change and global warming may make arid systems in particular less resilient in recovering from disturbance, disturbances may push communities in unanticipated directions, and disturbances may have irreversible effects.</p> <p>A SEIS must consider how ecosystem disturbance/disruption associated with grazing livestock in arid lands, along with the greenhouse gases released by the cattle herds, will promote climate change and global warming processes across the Craters landscape. This EIS must buffer and mitigate climate change effects to the maximum degree possible.</p>	<p>The cumulative effects on vegetation and to climate change have been analyzed for all alternatives in this EIS. A Supplemental EIS is not required.</p>

23	xviii	Katie Fite	<p>This must include addressing the ecological and climate change Footprint of:</p> <p>* Grazing, facilities, supplement feeding, water hauling, sheep camps, management actions such as forage seedings and other associated activities on all affected lands. A full inventory and analysis of all past, current, proposed and foreseeable grazing, facility and management disturbances including vegetation treatment effects in promoting climate change must be provided.</p> <p>* Grazing and other activities linked to the livestock grazing operations here and the total footprint of these livestock operations including on other public lands that may be grazed. This includes impacts of grazing of non-capable lands, or lands that are not suitable in a 2013 context. In considering climate change, the cumulative impacts are likely (or at least more likely) to be very significant.</p>	The direct and cumulative effects of livestock grazing to climate change have been analyzed for all alternatives in this EIS.
23	xix	Katie Fite	<p>In addition, agencies may not permit actions that would take or jeopardize listed or candidate T&E species. Agencies must manage habitats for state and federal sensitive species to prevent the need for Listing. Listed species habitats must be managed to prevent any further losses and degradation – especially as many imperiled species now are facing threats that will be amplified by climate change. BLM must also apply this under its sensitive species policy.</p>	Your comment is noted.
23	xx	Katie Fite	<p>Grazing and aggressive treatment disturbance - both separately and combined - will reduce capture and slow release of water into soils. Grazing dries out the landscape. Such effects will be amplified by reduced winter snowpack and rapid runoff due to climate change.</p> <p>Examining effects of climate change, including of agency actions promoting climate change, on sensitive, rare and imperiled species is critical to understanding the scale and severity of effects of an undertaking on habitats. This is critical to understanding the effects on populations, and population viability over the short, mid and long-term.</p> <p>BLM Must consider added stresses and ecological risks associated with climate change on sage-grouse and other sensitive species habitats and populations.</p> <p>This is all necessary to sustain, enhance, restore and conserve habitats and populations, to meet the supposed to be the goal of agency conservation planning including the GRSG ARMPA, sensitive species, and other policies, Instruction Memos, and mandates. It is essential to protect the irreplaceable values and Objects of the Monument, and measures must be much greater than those of the ARMPA.</p>	The direct and cumulative effects of climate change to soils, wildlife, and sensitive species have been analyzed for all alternatives in this EIS. ARMPA also analyzed these effects.

23	xxi	Katie Fite	<p>Pristine and Other Management Zones</p> <p>Part of the terminology used in the existing RMP EIS process focused on Pristine and other management zones. With livestock moving through, sheep wagons and guard dogs and stench of livestock, salt lick or supplement placement, sheep bedding wastelands, cattle manure fields and large numbers of mooing cattle or bleating sheep stirring up dust clouds, and ugly livestock water facilities or hauling or fencing, lands can not be considered “pristine”. A full and honest assessment of these impacts on such important wild land values must be conducted, and all measures necessary to remove livestock conflicts must be taken.</p> <p>Areas should be managed as Pristine zones to protect sage-grouse and other wildlife. How will livestock grazing bee dot (sic) be changed to accomplish this?</p>	Management of the Pristine zone was set in the 2007 MMP, which was not remanded by the Court.
23	xxii	Katie Fite	<p>The primary cause of the large network of roads that penetrate so much of the non-lava land (and even some of the lava land!) in the Monument is activities associated with public lands ranching, and/or attempts to patch the damage done by grazing. As part of this EIS process, BLM must address livestock-ranching activity related roading. As part of this, please examine the purpose of the road, road redundancy, etc. Sharp limits must be placed on sheep wagon roads, water sites, and the like. Actions must be taken to close and rehab unauthorized or damaging routes and trails.</p>	Travel management issues in the Monument were addressed in the 2009 Craters of the Moon National Monument and Preserve Comprehensive Travel Management Plan and are outside the scope of this EIS.
23	xxiii	Katie Fite	<p>Livestock facilities and disturbance affect visual quality, ecological integrity and visitor use and enjoyment. In the previous EIS, BLM allowed the location of livestock facilities to be a primary influence on how it defined zones. Despite public comment on tis during the current process’s scoping, the EIS fails to consider this. We request a new analysis under a new range of alternatives that emphasize minimizing the grazing disturbance footprint to the Monument, restoration and facilities removal. For example, previously a ”Passage” zone was described as a “high” degree of livestock encounters and maintained roads, primitive has “medium” degree of livestock encounters and 2-track or high clearance roads. Pristine has a “low. BLM’s goal under this current plan should be to have NO zones as “passage” zones – as the entire Monument in many areas is surrounded by such degradation - and there is no place for this in the Monument.</p>	Management of the Passage zone was set in the 2007 MMP, which was not remanded by the Court and is outside the scope of this EIS.
23	xxiv	Katie Fite	<p>If livestock grazing continues within the primitive zone or some portions of the pristine zones, natural processes will not be the dominant change agents.</p>	Removal of livestock facilities within any zone are provided for in

			This EIS process should consider removal of livestock facilities in primitive and pristine zones, and any locations where they are causing harm to soils, waters, vegetation, leading to weed increases/invasion, fragmenting/altering wildlife habitats, etc.	the 2007 MMP and was not remanded by the Court. ARMPA also provides management decisions regarding facilities removal.
23	xxv	Katie Fite	The Purpose and Need must be to protect the significant values of the public lands identified in the Monument Proclamation, with lands managed in as near a pristine state as possible. Instead, the (sic)	Protection of Monument values is reflected and maintained in the 2007 MMP. Also see Section 1.2 of the FEIS.
23	xxvi	Katie Fite	Actions that terminate livestock grazing across Laidlaw Park (where there is still some hope of keeping the land from turning into a Weed Hell) and all other areas with sagebrush remaining and/or recovering (significant blocks on the NE side of the Monument that are vital to GRSG), while allowing some grazing to continue in some cheatgrass-infested southern areas, should be assessed as part of all alternatives.	Closure of Laidlaw Park has been analyzed in Alternative D. See 2.3 Alternatives Considered but Not Analyzed in Detail for further rationale.
23	xxvii	Katie Fite	Grazing Permit Retirement As grazing permit retirement is very foreseeable during the life of this plan, this plan should examine and authorize grazing permit retirement and relinquishment, and permanently close the allotment to domestic livestock grazing use.	Grazing permit retirement is provided for in Alternatives B, C, and E.
23	xxviii	Katie Fite	Analysis of the Current Ecological Condition and the Impacts of Actual Use Livestock Grazing Must Be Conducted Analysis must be based on carefully vetted actual use stocking numbers. Data on actual use, changes with drought, zones of intensive disturbance, weed infestations associated with livestock projects, sheep camps, water haul, supplement sites, etc. must be provided as a baseline. Such information is necessary to provide a foundation and historical context so that the levels and impacts of public lands	AUM allocations in this EIS were based on poor production years and adjustments to permits would be based on monitoring.

			<p>ranching and its implications to Monument resources and values can be understood. BLM must include careful vetting of actual use in its new Monument management.</p> <p>BLM must stock lands based on drought limitations in any lands that remain grazed.</p>	
23	xxix	Katie Fite	<p>BLM must stock and manage lands based on sustainable GRSG and native sagebrush community ecological values to conserve enhance and protect the Monument objects of importance.</p>	Your comment is noted.
23	xxx	Katie Fite	<p>New Craters EIS Must Immediately Amend All Grazing Permits, Putting New Standards and Protections in Place</p> <p>When this process is completed, BLM cannot delay necessary actions until some distant future allotment-level decisions. That would result in no guarantee that the foundation for livestock management being laid out in the EIS would ever be implemented, Nearly a decade has already been wasted by BLM failure to comply with environmental laws and make much-needed changes to grazing. This process must include a current inventory of livestock-related and other activities and impacts on these lands. It would also mean that analysis of indirect, cumulative and synergistic impacts analyses of livestock grazing would be deficient.</p> <p>Sadly, in the 2015 ARMPA, BLM punted and delayed making grazing changes to a distant date after evaluations. Congress passed a bill (Grazing Improvement Act) that allows BLM to rubberstamp permits forward. This Monument Plan should find that due to the necessity of importance of protecting threatened Monument values from impairment, BLM will commit to preparing a minimum of an EA analysis for grazing permit actions.</p>	<p>The Court required BLM to make changes if changes are needed, but BLM data indicates that all alternatives are viable. Any changes to grazing permits would be made in accordance with 43 CFR 4100. This includes 43 CFR 4160 that requires the issuance of proposed/final decisions when modifying a grazing permit.</p>
23	xxxi	Katie Fite	<p>Herbicide Analysis and Risk</p> <p>BLM must fully apply integrated weed management, and assess impacts of potential herbicide use in relation to grazing and other management under all alternatives. Any herbicide use must be sharply limited – due to potential for drift and degradation of natural or other values, including drift in wind and wind-blown soils. BLM cannot rely on the severely flawed 2007 herbicide EIS whose risk assessments are greatly outdated.</p> <p>Actions necessary to control weed spread by livestock are lacking from the DEIS. For example, there are no provisions to quarantine livestock so weeds pass through them prior to entering the Monument, or prevent livestock being razed in lands with known infestations the agency is trying to control. Under all alternatives, livestock</p>	<p>Integrated weed management is outside the scope of this EIS and has been addressed in the 2017 Twin Falls District Noxious Weed and Invasive Plant EA.</p>

			<p>should be quarantined for the period of time necessary to cleanse systems of weeds consumed, cleaned of mud or burs/seeds in fur before being transported onto the Monument. No grazing should be allowed in areas of weed infestations until weeds are eradicated, and native vegetation is re-established. Then, only very low levels of grazing, if any, should be allowed in order to protect the substantial public investment and in order to conserve, enhance and restore sage habitats effectively. A full risk assessment must be conducted for all activities related to weed risks, potential herbicide impacts including drift, harmfulness of chemicals (active ingredient as well as carriers, breakdown products, etc.).</p> <p>A full discussion of herbicide use, drift and collateral damage to non-target species, transport and application in the Monument must occur, especially as it relates to grazing and to any vegetation treatments is essential. Will the public be exposed to long-lasting and persistent chemicals like Tebuthiuron? Or carcinogens like Tordon? Will the native vegetation killer Plateau be doused on public lands –yet livestock continue to be run on the same areas – making any application ineffective and futile? BLM must conduct a current and up-to-date analysis of herbicide use and risk assessments, and cannot rely on the flawed programmatic Vegetation EIS, or the segmented and piece-mealed various circular reasoning ESR, herbicide or other EAs the agency has amassed to sidestep any hard site-specific look at impacts.</p>	
23	xxxii	Katie Fite	BLM cannot consider ranching culture under “historic and traditional relationships with the land”? The largest rancher in the north is a hobby rancher who has no “historic and traditional relationship” here.	Your comment is noted.
23	xxxiii	Katie Fite	<p>Grazing Both Sheep and Cattle In Same Land Area Must End</p> <p>The full cumulative impacts of the overlapping sheep and cattle grazing and trailing conducted on many areas of the Monument must be fully assessed. This typically means multiple use periods during the same year, which is known to be very damaging for vegetation and wildlife habitats. Risks include cheatgrass invasion, weed invasion, pathogens, etc. that affect public uses and safety.</p>	The cumulative effects of multiple use periods during the same year are addressed in the Final EIS.
23	xxxiv	Katie Fite	<p>Environmental Justice</p> <p>Economic exploitation of poor and underpaid (sic) foreign herders who conduct sheepherding activities on the Monument and surrounding lands should be analyzed, and measures put in place to ensure that abuses of these workers do not occur.</p>	The working conditions of ranch employees are not administered by the BLM.

			Herders may receive poor quality food, have inadequate clothing, be deprived of wages, and have no recourse. This Plan must be developed with guidelines to ensure the herders are not exploited, or placed in hazardous or unhealthy conditions.	
23	xxxv	Katie Fite	<p>Hazardous Materials</p> <p>BLM must address hazardous materials related to livestock use and presence. In the past, WLD’s Fite documented livestock well oil spills, junk petroleum product jugs, and other debris left littering and polluting public lands very near the east side of the Monument as a result of permittee livestock well-related activities. Plus, sheep in particular may be coated with toxic pesticides used to kill vermin. BLM must analyze any hormones, drugs, insecticides or other substances in livestock waste that concentrates in areas of heavier disturbance, small playas, etc.? Do these materials then accumulate in sheep bedding sites, or elsewhere? Do they become airborne in wind, or dust, and thus have the potential to become inhaled by visitors? We also request that BLM conduct a survey of soils for Q fever in order to take protective steps to warn the public (and the exploited foreign herders) if this domestic sheep and goat-borne pathogen is present.</p>	Dumping of hazardous and non-hazardous waste in the Monument is not allowed. Any hazardous waste discovered within the Monument would be cleaned up as necessary. The occurrence of Q fever in Idaho is extremely low and not a threat to Monument visitors.
23	xxxvi	Katie Fite	All livestock carcasses should be removed from the public lands, especially during spring. This will help minimize carrion and other sage-grouse nest predator subsidies. Preferably, all spring grazing will be ended, and the BLM will strive to provide large intact blocks of livestock-free areas during sage-grouse lek, nesting, and early brood rearing periods.	Permittees must follow Idaho State law regarding livestock health and sanitation and 43 CFR 4140.1c3 .
23	xxxvii	Katie Fite	Large amounts of the herbicide use in the monument and surroundings is caused by livestock distance that promotes weeds. This must be analyzed, and very harmful chemicals such as Tordon should be eliminated from any use in the Monument.	The effects of herbicide use have been analyzed for the Monument in the 2017 Twin Falls District Noxious Weed and Invasive Species EA.
23	xxxviii	Katie Fite	<p>Carrying Capacity, Capability, Suitability, Sustainability Analyses</p> <p>A full discussion of “carrying capacity”, capability, suitability for continued livestock use – while taking into account conflicts with, and degradation caused by, such uses, and “limits of acceptable change” as they relate to livestock grazing and disturbance must be provided. Sustainability of use at various levels in the face of weed threats and climate stress must be fully analyzed.</p>	The projected use levels and the effects of each alternative have been analyzed in this EIS.

23	xxxix	Katie Fite	BLM must fully assess how all livestock grazing activities (including facilities such as wells and troughs,, water hauling, supplement, etc.) impact all zones established for management purposes in the Monument. In the previous effort, the EIS stated “each separate zone has distinct settings to be provided and maintained”, and “physical settings consider the degree of naturalness and amount and type of facilities ...”. Yet the EIS never provided a map of livestock facilities, sheep bed sites, water haul sites and other facilities that would allow it to determine these zones, or the visual qualities associated with them. Thus - to this point there has no valid analysis whatsoever of these impacts. This must occur in this process, and conflicting activities must be ended.	Management zones are tools that help guide decisions on visitor use, facility development, and other uses. The effects of livestock grazing are analyzed for each resource or resource use. The Visual Resource Management and management direction for the zones within the Monument were set in the 2007 MMP, which was not remanded by the Court.
23	xl	Katie Fite	Plus, BLM in this new process must expand the visual, Management Zone, and other protections to much greater areas, i.e. upgrade areas of more protective zones, and act to limit livestock disturbance in this 2013 process.	Visual Resource Management and management direction for the zones within the Monument were set in the 2007 MMP, which was not remanded by the Court.
23	xli	Katie Fite	Guidance common to all alternatives. Part of the management guidance must be undertaken as part of the EIS process is conducting careful Monument-wide resource inventories and surveys. This is necessary to provide a baseline of information, as in many cases (livestock, cultural, vegetation condition, etc.). In this self-sergin (sic) EIS, BLM has provided no information that allows a reasoned analysis of impacts of alternatives. For example, to determine how many acres need to be “restored” under various alternatives, BLM must know the condition and extent of degraded communities or exotic seedings or cheatgrass areas, where any	Existing condition was based on HAF data and other current pertinent data. This data is sufficient for the analysis of the alternatives.

			projects may best focus on connectivity, etc. This is essential to determine if you have a reasonable range of alternatives.	
23	xlii	Katie Fite	The previous EIS claimed that soils would be protected from accelerated or unnatural erosion – yet provided no data on soil erosion hazard, current soil conditions, zones of active erosion, etc. has been presented. Comprehensive data must be collected and presented on livestock impacts causing soil compaction, loss of microbiotic crusts, or accelerated and unnatural erosion. This process must carefully identify areas where habitat condition retains sagebrush attributes (including recovering sage following fires), and full consideration of ACECs in and extending outside the Monument must be considered as part of the Land Use Plan amendment process.	See Soils and Vegetation Ch. 3 for current data on soils, compaction, erosion, and microbiotic crusts. ACEC designations are outside the scope of this EIS.
23	xliii	Katie Fite	The previous EIS vegetation goals common to all alternatives were protecting existing sagebrush steppe communities, restoring degraded areas, post-fire rehab, sagebrush management. Yet the EIS did not make significant changes to allow this to occur. It only paid lip service to this. Current livestock conflicts and the role of livestock in retarding attainment of these goals must be fully assessed. Impacts must be minimized, or eliminated altogether. A SEIS must be prepared to do this.	The effects of livestock grazing are analyzed for all alternatives in this EIS. A Supplemental EIS is not required.
23	xliv	Katie Fite	Actions and stipulations (conservative measurable use standards) necessary to protect special status species must be part of ALL management going forward under the new RMP. This includes limiting fragmentation caused by sheep bed grounds, salting, water hauling, etc. Plus, BLM did not conduct necessary baseline inventories for special status species as part of the old EIS process, and thus did not have understanding of habitat components that must be protected. This must be corrected in 2013.	Data was collected in 2012 and 2013 for this planning effort. ARMPA provides guidance for mitigation of effects to special status species.
23	xlvi	Katie Fite	Important information on current populations of special status species and species of concern must be collected. How are their habitats fragmented? What is a viable population level? How will you address sagebrush-die-off, livestock structural alteration of shrubs, destruction of microbiotic crusts, and other factors?	See Ch. 3 Wildlife for data on current special status species.
23	xlvi	Katie Fite	A full discussion and full baseline surveys across the Monument and surrounding lands of the array of livestock impacts to cultural sites must be addressed – trampling disturbing site stratigraphy and scientific value of site, breaking artifacts, causing soil erosion, exposing artifacts to surface looting, introducing weeds and altering fire cycles so archaeological sites are damaged by intense fires.	Approximately 10% of the Monument lands have been inventoried for cultural resources. A full inventory is not feasible or required to describe the potential

				effects of livestock on cultural resources. Please see Section 4.2.6 for an analysis of effects to cultural resources under each alternative.
23	xlvi	Katie Fite	Strong, clear guidance must be provided in this plan for managing or changing livestock grazing to protect or enhance Monument values. There must be strict sideboards, and specific actions must be triggered to prevent harm. No loose and uncertain Adaptive Management can be allowed.	See ARMPA for a description of hard and soft triggers that would cause a change in management, as well as Required Design Features for any future BLM projects within sage grouse habitat. Specific management guidelines will be based on site-specific implementation of this plan, and will be in accordance with Idaho Land Health standards.. Also see 2007 MMP for management action to protect or enhance Monument values.
23	xlvi	Katie Fite	The Monument Proclamation did not say that livestock grazing was sacred and immutable. Rather, it provides for continued livestock use on BLM lands – at unspecified levels, and management under existing regulations, including FLPMA. FLPMA allows for some lands to be used for less than all purposes. The Proclamation in no way constrains development of clear and necessary livestock grazing goals, objectives and management actions to protect important Monument resources and values.	Your comment is noted.

23	xlix	Katie Fite	<p>Desired Conditions</p> <p>A great flaw with the previous EIS was that BLM developed “desired” conditions that enshrined large-scale livestock impacts and depauperate conditions as “desired”. This must be changed in this new effort, and the focus must be on conservation, enhancement and restoration of the Monument values.</p>	The Desired Future Conditions for the Monument were set in the 2007 MMP. Those DFCs appropriately recognize the myriad Monument values, and provide for management of land uses to achieve those conditions over time.
23	l	Katie Fite	<p>Wilderness/WSA</p> <p>Wilderness Management actions should include removal of livestock projects that may be impairing Wilderness values. BLM should provide a summary of monitoring data for WSAs that examines any livestock impacts, and addressed natural values, special features, primitive and unconfined recreation, and solitude.</p>	The 2007 MMP provided for removal of livestock developments in any WSA.
23	li	Katie Fite	<p>WSAs and new wilderness inventory. As part of this process, an inventory of all lands should be conducted to determine if additional roadless acreages lying outside WSAs exist, and if closing minor two tracks or ways including by reducing or ending grazing in those areas, or requiring ranchers to ride horses, would result in expanded wilderness-potential acreage. If so, where are they?</p>	BLM cannot expand designated Wilderness without direction from Congress. BLM did conduct lands with wilderness characteristics inventory in 2014. See Section 3.2.9 for a link to the results.
23	lii	Katie Fite	<p>In the description of “passage zones”, the old DEIS described the link between road upgrades and livestock facilities. This new EIS must examine the impacts of livestock projects and associated roading, evaluation of road closures should be part of this process, and thus revision of the passage zone area under a new range of alternatives. The definition of “passage zone” must be changed to prohibit new livestock facilities or expanded water hauling.</p>	The 2009 Comprehensive Travel Management Plan for the Monument addressed the evaluation of roads. Further work regarding travel management is

				outside the scope of this plan. No new roads are permitted in the Monument.
23	liii	Katie Fite	Many of the current roads and livestock facilities conflict with the old EIS’s “continuity of habitat for special status species and general wildlife will be emphasized” –as roads serve as conduits for weed spread that will thwart any “restoration” projects, lead to increased fires and fragmentation, etc.	Consistent with the 2009 Travel Plan, no new roads are permitted within the Monument. Numerous unnecessary, unused, or redundant routes were closed at that time.
23	liv	Katie Fite	Roads facilitate archaeological looting and other impacts to cultural sites, lead to greater likelihood of human-caused fires, more disturbed right-of-way areas and more places for vehicle tires to pick up weed seeds and spread them to new areas.	The 2009 Comprehensive Travel Management Plan for the Monument addressed the impact of roads on cultural resources. Further work regarding travel management is outside the scope of this plan.
23	lv	Katie Fite	<p>As part of any road maintenance here, limitations should be placed on how much right-of-way area can be disturbed. Often, rural County highway departments or BLM blades extensive areas alongside the road that later become prime sites for weed infestation, blowing dust, etc. All alternatives should limit this excessive blading. Roads that are bladed wide enough for two cars to easily pass often get driven at excessive speeds, and thus are more dangerous, especially with lots of loose gravel that causes vehicle wrecks.</p> <p>BLM increases the risk of human-caused fire by having so many roads (whose sole purpose often is for the convenience of livestockmen) to entice driving by visitors who are often little aware of the dangers of driving over cheatgrass, tumbledustards and other dried vegetation in the center of two tracks, or growing on road and trail margins. Keeping many miles of roads open while upgrading many access roads will ensure the maximum number of human-caused fires are started, and will greatly increase fire danger here. Plus, the more roads that are open to be driven, the</p>	The 2009 Comprehensive Travel Management Plan for the Monument addressed the evaluation of roads. Further work regarding travel management is outside the scope of this plan.

			<p>greater likelihood that the public will become confused and disoriented, and lost far from water. Each road will serve as a jumping-off point for OHV intrusions into unroaded lands. Also, by leaving this many roads open, you essentially condemn the lands of the “primitive” zone to become an OHV enforcement nightmare.</p> <p>The current road pattern, and location, has little to do with a strategic placement for fire access/suppression. The only reason many of these roads exist is because of livestock projects and permittee driving to place salt, park sheep wagons, etc. The road network (much of it unnecessary) simply grew in association with livestock activities and was not regulated by BLM.</p>	
23	lvi	Katie Fite	<p>Laidlaw Park is the world’s largest kipuka – which in its entirety is a geological marvel – yet there is a high road density, with many of the roads related to livestock grazing – this must be changed in Laidlaw and other areas under the new EIS. A SEIS must be prepared to do this.</p>	<p>Consistent with the 2009 Travel Plan, no new roads are permitted within the Monument. Numerous unnecessary, unused, or redundant routes were closed at that time. The 2009 TMP closed approximately 75 route miles, implemented springtime closures for a majority of routes within Laidlaw Park, and directs most travel through the Passage Zone.</p>
23	lvii	Katie Fite	<p>Costs/Economics</p> <p>As part of the cost for all alternatives, BLM must calculate the costs of continued grazing and of “restoration” Please calculate the annual costs (including agency staff) of dealing with livestock grazing administration, monitoring and facilities to the public on these lands. What are the costs of “mitigation” actions, weed spraying, etc.? Here are some questions to be addressed: What will the annual weed suppression costs be over the life of the plan with status quo grazing practices? With significantly reduced livestock numbers? With passive restoration and large areas rested? How long will any restoration projects persist with continued livestock grazing? With significantly reduced livestock grazing? How much will it</p>	<p>The cost of plan implementation is not typically analyzed in a NEPA document. It is understood that implementation depends on available funding.</p>

			later cost to restore lands if you shift livestock use into other areas as you undertake restoration/treatment? (Which we strongly oppose).	
23	lviii	Katie Fite	An EIS must be prepared that accurately portrays grazing costs (ecological and economic) and that takes a “hard look” at a broad range of alternatives that significantly address grazing impacts to soils, native vegetation, microbiotic crusts, weed infestation and spread, recreation, native animals, playas, cultural sites, recreational uses, etc. BLM must also assess the probability of success (or failure) of any plantings – particularly any plantings employing native vegetation with status quo grazing.	All of these resources and resources uses have been considered and analyzed in this EIS.
23	lix	Katie Fite	The old EIS did not take this opportunity to expand Wilderness recommendations. We ask that an expanded analysis of additional roadless lands suitable for Wilderness be included as part of the new EIS. A SEIS must be prepared to do this.	Recommending the expansion of Wilderness is outside the scope of this plan amendment.
23	lx	Katie Fite	The effects of (and intrusions into) Wilderness vary under Alternatives. For example, herbicide dust may blow into Wilderness under the treatment Alt. (D), killing or weakening plants inside Wilderness. With many open roads leading to and even bordering WSAs, the likelihood of human-caused fires is increased. Noise from vehicles, which travels for several miles in clear desert air must be considered. Likelihood of weed invasion from vehicle-transported weeds areas near WSAs, and ultimately into WSAs, and the cumulative effects of livestock grazing in amplifying these concerns must be addressed.	Please see Section 4.2.8 for the effects analysis regarding Wilderness Study Areas and 4.3 for Cumulative Effects.
23	lxi	Katie Fite	If BLM is serious about fulfilling responsibility as a trustee, ensuring safe, healthful, productive, aesthetic and culturally pleasing surroundings; attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable or unintended consequences; preserving important historic, cultural, and natural aspects of the natural environment and supporting diversity and choice; achieving a balance between population and resource use; enhancing the quality of renewable resources and “approaching the maximum attainable recycling of depletable resources”, <u>then dramatic changes in livestock use and management must occur. Instead the DEIS relies on the status quo.</u>	Your comment is noted.
23	lxii	Katie Fite	Mitigation measures must adequately mitigate the effects of livestock grazing (status quo practices continued, no effort to limit livestock and rancher/herder weed spread, no protection for vegetation – such as modern-day limits on utilization, removal of harmful structures, etc., no protection of cultural sites from livestock	If future mitigation is required, it would occur

			<p>impacts, no minimization of livestock grazing and trampling effects on soil and water resources – not even restoring any playas.</p> <p>Large livestock –free areas in and surrounding Craters would mitigate to some degree the adverse impacts of continued grazing disturbance in other areas.</p>	at the implementation stage of this plan.
23	lxiii	Katie Fite	BLM must manage based on large livestock-free landscapes during spring periods, to minimize sage-grouse predation risks. See Knick and Connelly 2011 <i>Studies in Avian Biology</i> , Coates et al. 2016.	The FEIS has been edited to add these references.
23	lxiv	Katie Fite	<p>All restoration activities should be done with minimal new structures - use existing pasture boundary fences under all circumstances. Electric fences are notorious for failing – one-time grazing inundation of newly treated sites can destroy hundreds of thousands of dollars of re-seeding effort. Livestock use should be pulled back to existing fences, and no new fencing be built for restoration.</p> <p>All restoration activities should be done with minimal new structures - use existing pasture boundary fences under all circumstances. Electric fences are notorious for failing – one-time grazing inundation of newly treated sites can destroy hundreds of thousands of dollars of re-seeding effort. (sic)</p>	Restoration activities are addressed under the Programmatic Emergency Stabilization and Restoration Plan (PESRP) and are outside the scope of this EIS.
23	lxv	Katie Fite	Status quo livestock and maximum open and upgraded roads will lead to maximum erosion, disruption of site stratigraphy, exposure of artifacts to the surface and subsequent looting, maximum difficulty in controlling vandalism, etc.	Your comment is noted.
23	lxvi	Katie Fite	Weeds from grazed areas affect ungrazed sites. The more weeds, the greater the likelihood of transport. Livestock, visitors or wind transport seeds into ungrazed sites. Plus, wind-blown weeds such as tumbled mustard clog, choke and mar lava surfaces. This situation has become so bad that agencies in southern Idaho and eastern Oregon now have to burn windblown weeds that clog canyon rims and roadsides (Jarbridge, Vale). This is the direction the Monument is headed with continued weed infestation and spread under its no change in livestock grazing alternatives. BLM must prepare an up-to-date assessment or other information on the ecological condition of all Monument lands. Which are in poor, fair, good, or excellent condition? Have you revisited the old SVIM sites and compared past vs. present condition? If so, what are the results? What do current inventories – as of sagebrush-steppe species - tell you about the ecological condition?	Data collected in 2012 and 2013 for this planning effort provide the basis for the current ecological condition assessment in the EIS. That data is reflected in Figure 3.6 and 3.7 of the DEIS and the explanation that precedes it.
23	lxvii	Katie Fite	Air Quality and Climate	See Ch. 4 Soil Resources for analysis of wind and water

			<p>Grazing and extensive treatment disturbance plus use of herbicides or fire on unknown acreages will harm air quality. For example, in the Idaho Falls BLM Big Desert Fuelbreaks project, BLM used a long-term persistent herbicide to kill big sagebrush. This was not “short term”. There are no efforts to address the destruction of microbiotic crusts, which help protect the soil from both wind and water-caused erosion. proposes shifting livestock use to other portions of grazed lands while its “treatments” are carried out, the impacts on nearby lands could be significant, and lead to further de-stabilization of soils and dust pollution. See previous discussion of dust concerns. Dust also smothers microbiotic crust, leading to increased weediness.</p>	<p>erosion. The impacts of herbicide use have been analyzed in the Twin Falls District Noxious Weed and Invasive Plant Treatment EA, 2017.</p>
23	lxviii	Katie Fite	<p>Interpretation and Visitor Understanding</p> <p>If the Monument plans to honestly present science-based interpretation, it will describe the harms caused by livestock grazing, excess roading, etc. For example, it will explain how livestock grazing destroys microbiotic crusts, causes soil erosion, opens plant interspaces to weed invasion, soil erosion, desiccation, etc.</p>	<p>Interpretation and Visitor Experience were adequately analyzed in the 2007 MMP. Changes to interpretative materials are not necessary to meet the purpose and need of this plan amendment.</p>
23	lxix	Katie Fite	<p>Capability, Suitability, Sustainability</p> <p>In a previous Craters area grazing decision - a Laidlaw Park allotment Response to Protest, BLM stated in response to a group’s Protest that BLM had failed to conduct a current suitability and capability study and determine the appropriateness of livestock grazing: “this Protest is outside the scope of this document. Suitability studies are conducted at the Land Use Plan Level Analysis”. So, BLM must conduct a capability and suitability analysis as part of this Current process. It must be used, under all alternatives, to determine pastures, allotments, or other land areas that are not capable and/or not suitable for continued grazing due to conflicts with other uses and values/Objects of the Monument.</p>	<p>Forage production estimates as outlined in Appendix D, coupled with monitoring data, constitute an adequate level of analysis for grazing suitability. The projected use levels and the effects of each alternative have been analyzed in this EIS.</p>
23	lxx	Katie Fite	<p>Full analysis of the large-scale habitat losses that have occurred must be a basis for understanding any continued suitability for grazing remaining habitats in this landscape. Craters has had so many past fires, and habitat is now rapidly shrinking across the Idaho north of the Snake River. For example, in 2013, the Beaver Creek fire west of Hailey burned seasonal sage-grouse habitat in the Croy Creek, Camp Creek and Willow Creek watersheds. There was also a fire in the Bennett Hills. A</p>	<p>Please see ARMPA and Ch.4 of this EIS for habitat assessments.</p>

			full analysis of the current status of local and regional GRSG habitats and populations must be provided here. Also, a great deal of sage-grouse habitat burned in the Pony Complex northwest of Mountain Home including almost all the occupied sage-grouse habitat on the Mountain Home Ranger District.	
23	lxxi	Katie Fite	<p>Protection of Bats and Other Rare Native Biota from New and Emerging Diseases</p> <p>White nose syndrome poses a new and emerging threat to the Monument landscape’s rare bats, and this new RMP must take strong action to protect bat caves and lava tubes, and other attributes of bat habitat, as well as reducing other potential sources of mortality such as fences, and livestock water troughs. And, instead of just ignoring any real analysis of grazing impacts to these bats, the EIS must strive to enhance native diversity to promote insect food sources for rare bats.</p> <p>BLM must develop a sound plan to immediately implement changes to management when new disease or other similar threats emerge.</p> <p>Interior has been woefully lax in reacting to the white-nose disease threat, as well as to the West Nile threat to sage-grouse and migratory birds. Instead of acting to remove and water troughs and control livestock-associated sources for mosquitoes, BLM has done nothing – because any action to protect sage-grouse and migratory birds would impede livestock grazing.</p>	White nose syndrome and livestock grazing are unrelated. The management actions proposed will improve native plant diversity, which provides habitat for insects. ARMPA provides direction for mitigation of West Nile virus.
23	lxxii	Katie Fite	<p>Miscellaneous</p> <p>All restoration activities should be done with minimal new structures - use existing pasture boundary fences under all circumstances. Electric fences are notorious for failing – one-time grazing inundation of newly treated sites can destroy hundreds of thousands of dollars of re-seeding effort.</p>	Restoration activities are addressed under the guidance in the PESRP.
23	lxxiii	Katie Fite	We request that the BLM and NPS analyze soils and test sheep currently grazed in the Monument for Q fever. Please see CDC data on Q fever and its implications to human health.	The CDC suggests the likelihood of contracting Q fever in Idaho is extremely rare.
23	lxxiv	Katie Fite	Please review references such as Anderson and Holte (1982) which describes increasing canopy cover and increasing understory grasses on areas on the Snake River Plain where grazing has been removed. Many of the processes that you blame for causing loss of native understory grasses are set in motion or caused by livestock.	This reference is incorporated in the EIS.

23	lxxv	Katie Fite	<p>Information with the previous EIS stated that 80,000 acres of annual grassland and low elevation sagebrush-steppe in the Monument are dominated by cheatgrass. What percentage of the once-sagebrush-steppe habitat is this? Between 1970 and 2002, 40 percent of the Monument burned, plus large acreages outside. What are these percentages now in 2016? What percentage is dominated by crested wheatgrass or other exotic forage seedings? Please provide detailed mapping and analysis including detailed ecological condition assessment.</p>	Please see Ch. 3 Vegetation for ecological condition assessment and acreages.
23	lxxvi	Katie Fite	<p>In the past, BLM has persisted in stocking lands far above actual use. For example, the Laidlaw Decision proposed to reduce AUMs from 11,431 to 7700-8700 AUMs, yet average actual use over the past decade or more was only 6,172 AUMs. Thus, BLM proposed to allow grazing at levels well above the use that had actually occurred and that was leading to violations of BLM’s own FRH regulations.</p> <p>BLM’s failures in the Laidlaw Decision (under old plans) and then Big Desert (still under these old plans in reality since the Monument Plan failed to address grazing changes) demonstrate that the Land Use Plan for the Monument must provide clear and decisive management guidance and establish defined and measurable standards of livestock use and strict livestock monitoring protocols that the agency must incorporate in all processes.</p>	Your comment is noted.
23	lxxvii	Katie Fite	<p>Please also detail all hazards to recreationalists from Wildlife Services, operating as a federal subsidy to the livestock industry, killing predators in or surrounding the Monument. What are the hazards associated with use of M-44s, traps, aerial gunning and other WS activities? Which of these activities are currently carried out on Monument lands? As part of this process, you must limit WS activities to killing target animals only, not broad-scale aerial slaughter and trapping as has occurred in the past. Plus, there must be limitations on WS activities and associated disturbance of wintering big game, breeding sage grouse, etc.</p> <p>In which allotments, and where, has WS operated in the past? How many coyotes, bobcats, badgers, wolves, etc. are killed by WS inside the Monument, and where, on an annual basis? What methods of non-lethal control are used?</p> <p>BLM must forbid involvement of WS in “research” on Monument lands. WS in southern Idaho has a history of seeking to expand its activities by engaging in what it terms “research” to kill sage grouse predators. This involves the use of the arsenal of lethal methods previously described as well as poisons to kill corvids – and who knows what new chemicals may be proposed for use over</p>	Predator control and visitor safety is outside the scope of this plan amendment. WS conducts the NEPA analysis for their activities.

			<p>the life of this plan. BLM must forbid WS conducting lethal research on Monument lands.</p> <p>What risks do WS activities pose for dogs accompanying recreationalists here?</p>	
23	lxxviii	Katie Fite	<p>Instead of visitors having to give sheep guard dogs a wide berth, sheep grazing should be banned during maximum visitor use periods.</p>	Your comment is noted.
23	lxxix	Katie Fite	<p>Visual Resources</p> <p>Upgrading roads plus leaving nearly all other roads open will ensure that the goal “to perpetuate scenic vistas and open landscape for future generations is not met. Roads are not part of scenic vistas. Plus, upgrading roads means more places for livestock facilities – as livestock and infrastructure are permitted in the “passage” zone that will result from upgrading.</p> <p>Please fully analyze the effects of various activities covered under this plan on the aesthetics of wild land areas. For example, how does encountering a sheep bed ground affect the aesthetic experience of visitors? Please describe the effect of livestock-spread cheatgrass in socks, livestock stench, livestock broken off vegetation, etc. Please describe the aesthetic environment of a playa used as a livestock watering source. Please describe the aesthetic effects of long bladed rights-of-way along upgraded roads reeking of Tordon or other chemicals. All impacts must be assessed.</p>	<p>No road upgrades are proposed in this plan amendment. Visual Resources were adequately analyzed in the 2007 MMP and nothing in this amendment undermines the analysis in the EIS supporting that decision.</p>
23	lxxx	Katie Fite	<p>Soundscapes</p> <p>How much noisier will these lands be with livestock grazing vs. without? Please consider water haul roads, livestock facilities, unnatural bellowing of cattle and bleating of thousands of sheep. How much noise do livestock facilities or water hauling currently generate? For example, sounds from generators at wells can carry for several miles in arid desert air, and mar primitive recreational outings, or could interfere with wildlife behaviors.</p>	<p>Soundscapes were analyzed on page 299 of the 2005 Proposed MMP/FEIS. The analysis disclosed short term negligible to minor impacts from noise made by vehicle use, in part related to grazing operations, within the Monument. Nothing in this Plan amendment</p>

				undermines this analysis.
23	lxxxii	Katie Fite	THESE concerns, known to BLM since Scoping, have been ignored in the shallow and self-serving “forage” obsessed EOS and its unreasonable range of alternatives.	Your comment is noted.
23	lxxxiii	Katie Fite	MORE SPECIFIC COMMENTS The EIS summary is cause for alarm. The monument is 753, 200 acres – much if it ungrazable by livestock due to rocks/lava. So use is compressed into a much smaller area.	Your comment is noted.
23	lxxxiiii	Katie Fite	BLM claims ot (sic) seek comments on adequacy and accuracy of alternatives, and then hints it plans blend alternative elements and try to claim no new analysis is needed in the Final. Blending and mixing elements from alternatives is not likely to sufficiently balance conflicts between uses/values. BLM must prepare a SEIS that lays out clear alternatives that are integrated and cohesive.	A Supplemental EIS is not required.
23	lxxxv	Katie Fite	GRSG “HAF” info was collected in 2012 and 2013. This is now old and out-dated. There have been more fires in the local area and across the region, weeds have advanced and increased including cheatgrass in interspaces of veg communities, species have become more in jeopardy, and there have been various new developments in the landscape including at INL and other areas that have further fragmented and diminished habitats. We also stress that the HAF does not take into account the needs of many sensitive and declining species -like loggerhead shrike, burrowing owl, pygmy rabbit and others.	Your comment is noted. Sage-grouse is an umbrella species and managing for sage-grouse benefits other sagebrush obligates. See Ch. 3 Wildlife.
23	lxxxvi	Katie Fite	We are alarmed at BLM claims of an immense amount of forage – which then becomes the overwhelming driver of the limited alternatives, and unreasonable alternatives that would continue the same or higher numbers of livestock. First, the forage was wrongly estimated from the NRCS Ecosite “models”. Data and site methodology are not provided and are highly likely to be cherry-picked as WLD’s participation in assessments SW ID show agencies seek out more “pure” and less weedy veg communities, avoid any areas of disturbance (livestock water sources, roads, etc.) by a considerable distance, and have many other flaws. There appears to be no hard look assessment at how much of the “forage” is actually accessible by cows and/or sheep, and which type of livestock is grazed in each area where the forage is claimed to exist. This is important, as cows are less able to stagger over rugged, rocky lava terrain - vs. sheep. W are greatly	NRCS Ecological Site Descriptions and State and Transition models are the best science available. Please see Appendix D for the methods used to calculate existing forage.

			concerned that BLM failed to take terrain and rocks into account when estimating an immense amount of forage. We are also concerned that the forage estimate does not reflect the current half ton or greater weight of hormone and breeding “beefed up” range cattle, and forage consumption by calves.	
23	lxxxvi	Katie Fite	The EIS’s overwhelming reliance on “forage” deals a great blow to sage-grouse and other imperiled species. BLM uses an inflated estimate of 110,000 AUMs of “forage” as the basis for/driver of its unreasonable alternatives range. Sage-grouse are a landscape bird. They require large blocks of continuous, undisturbed sagebrush and move across the landscape to seasonal habitats. Lands all around the Monument and large areas within the Monument have suffered significant losses of sage, and have suffered extensive cwg seedings and development for livestock, plus the nightmare of development taking place at INL.	Estimates of forage are based on a range of production, derived from ESDs. Refer to Appendix D.
23	lxxxvii	Katie Fite	The EIS must provide for undisturbed large blocks of sagebrush habitat throughout the breeding seasons, abundant native forbs in native grass habitats. No matter how tall, cwg and intermediate wg provide sub-optimal cover for nests, and the presence of these exotic grasses outcompetes natives (especially with the continued stress of grazing, and also climate change).	Refer to section 1.8.1.3 for Fish and Wildlife Desired Future Conditions.
23	lxxxviii	Katie Fite	The EIS does not reveal how much of the “forage” is actually exotic or seeded grasses, cheatgrass or other weeds, shrubs, etc. The EIS does not reveal that much of this “forage” will in fact not persist and/r not be available if native plant succession is allowed to proceed in the Monument and surrounding lands. There is currently a large-scale dearth of mature and old growth sagebrush communities in and surrounding the Monument. Thus it is imperative that sage communities be allowed to develop. As natural plant succession occurs, a percentage of the forage will be less accessible to livestock due to shrub structure protecting it from voracious herds. WITH grazing, as plant succession occurs, grasses in the interspaces will become increasingly depleted. On top of this - climate change stress will result in increased flammable and invasive weedy species which do not provide sustainable perennial forage, and which will compete with natives.	Cheatgrass and other exotics are not a part of the forage calculation. Please see Appendix D for the methods used to calculate forage. This process doesn’t preclude BLM from making adjustments during the implementation phase if necessary.
23	lxxxix	Katie Fite	Garbage In, Garbage Out	Your comment is noted. Ecological site

			Ecosites are models. So if flawed data is put in, flawed predictions are made. “Garbage in, garbage out”. The Ecosites are based on scientifically incorrect and inaccurate fire return and disturbance intervals. These are much too short, so they over-estimate grass vs. sagebrush/shrubs. They also largely ignore the very important role of microbiotic crusts. See Connelly et al. 2004 GRSG Conservation Assessment, William Baker Chapter in Knick and Connelly 2011, <i>Studies in Avian Biology</i> .	descriptions are the best available science.
23	xc	Katie Fite	BLM has not revealed the data and inputs used in the Ecosites and analyses and calculations of forage made in the EIS. What fire return intervals were used? Where were sites located, and how were they chosen in the field? What was the precipitation in the sampling year- vs average, vs. drought? Please provide detailed mapping of all sites sampled, and GPS locations. How was the inter-mixed presence of cwg/iwg dealt with in HAF and Ecosites and forage estimates? What is the scientific basis for all elements of the NRCS Ecosites, and how were elements of the NRCS models applied/ Was the U of I “range” Department involved – as they have can not be viewed as unbiased, and range staff have repeatedly shown bias towards livestock interests at the expense of all other values of the public lands. For example, how U of I’s Launchbaugh tried to “spin” the Murphy Fire report in the Jarbidge. It is critical that the agency provide much more solid information on how the agency collected and assessed data and applied models. What is the current status of an expensive U of I grazing study here? Where is it taking place, and are livestock being shifted around for it?	Please see Appendix D for the methods used to calculate forage and Appendix F for the Greater sage-grouse habitat assessment framework. Also see Interagency Ecological Site Handbook for Rangelands (2013) on the NRCS website. There’s no University of Idaho study currently in progress on the Monument.
23	xcii	Katie Fite	The EIS also tries to wrongly blame “historic” grazing – while ignoring the ever-escalating calamitous effects of ongoing chronic grazing disturbance in promoting desertification, promoting cheat and other weeds that promote frequent fires, and altering, interfering with, fragmenting and and destroying wildlife habitats.	This EIS analyses the historic effects of livestock grazing, as well as current practices.
23	xciii	Katie Fite	Alternatives are: <i>Alternative A, the no action alternative, would continue the management established in the current ROD for the 2007 MMP. Under this Alternative, 273,900 acres would be available for livestock grazing, with 38,187 animal unit months (AUMs) available. <u>What was the average actual use throughout this time, and how was it verified? BLM admitted that actual use has been far below numbers on the permits. No Action must reflect Actual use, not paper cows and sheep, and the</u></i>	Alternative A is analyzed as actual use and permitted use. A Supplemental EIS is not required.

			<u>development of alternatives and EIS analysis must be based on this. A SEIS is necessary to do this – as the EIS fails to.</u>	
23	xciii	Katie Fite	<i>Alternative B would reduce AUMs allocated for livestock grazing by approximately 75% and close six areas to grazing: Little Park kipuka, the North Pasture of Laidlaw Park Allotment, portion of the Craters Allotment. This alternative would adjust two allotment boundaries and make 21,000 acres (about 8% of those currently available) unavailable for livestock grazing, for the protection of Monument values.</i>	Your statement is noted.
23	xciv	Katie Fite	<i>Alternative C would make 273,600 acres available for livestock grazing and adjust two allotment boundaries, which would set the maximum number of AUMs at 37,792. Where appropriate, livestock grazing could be used as a tool to improve and/or protect wildlife habitat. Guidelines for livestock grazing management would be set based on vegetation and wildlife habitat conditions and needs. <u>THIS Alt. C, is the BLM’s “preferred” Alt – yet it would stock lands wildly above the actual use and is nearly identical to what BLM claims is no Action. It is an unreasonable alternative, extraordinarily biased towards the financial interests of the hand full of permittees at the expense of all other values of the public lands, and the Objects of Importance of the Monument. It should not have been considered a reasonable alternative in the face of declining TES species populations and climate change stresses, and must be scrapped and a SEIS with a reasonable Alt. range prepared.</u></i>	Your opposition to Alternative C is noted.
23	xcv	Katie Fite	Alternative D would remove livestock grazing from BLM-managed lands within the Monument boundary and adjust two allotment boundaries. All livestock-related developments would be removed and some fences may be required to exclude livestock from the Monument. BLM fails to fully and fairly evaluate this alternative (as well as Alt. B). Throughout the EIS’s narrow analysis aimed at cementing the status-quo into place for 20 or more years – by which time cheatgrass and other weeds will have doomed the non-lava Monument due to failure to adequately control and reduce livestock.	Your comment is noted.
23	xcvi	Katie Fite	<i>Alternative E would reduce AUMs available for livestock grazing to 19,388 AUMs and close Larkspur Park kipuka to grazing. Where appropriate, livestock grazing would be used as a tool to improve and/or protect wildlife habitat. Guidelines for livestock grazing management would be set based on vegetation and wildlife habitat conditions and needs. <u>This is still much above the average actual use, and is not a reasonable alternative</u></i>	Your opposition to Alternative E is noted.

23	xcvii	Katie Fite	Alt C is utterly unjustifiable, given “ <i>Wildfire and the incursion of invasive plants are currently identified as primary threats to sage-grouse habitat on public lands in Idaho [USDI USFWS, 2013], including within the Monument [Jurs and Sands, 2004]. Since the 2007 MMP, wildfires have markedly reduced the amount of key sage grouse habitat to 27% of the habitat in the Monument ...</i> ”. EIS xvii.	Your opposition to Alternative C is noted.
23	xcviii	Katie Fite	BLM claims Alt C. <i>sets forth a Desired Future Condition (DFC) that sage-grouse restoration habitat R1 and R2 will achieve significant progress toward reclassification as key habitat and restoration projects were planned at that time, but subsequent wildfires reduced much of the key habitat to R1. The restoration DFC was not vacated by the court and is still an important element of Alternative C, although it is not described in detail in this Draft MMP Amendment.</i>	Your statement is noted.
23	xcix	Katie Fite	The EIS fails to take any scientifically valid look at the IMPOSSIBILITY of achieving effective restoration and DFC under stocking levels and schemes of Alt A, C and E. Climate stress will make this even more impossible with continued grazing disturbance stress. (See previous 20 pages of discussion with these comments, Fleischner 1994, Belsky and Gelbard 2000, Beschta et al. 2012, 2014.	Please see Ch. 4 for environmental analysis.
23	c	Katie Fite	Again, from EIS p. 35: <i>Actual livestock use for allotments in the Monument, however, has been much lower than the permitted numbers since 1998 when Idaho Standards were implemented. The 15-year average actual use for allotments in the Monument has been determined to be 11,791 AUMs with a range of 7,744 AUMs to 16,805 AUMs in any particular year. The full range of Actual Use, while accounting for fires, varying forage conditions, and permittee operations is 5,847 AUMs to 19,388 AUMs. This range is based on adding the low actual use for each allotment compared to the high actual use for each allotment since 1997. Approximately 1,200 acres are currently unavailable for grazing, leaving 273,900 acres of BLM land open to grazing in the Monument.</i> It is so sad to see BLM in this “Protect the Status Quo at all Costs” and permittee financial interest biased EIS lay out this severely flawed Plan that will end up irreversibly destroying the Monument values. BLM has wasted everybody’s time in preparation of this hollow document. It appears the agency is so under the yoke of the grossly subsidized public lands livestock industry that it is fully willing to doom and destroy the Craters of the Moon Monument/Preserve Objects of Importance to keep bloated AUMs on rancher permits.	Your comment is noted.

23	ci	Katie Fite	<p>A SEIS that analyzes a reasonable range of alternatives must be immediately prepared, as the weeds are advancing with each new sheep and cow grazing disturbance bout imposed on these lands.</p> <p>BLM is wasting everybody's time – and has likely wasted a half million dollars or more already on this scientifically flawed and biased EIS. How much has been spent so far on this severely flawed process – to get nowhere?</p>	<p>A reasonable range of alternatives has been analyzed. A Supplemental EIS is not required.</p>
24	i	Reuben Babcock	<p>Future Planning Ideas</p> <p>Need to keep the present no. of acres of grazing because grazing is part of historic use and some grazing land lost is becoming farming land. Grazing land also benefits wildlife.</p> <p>I strongly recommend Alternative A No Action. Any all of the other alternatives become too cumbersome with their numerous unnecessary details that would be impossible to meet. Too many details, not practical.</p> <p>The section on impacts on the resource has gone to the extreme in too many details and unlikely possibilitys (sic) to the point of reaching the absurd. To put it plainly the entire monument has been studied to death from every angle and analyzed beyond belief.</p> <p>Ch. 4 Environmental Consequence</p> <p>You have listed so many that there is slim chance of ever figuring out anything, whatever you decided upon will harm something, so just forget the whole chapter, again this has been studied to death. The same things; livestock grazing, vegetation, cultural resource, visual resources, water resources, fish, Native American rights and interests have been mentioned and enlarged up so many times that a person can't find head nor tail of any of it. Each one of the resource effect each other in some way in all of the alternatives, so the only sensible thing to do is go with No. 1 No Action Alternative.</p>	<p>Your support of Alternative A is noted.</p>
25	i	John Peavy	<p>Our family ranch, the Flat Top Sheep Co. has run sheep and cattle in the Monument and adjoining BLM lands for over 80 years. When the expanded Monument was establish I asked to have Poison Lake included. We have a strong rest rotation grazing system that relies on fall grazing to plant new perennial plants. I was proud of our management and wanted to demonstrate its results.</p> <p>Thoughts on option D</p>	<p>Your support of fall grazing is noted.</p>

			<p>I am enclosing an article I wrote for the Idaho Mountain Express. The article covers the role grazing plays in shortening the fire season and making fires that do occur less intense and the rangeland more resilient. The concern over the fires is that they kill sagebrush vital to the survival of sage grouse.</p> <p>Perennials have deep roots and stay green and unburnable much latter in the summer than the annual like cheat grass. Perennials grow from their roots each spring. They do produce anemic seeds however. But achieving age diversity by getting many of them to sprout requires serious help in the fall from cloven-hoofed animals. First there were buffalo along with our traditional game animals. After the demise of the buffalo came the development of irrigated agriculture and large numbers of shed lambing operations sprang up. These sheep wintered on alfalfa hay grown on the new farm ground. But prior to lambing the sheep grazed the vast deserts between Idaho Falls and Gooding. Now the sheep are gone too and virtually no fall grazing occurs.</p> <p>Each fall the low energy seeds of the perennial plants end up on the ground. With grazing many of them get stepped on. If the soil has moisture the seeds end in a perfect seedbed, in a depression where moisture can gather. The resulting tiny plants will survive almost all fires and will provide the seed stock to regenerate a burned rangeland.</p>	
25	ii	John Peavy	In a no grazing program there are few young plants, no age diversity. With each fire fewer mature perennials survive. A no grazing programs leads to declining rangeland health and should be rejected.	Your opposition to Alternative D is noted.
25	iii	John Peavy	Veg-24 If one believes in rest rotation grazing native plants one year out of three during the growing season decreases their vulnerability in that year to destruction by fire.	Your comment is noted.
25	iv	John Peavy	<p>Veg-25 C Flat Top’s experience shows that heavy spring grazing enhances sagebrush growth.</p> <p>Veg-26C We welcome scientific study and want to help and take part</p>	Your comment is noted.

25	v	John Peavy	Gra-8C In the Poison Lake allotment it is difficult to find a clear place to put salt that is 200 meters from volcanic features because there are so many volcanic features.	Your comment is noted.
25	vi	John Peavy	Graz-7C The Monument land SE of the road from the airport to Laidlaw Park should be added to Flat Top's private Poison Lake Allotment . It would make an out of the way that our range lambing operation could happen.	Decisions to move allotment boundaries or approve land tenure adjustments to benefit a specific operation can be addressed through a project level application.
25	vii	John Peavy	Graz-15C With a three-pasture rest rotation management system two pastures are free of livestock in the spring. The one spring pasture grazed should lessen the threat of wildfires and benefit sage hens.	Your comment is noted.
26	i	Pioneers Alliance	We appreciate the opportunity to review and comment on the draft management plan amendment for the Craters of the Moon National Monument and Preserve. As a group of nonprofit conservation organizations participating in the Pioneers Alliance, we strongly advocate for the protection of working lands and wildlife habitat and are supportive of identifying and implementing a management direction that is compatible with these goals. In 2013, our organizations submitted comments to the Shoshone Field Office that captured objectives our organizations would like to see addressed under a final management strategy. We have reviewed the draft management plan comparative to the objectives we put forth. Our specific comments relative to the proposed action alternatives are located below (table 1). Rather than backing a specific BLM alternative (as currently written in the draft management plan), we propose that the BLM adopt an integrated alternative approach in the final management plan. Elements of various alternatives can be combined and used as a solution to meet ecological, social, and economic goals.	Your comment is noted.
26	ii	Pioneers Alliance	Recap of Management Objectives (originally submitted to the BLM in August, 2013) <input type="checkbox"/> Improve the process of public lands grazing management. The BLM should work with partners from Pioneers Alliance and public lands permittees to establish grazing management plans that provide guidance to management decision-making and to permit renewal processes that provide support in identifying and	Specific grazing management plans are developed at the permit renewal stage and would incorporate

			implementing opportunities to improve grazing management, especially in terms of collaborations between permittees and across allotment boundaries.	partner and permittee input.
26	iii	Pioneers Alliance	Conserve and restore land, water and wildlife. The BLM should implement and support grazing management systems that promote and assist in the recovery of healthy native plant communities (e.g. changing seasons of use and implementing deferred grazing alternatives).	Your comment is noted.
26	iv	Pioneers Alliance	Impacts of Fencing: Fences can impede migration travel and increase predator presence. The BLM should remove unnecessary fences and analyze areas where seasonal fences may be more appropriate. The BLM should also limit new fencing in priority sage-grouse habitat, particularly in nesting and early brooding-rearing areas.	All fences would be constructed consistent with the design features identified in ARMPA. Greater sage-grouse fence collision risk was analyzed in the amendment. Fences would be constructed according to BLM fence handbook which includes design features to minimize conflicts with big game. Also, new fences would be subject to project level NEPA analysis.

26	v	Pioneers Alliance	Restoration Planning and Post Fire Rehabilitation: Amendment alternatives should incorporate a strategy for restoring and maintaining native sagebrush and bunchgrass communities necessary for sage-grouse nesting and brooding. The BLM should provide clear guidelines and timeframes for meeting Desired Future Conditions (DFC's). The amendment should prioritize geographic areas for specific types of restoration work. The amendment should also include a comprehensive monitoring program to track the implementation of rehabilitation work as well as the effectiveness of this work over time.	The 2007 MMP addresses restoration and was not remanded by the Court. ARMPA provides additional guidance as well.
26	vi	Pioneers Alliance	Impacts of Roads and Travel Routes: While public access to the area is important, poorly managed motorized access can increase the spread of invasive weeds, fragment important habitat, disrupt wildlife and increase the likelihood of human-caused wildfires. We strongly encourage the BLM to direct efforts to prevent weed infestation from occurring through travel restrictions and high standards to prevent the spread of seeds. Additionally, redundant or unauthorized OHV routes can create habitat fragmentation and increase un-necessary access. To improve sage-grouse habitat, the BLM must prioritize limitation on roads and restoration of unused or harmful travel routes. □ While public access to the area is important, poorly managed motowhich closed numerous roads. New roads are prohibited. BLM has a progressive weed program which actively treats weeds, including infestations occurring on the Monument.	The 2009 TMP addressed roads within the Monument.
26	vii	Pioneers Alliance	Identify Important Habitat and Priority Areas: The amendment should clearly identify areas of high biological value, including important seasonal habitat areas and migratory corridors. Alternatives should emphasize not only maintaining but also enhancing these areas.	Refer to appendix F and G of the EIS, and the 2007 MMP, for a summary of how important seasonal habitats were mapped for sage-grouse and areas of high biological value.

26	viii	Pioneer Alliance	<p>Employ Mapping: The BLM should consider making seasonal-based priority and general habitat maps part of the alternative process and should disclose the procedures and monitoring practices used to delineate habitat boundaries. This data should also be made available to the public.</p>	<p>Habitat delineations for sage-grouse were analyzed in the ID/SW MT Sub-regional EIS. This analysis describes adjustments and delineations (Refer to Appendix N and V) . The Craters amendment also discusses the methodology for mapping of occupied seasonal greater sage-grouse habitat (Appendix G).</p>
26	ix	Pioneers Alliance	<p>Create Mitigation Requirements: The BLM should apply habitat and vegetation composition mitigation actions in descending order of preference: avoidance, minimization, rectification, reduction and compensation. The goal should be a net benefit to sage-grouse and improving management options for livestock use.</p> <p>□</p>	<p>This plan does not propose any action that would impact the disturbance cap as set out in ARMPA. See Ch. 3 Wildlife. Any future necessary mitigation would be subject to ARMPA and site specific analysis. Also see Page 74 for Mitigation Measures in the 2005 PMP/FEIS.</p>
26	x	Pioneers Alliance	<p>Account for Climate Variability and Fire: All alternatives should identify not only current habitat but also the best future refugia for sagebrush-steppe habitats and sage-grouse populations in relation to key climate-drive factors including noxious weed expansion, increased fire frequency and desertification.</p>	<p>See previous comment response above. Please refer to Section 1.8.1 for Desired Future Conditions in the Monument.</p>

26	xi	Pioneers Alliance	Expand Monitoring Programs and Procedures: The BLM should expand monitoring programs to include historical data and should create a clear timeline and strategy for monitoring DFC's into the future. This could include an assessment of what the BLM is already collecting and development of a comprehensive monitoring plan supported by the parties. The BLM should expand monitoring programs to include historical data and should create a clear timeline and strategy for monitoring DFC's into the future.	BLM and the Idaho Dept. of Agriculture have entered into a MOU to engage permittees in the monitoring program.
26	xii	Pioneers Alliance	Consistent Wildlands Management: All Wilderness Study Areas should be managed consistent with WSA standards. In all alternatives, North Laidlaw Park should be designated as an Area of Critical Environmental Concern to ensure protection of the sagebrush steppe habitat.	ACEC designation is outside the scope of this plan. WSAs are managed consistent with WSA standards under all alternatives.
26	xiii	Pioneers Alliance	Public Input: As a group of nonprofit conservation organizations participating in the Pioneers Alliance, we are willing to engage the local community and grazing permittees to find cooperative solutions that benefit the landscape as well as local economics. We are willing to coordinate with the local ranching community and the BLM to develop alternatives that may mutually satisfy all parties involved.	Your comment is noted.
26	xiv	Pioneers Alliance	Based on the recap above and our analysis of the alternatives, the conservation groups from the Pioneers Alliance provide the following comments: WATER-4 We support actions that would restore riparian areas to PFC. We encourage the BLM to also include language under this action alternative that supports riparian monitoring and enhancement for priority areas. The BLM should also provide clear guidelines and timeframes for meeting Desired Future Conditions (DFC's).	Your comment is noted.
26	xv	Pioneers Alliance	WLIFE-11a We support this action alternative. Small-scale construction and maintenance activities should also be designed to avoid adverse impacts to LWC and WSA units.	Your comment is noted.
26	xvi	Pioneers Alliance	WLIFE-11b We support this action. We encourage the BLM to expand the language of this action alternative to include the identification of high biological value areas, including important seasonal habitat areas and migratory corridors. Alternatives should emphasize not only maintaining but also enhancing these areas. The BLM should also provide clear guidelines and timeframes for meeting Desired Future Conditions (DFC's) for habitat objectives.	High biological value areas have been identified in the 2007 MMP and this plan, and the effects have been analyzed for all alternatives. DFCs are the preferred long term

				condition for each resource.
26	xvii	Pioneers Alliance	<p>VEG-24b</p> <p>We support this action but also encourage the BLM to apply habitat and vegetation composition mitigation actions in descending order of preference: avoidance, minimization, rectification, reduction and compensation.</p>	<p>This plan does not propose any action that would impact the disturbance cap as set out in ARMPA. See Ch. 3 Wildlife. Any future necessary mitigation would be subject to ARMPA and site specific analysis.</p>
26	xviii	Pioneers Alliance	<p>VEG-25c</p> <p>As written, this action alternative is too broad and does not provided direct actions nor could it produce measurable results. If the action is intended to actively support sagebrush recovery (or seedling diversity) by directing grazing systems, these actions should be expanded upon to include specifics including monitoring strategies, collaboration with permittees, seasons of use, etc. This action alternative should also strive to address factors that are limiting sagebrush recovery such as user created route development, redundant routes, and noxious weed advancement. The final action alternative should identify current sagebrush recovery areas as well as the best future refugia for sagebrush-steppe habitats and sage-grouse populations in relation to key climate-drive factors (including noxious weed expansion, increased fire frequency and desertification).</p>	<p>Site specific analysis would take place at the implementation stage and would include details such as monitoring strategies and collaboration suitable for directing grazing for sagebrush recovery and/or the benefit the diversity of seedings.</p>
26	xix	Pioneers Alliance	<p>VEG-26c</p> <p>We support this action. We encourage the BLM to expand this action alternative to include the use of historical data when identifying and implementing scientific reference areas. The BLM should strive to develop reference areas that are supported by all parties (agency and permittees). A comprehensive monitoring strategy should also be developed at the same time reference areas are established. Monitoring results should be used to inform adaptive grazing management plans.</p>	<p>Your comment is noted.</p>
26	xx	Pioneers Alliance	<p>GRAZ-2 & GRAZ-3</p> <p>Rather than setting an arbitrary AUM floor or ceiling, we suggest that the BLM set an AUM range that allows permitting based on monitoring results from reference areas, individual adaptive management plans and site specific ecological condition. If a</p>	<p>The AUMs set for the alternatives are the maximum allowable use. Any level below that is feasible</p>

			<p>maximum AUM limit must be identified as part of this process, we encourage the BLM to review historic grazing and climatic data and set permitted numbers within a range that meets ecological, social and economic priorities given historical data. The final action should include language that addressing the need to 1) meet rangeland health standards, 2) allows for the adjust of AUMs as necessary to reflect allotment boundary modifications, 3) allows the BLM to accept voluntary reductions or relinquishments from permittees and 4) reviews site specific values and/or monitoring requirements on an allotment by allotment basis rather than a monument wide approach.</p>	<p>depending upon Rangeland Health Standards and DFCs. An AUM level is required for analysis purposes. The acreages identified as unavailable will not be grazed by livestock.</p>
26	xxi	Pioneers Alliance	<p>GRAZ-4A We support this action but encourage the BLM to include language that allows the BLM to modify or relocate existing livestock developments, without extensive review processes, if resource or permittee concerns arise.</p>	<p>BLM must assess the environmental impacts of its decisions. Thus, the agency cannot, as a blanket approach, pre-approve modifications or relocations of livestock developments.</p>
26	xxii	Pioneers Alliance	<p>GRAZ-6A & GRAZ-8B We support these actions alternatives as written.</p>	<p>Your comment is noted.</p>
26	xxiii	Pioneers Alliance	<p>GRAZ-12C We support this action. We encourage this action to be carried out on an allotment-by allotment basis. The BLM should provide clear guidelines and timeframes for meeting Desired Future Conditions. A collaborative monitoring strategy between the BLM and permittee should be developed during the permit modification process.</p>	<p>Your comment is noted.</p>
26	xxiv	Pioneers Alliance	<p>GRAZ-13C We support this action. To increase the ability to meet standards and flexibility to do so, the BLM should make this action also available to permittees outside of the permit modification process. If a permittee is wishing to retire all (or a portion) of their allotment, the BLM should accept this retirement and close this allotment.</p>	<p>Adjustments to grazing practices with the purpose of improving rangeland health is possible outside of the permit modification process, however this requires staying within the bounds of the current permit. If a formal determination has been made that</p>

				livestock grazing practices are the cause of not meeting rangeland health standards, the BLM must continue through the process and rectify the problem.
26	xxv	Pioneers Alliance	GRAZ-14 The BLM should prioritize restoration, enhancement efforts, voluntary retirement, or AUM reduction on allotments that exhibit intact native plant communities and/or having willing permittee participation. The BLM should include language in the final management plan that acknowledges that the BLM will accept voluntary retirements from permittees.	Relinquishments do not require the BLM's consent or approval. The BLM's receipt of a relinquishment is not a decision to close areas to livestock grazing. This is a land use planning decision analyzed in Alternative B.
26	xxvi	Pioneers Alliance	GRAZ-15 We are supportive of the language suggested in GRAZ15-C but strongly encourage the BLM to also include an amendment to this alternative that references monitoring and adaptive management as a means to meeting resource objectives.	It is understood that the annual, ongoing implementation of this management action would require monitoring and flexibility within the current management systems.
26	xxvii	Pioneers Alliance	GRAZ-22 Water development should be guided in a manner that protects and enhances the natural landscape. Priority and flexibility should be given to permittees that require improvements to existing or new water developments when improvements result in net benefit to resource and/or wildlife objectives.	There are no new water developments proposed in this plan. Any future proposals would be analyzed on a site specific basis and would have to conform to the

				selected alternative in this plan.
26	xxviii	Pioneers Alliance	GRAZ-25 We support this action. A collaboratively developed and supported monitoring strategy should also be part of this process.	Your support of GRAZ-25 and a monitoring strategy is noted. Monitoring is a component of flexibility in grazing management.
26	xxix	Pioneers Alliance	GRAZ-26 Impacts to native wildlife species, including migration routes, should be considered in any conversion process. If conversions occur, range improvements and grazing schedules should be designed in a way that does not result in adverse impacts to resident or migrating wildlife species.	Impacts to native wildlife and their habitat would be analyzed for any future conversion proposals.
26	xxx	Pioneers Alliance	We appreciate the opportunity to review and weigh in on the draft management plan amendment and environmental impact statement for the Craters of the Moon National Monument and Preserve. We commend Shoshone Field Office for their dedication to working with permittees to ensuring grazing management plans promote and assist in the recovery of healthy native plant communities. If you should have questions regarding our above comments, please do not hesitate to contact us.	Your comment is noted.
27	i	Loren Strode	After reading the Craters Draft Management Plan amendment and EIS, it appears to me that the BLM is very thorough in its assessment. A lot of time was spend on this in man hours, any one contesting it should be required to invest the same amount of time and resources. It is impartial and apparently with all pro's and con's. My parents and grandparents had ranches in Nevada and every spring they raised several hundred checks to feed the hay crews and fence crews. I know that if it rained on those chicks before they made a pound or so in about five days, they started dying in big bunches. With the conditions as presented the proposal seems fair, but I can't help but think the sage grouse problem is weather related.	Your comment is noted.
28	i	William Frank	Thank you for the opportunity to comment on this planning process. Very few people have had the opportunity to see public land areas that have not been greatly impacted by livestock grazing. This Is certainly true in southern Idaho. Lessening or eliminating livestock grazing within the Monument area would be beneficial for public education. Natural resource values would be enhanced by the reduction of livestock grazing. I prefer alternatives D,B.	Your support of Alternatives D and B is noted.
29	i	Bryan Searle	On behalf of the more than 76,000 Idaho families who are members of the Idaho Farm Bureau Federation, I am writing to provide our comments on the Craters of	Alternatives C and E allow for directing

		<p>the Moon National Monument and Preserve Draft Monument Management Plan Amendment and Environmental Impact Statement (DEIS). You have specifically requested feedback on the “adequacy and accuracy of the proposed alternatives, the analysis of their respective management actions, and any new information that would help the BLM as it develops the plan.” You have also indicated that the major issue for the DEIS is to determine the “location and amount of livestock grazing and protection of monument values; including sage-grouse and their habitat.” (DEIS pages xiii and xv) Towards those ends, we offer the following comments: Throughout the DEIS there are numerous references to wildfire and the threat it is to the values of the monument and particularly to sage-grouse habitat. For example, the Executive Summary, on pages xvi and xvii, provides the following quotations: “67% of BLM-managed Monument lands have burned in the last 15 years. Just over half of which has burned more than twice since 1999.” “Wildfire and the incursion of invasive plants are currently identified as primary threats to sage-grouse habitat on public lands in Idaho.” “Since the 2007 MMP, wildfires have markedly reduced the amount of key sage-grouse habitat to 27% of the habitat in the Monument.” Yet curiously, the DEIS does not recognize the most effective and least expensive tool at its disposal to reduce the threat and effects of wildfire, namely properly managed livestock grazing. The DEIS details several of the puzzle pieces, yet doesn’t fit them together to show the big picture. For example on Page 122, the DEIS states: “Total forage production in the monument has been estimated at 111,300 AUMs in an unfavorable year and 227,900 AUMs in a favorable year.” Since the total permitted AUMs is only 38,187, a maximum of 34% of all forage available in a poor year, and less than 17% of all forage in a good year is even permitted for grazing. However, the actual use each year has been far less, averaging only 11,791 AUMs since 1997. This means that livestock is only utilizing 5.2% to 10.6% of all available forage, depending upon growing conditions. This is hardly enough utilization to keep fine fuels from accumulating and to prevent wildfires from frequently burning, destroying sage-grouse habitat and impairing the values of the monument. Page 80 of the DEIS states “Between 1970 and 2015, approximately 310,000 acres have burned in wildfires within the boundary of the expanded Monument, primarily on the BLM administered land. About two-thirds of this acreage has burned two or more times.” Page 111 of the DEIS explains that wildfire is largely responsible for lack of sagebrush cover and “habitats not meeting the seasonal requirements for sage-grouse in many areas of the Monument.” “73.3% of the sites were found to be unsuitable solely because sagebrush cover was lacking, and a lack of sagebrush was a contributing factor on an additional 24%.”</p>	<p>grazing. An additional alternative is not required.</p>
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29	ii	Bryan Searle	<p>If an enhanced grazing alternative is not possible, then, at a minimum, there should be additional flexibility added to Alternative C. This flexibility should include greater input from the permittees. areas where at least 30% and sometimes up to 50% of available forage would be harvested each year. This would not be outside of BLM utilization guidance and would continue to allow Idaho Standards for Rangeland Health to be fully implemented.</p> <p>Specifically, this flexibility should allow for variability in on/off dates, stocking rates and pasture rotation based upon the annually variable range resources rather than on arbitrary dates and utilization rates that do not consider the actual range conditions each year.</p> <p>We believe that there is an opportunity for increased stocking rates and/or allowing for more intensive grazing at certain specified times on an as-needed basis. This would reduce the risk of wildfire (the number one threat to sage grouse) and would help improve habitat by selectively using managed grazing as a tool to reduce annual invasive grasses and noxious weeds while promoting sage brush recovery.</p>	Permit flexibility is a part of Alternative C. Specifics would be determined at the implementation stage, after the finalization of this plan.
29	iii	Bryan Searle	<p>It is widely recognized that cheatgrass can exacerbate wildfire cycles. The DEIS states on page 28 that “approximately 28,000 acres of BLM managed lands in the Monument have cheatgrass and other invasive annuals as a dominant component, or greater than 50% composition.”</p> <p>Studies done by the University of Nevada Reno Range Science Department demonstrate that cheat grass invasion can be diminished and native grasses can once again become established when proper grazing timing and intensity is applied. According to Dr. Barry Perryman, one of the lead authors of the research, the results showed reductions in the amount of cheatgrass from 500 pounds biomass per acre to 90 pounds per acre.</p> <p>"In subsequent years, we reduced the cheatgrass to less than 90 pounds," Perryman said. "With the reduction in wildfire potential came improvement in perennial grass</p>	Your comment is noted.

			<p>production. Over the course of the study, production of perennial grasses increased from 45 pounds per acre to 577 pounds to the acre." (see: http://www.cabnr.unr.edu/news/story.aspx?StoryID=727)</p> <p>Utilizing additional flexibility to enhance the range and break the wildfire cycle would allow for much better sage brush recovery and more rapid sage-grouse habitat enhancement.</p>	
29	iv	Bryan Searle	<p>Although we understand the court has mandated the consideration of certain alternatives, page 1 of the DEIS states "FLPMA requires the BLM to develop, maintain and revise land use plans to ensure public lands are managed in accordance with principles of multiple use and sustained yield."</p> <p>The members of the Idaho Farm Bureau, therefore, cannot support Alternatives B, D or E since they would not meet the requirements of law, namely sustained yield and recognizing valid existing rights.</p>	Your opposition to Alternatives B, D and E are noted.
29	v	Bryan Searle	<p>According to page 36, Alternative B would be a "20% reduction from the 15 year average actual use", or a more than 75% reduction from permitted use. This is a significant taking of grazing preference rights and cannot be legally done without just and timely compensation. Likewise, alternative E represents a significant loss of AUM's. This is not a sustained yield within the meaning of the Multiple Use Sustained Yield Act.</p> <p>Alternative D would eliminate grazing altogether, which clearly defies the multiple use, sustained yield mandate of Congress, as well as violating the valid existing private rights of permittees. Furthermore, it would require the removal or decommissioning of livestock developments which would harm wildlife who have come to depend on these water sources.</p> <p>Alternatives B, D and E would also provide no relief from wildfires, the most significant threat to sage-grouse habitat and monument values, and a primary objective of this analysis.</p>	Your opposition to Alternatives B, D and E are noted.
29	vi	Bryan Searle	<p>Finally, only a very brief mention is made of clearly documented negative impacts of ravens, foxes, coyotes and other predators that prey on sage grouse, their young and eggs. Despite the fact that one study found that "Depredation was the primary cause for nest failure in our study (82.5%), and common ravens were the most frequent sage-grouse nest predator, accounting for 46.7% of nest depredations." (see: http://fwspubs.org/doi/pdf/10.3996/122012-JFWM-110R1?code=ufws-site)</p> <p>We recognize that this is perhaps beyond the scope of the DEIS, yet much time is spent discussing the issues related to sage-grouse and their success under the premise that grazing is responsible for the success or failure of sage-grouse recovery. Therefore, it would seem appropriate to provide additional recognition that many issues directly related to sage-grouse success are not influenced by grazing practices.</p>	Lockyer et. al 2013 has been incorporated into the final EIS.

29	vii	Bryan Searle	<p>In closing, the 2007 Management Plan discusses the history of grazing in this area and that it has been a traditional use on these lands for generations. Page 7 of the Plan also states the expanded monument “contains abundant sagebrush steppe communities that provide some of the best remaining Greater sage-grouse habitat and healthiest rangelands on the Snake River Plain. “ Clearly this traditional and historic practice of grazing on these lands has not diminished or damaged the resource. On the contrary, it is being held up as an example of the best rangelands in the region. We contend that this is because of grazing, not in spite of it. We, therefore, ask the BLM to choose an enhanced grazing alternative which will provide increased flexibility of livestock management based upon the annual range resource needs and opportunity and will better accomplish the goals of this effort. Thank you for the opportunity to comment on the DEIS. We look forward to continuing our involvement as you move forward.</p>	Your preference for enhanced grazing is noted.
30	i	Tom Blanchard	<p>The Draft Management Plan Amendment and Environmental Impact Statement discussion of preferred alternative is a disappointment in its failure to seriously address a number of key presumptions and past practices. Two examples serve to demonstrate: the discussion of AUM availability and utilization, and the contribution of grazing to weeds and fire.</p> <ol style="list-style-type: none"> 1. Permitted AUM’s are tied to forage production. According to the forage production model estimates for the 273,000+ acres a bad year would yield enough forage to satisfy 111,267 AUM’s, a good year would yield 228,000 AUM’s. No one would creditably believe that that area could support that many AUM’s and it is not clear as to why those figures are even mentioned. The actual permitted AUM’s are set at 38,187, a number derived from previous vegetation production inventories and some arbitrary allocation between grazing, wildlife and watershed purposes (p.120). <p>No supporting data on forage production based on the actual landscape at the Craters is given. These forage estimates come from a standardized formula for forage production. Current Permitted Use is set at 38, 187 with no discussion as to how that number was established. On the landscape the permittees have made business decisions over the past 15 years that show the average actual use as 11,791 AUM’s with a high of 16, 805. There is no discussion of what might be driving those business decisions, but ranching business decisions over the past 15 years suggest that higher numbers are not obtainable in any sustainable manner.</p>	The best available data was used to calculate the forage on the Monument. Please see Appendix D and the Vegetation Condition section of Ch. 3.

			<p>Yet the document argues that reduction of permitted numbers and activities is highly discouraged because...”</p> <ul style="list-style-type: none"> • Reducing numbers will force those AUM’s onto other grazing areas causing increased use and damage. In fact the current operators have already made that shift or reduction in numbers as is shown in the actual utilization reports. • Reducing numbers will 	
30	ii	Tom Blanchard	<p>2. Fire and noxious weeds are cited as the basis for failure to meet standards. The DEIS goes on to dismiss the impact of grazing as the key contributor to soil disturbance and the opportunity for noxious weeds and fire by stating that management practices have improved: “Impacts of grazing can be expected to be minimal due to the application of sustainable AUM grazing management” (p.195). The reality on the ground suggests that current practices still create areas of livestock concentrations which result in significant soil disturbance with loss of plant density and diversity. These areas will be reseeded with weeds over time.</p> <p>There is no practical evidence at this point that we know what is “sustainable” on the monument. We do not have a sustainable answer to cheat grass or rush skeleton weed. We do not have a sustainable answer to fire rehab that excludes the weeds and provides the grasses and forbs. We do know that livestock grazing has been the historic factor in the degradation of the Monument, the primary factor in noxious weed introduction and spread and thus a critical contributor to the changing fire routine. The document frequently reflects the argument that if you do not graze it, it will burn. Grazing is described as a “tool” to improve Sage Grouse Habitat. The very thing that created the problem is now recommended as the solution to the problem.</p>	The analysis acknowledges localized impacts. Please see Ch. 3 Vegetation condition section for discussion of sustainability.
30	iii	Tom Blanchard	<p>If we have any intentions to successfully restore natural conditions and to maintain the quality of the more pristine areas at the Craters, the preferred alternative should reflect the management objectives of Alternative B. We would recommend the following:</p>	Your support of Alternative B is noted. A change of administrative offices is

			<ul style="list-style-type: none"> • Grazing should be phased out of the pristine areas of Little Park and North Laidlaw as describe in 2.2.2.1. P. 36. • AUM's should be reduced to reflect the highest figure for fifteen years as stated to be 16, 805 and reduced by the phase out of grazing described above. • Post fire utilization should meet both utilization Standards and Sage Grouse Habitat Restoration goals before resumption of grazing. This is not a time limit but a condition of recovery basis for resumption of practices. • Voluntary relinquishment of permits should be encouraged and accepted by BLM administration with subsequent reduction in Permitted AUMs. • Sage Grouse recovery should guide the primary management objectives in all areas described as Priority Habitat as shown in Figure 3.10. • The administration of grazing practices should be consolidated under the lead BLM office in Shoshone for consistent policy application and on the ground practices within the Monument. Of equal importance is that this single authority represents an institutional recognition that this land has been designated as nationally unique and requires special attention. While this is noted to be a State Directors decision (p.42), this is a reasonable planning suggestion for implementation by others who have such authority. <p>We appreciate the opportunity to comment and look forward to working with the BLM to achieve the objective we have outlined above.</p>	outside the scope of this EIS.
31	i	Idaho State Department of Agriculture	<p>The Idaho State Department of Agriculture (ISDA) has reviewed the public release of the Craters of the Moon National Monument and Preserve Draft Management Plan Amendment and Environmental Impact Statement (Draft MMP Amendment/EIS). The ISDA is the State of Idaho (State) representative as a Cooperating Agency (CA) in the Bureau of Land Management's (BLM) MMP Amendment and the associated EIS process. In the true spirit of state-federal collaboration and given our relationship as a cooperating agency, ISDA would have appreciated more consistent outreach and close coordination from the BLM and the opportunity to review changes to the final version of the DEIS before its public release. ISDA's comments at this juncture include general concerns regarding the EIS process and the DEIS followed by comments related to specific language and content in the DEIS. <i>See</i> Attachment 1. Given the intent of our CA agreement (CA MOU)¹, ISDA maintains the right to provide further review upon meeting with the BLM, reviewing relevant supporting documents, resolving or noting areas of significant disagreement in the final EIS, and otherwise assuring that the spirit and conditions of the CA relationship and MOU are fulfilled.</p>	Your comment is noted.

31	ii	Idaho State Department of Agriculture	<p>The State of Idaho is currently challenging the legality of the overarching Idaho and Southwestern Montana Sage-Grouse Amendment Approved Resource Management Plan Amendment (ARMPA), and these comments are not an endorsement of any portion of the BLM’s sage-grouse ARMPAs unless explicitly stated. The previous assertion applies to all comments submitted by the State including the attached Idaho Department of Lands (IDL) review of the Craters DEIS. <i>See</i> Attachment 2. The State does not agree with multiple portions of the ARMPA. Specific to grazing, and especially germane to the MMP DEIS, the State does not support the BLM’s adoption of sagebrush focal areas (SFAs) and the attendant directions including the prioritization of livestock grazing permit renewals in areas designated as SFAs.</p>	Your comment is noted.
31	iii	Idaho State Department of Agriculture	<p>MMP DEIS. An engaging and open cooperating agency relationship remains a meaningful opportunity to ensure the maximum level of consistency between the Federal Alternative of Governor C.L. “Butch” Otter for Greater Sage-Grouse Management in Idaho (hereafter the Idaho Plan²) and to realize best management of grazing in the Craters of the Moon Monument. Again, it’s important to reiterate that these comments do not constitute endorsement of the ARMPAs or draft direction in the Craters EIS or portions thereof unless specifically stated. Page numbers referencing the Craters DEIS are those on the bottom or top of each page, not the Adobe Reader page numbers.</p>	Your opposition to ARMPA is noted.
31	iv	Idaho State Department of Agriculture	<p><i>CA relationship and the EIS process</i></p> <p>The cooperating agency relationship is a coordination process importantly unique from the public review process. According to page 1 of BLM’s 2012 Desk Guide³, “The CA relationship is distinctive, moving beyond consultation to engage officials and staff of other agencies and levels of government in working partnerships.” ISDA values our cooperating agency relationship with BLM, and wants to ensure that we truly “help shape BLM land use plans and environmental analyses that better reflect the policies, needs, and conditions of their jurisdictions and the citizens they represent (Desk Guide 2012, page 1).” Pursuant to part of our responsibilities as a cooperating agency, ISDA has provided written input on grazing and rangeland management in review of administrative drafts of the Craters DEIS. State agencies are not merely public stakeholders; state agencies are co-managers and co-regulators. It’s important that State agencies and CAs are not relegated to collaboration simply at points in time stipulated by regulation or policy.</p> <p>We have appreciated the opportunities to review administrative drafts of the DEIS and provide comments, and expect that the BLM has and will take those into consideration also. However, the lack of CA engagement by BLM up to this point has significantly diminished the partnership role of ISDA. Close coordination from the BLM and an open CA process would have facilitated a complete suite and analysis of management options and alternatives. The CA and EIS process would</p>	ISDA’s input is always welcome whether as a Cooperating Agency or not.

			<p>also have benefitted from more consistent communication regarding changes in the DEIS and deadlines for internal drafts. ISDA was not provided an updated version of the timeline referenced in the CA MOU until ISDA requested it in November 2015. We met with BLM on December 16, 2015 to discuss general concerns with the DEIS and most recently provided our written review of the DEIS to BLM in January 2016. However, we did not receive written feedback on our input. A final draft with changes from the State and Washington D.C. level to the November 2015 draft was not made available to the cooperating agencies prior to the public release of the documents for comment on September 30, 2016. We were unsure if or how our feedback back incorporated, and did not have the opportunity to review the DEIS again prior to the public release on September 30, 2016. ISDA is willing and ready to sit down and remedy our concerns, but must stress that the CA process must be rectified in order to make the partnership meaningful.</p>	
31	v	Idaho State Department of Agriculture	<p><i>BLM's elevation of grazing as a primary threat</i></p> <p>The Craters MMP Amendment is BLM's resolution to a court mandate to remedy the original MMP's failure to consider a no-grazing alternative or any alternative(s) that would have reduced grazing levels. The Bureau was also required to develop measures for sage-grouse conservation within the Monument. A major disagreement the State of Idaho has with the sage-grouse ARMPA and with much of the Draft Craters MMP is the treatment of livestock grazing as a primary threat to sage-grouse and its habitat. Improperly managed livestock grazing can be a secondary threat (United States Fish and Wildlife Service [USFWS] in 75 Fed. Reg. 13910, March 23, 2010). The 2013 USFWS Conservation Objective Team Report also states on pages 44 - 45 that "improper livestock management may have negative impacts on sage-grouse seasonal habitats."</p> <p>ISDA has addressed the threat of fire throughout our review of administrative drafts of the DEIS. Wildfire is the primary threat to sage-grouse habitat in the Monument. The DEIS Executive Summary provides a true characterization of this threat when it states on page <i>xvii</i> that "Wildfire and the incursion of invasive plants are currently identified as primary threats to sage-grouse habitat on public lands in Idaho [USDI USFWS, 2013], including within the Monument [Jurs and Sands, 2004]). According to page 80 of the DEIS "Between 1970 and 2015, approximately 310,000 acres have burned in wildfires within the boundary of the expanded Monument, primarily on BLM-administered land. About two-thirds of this acreage has burned two or more times..." Page <i>xvii</i> of the DEIS goes on to explain that "Since the 2007 MMP, wildfires have markedly reduced the amount of key sage grouse habitat to 27% of the habitat in the Monument." In 2016 alone, the MacRae, Laidlaw, and Paddelford fires burned over almost 50,000 acres in the Monument. It follows that the primary issue and concerns analyzed and on which management decisions are made should address how potential changes in livestock grazing proposed by this amendment affect fuel loads and fire behavior in the Monument and how the interactions of grazing and fire affect the introduction and spread of weeds. The DEIS contains alternatives that maintain, reduce, or eliminate grazing.</p>	<p>Due to the scale of the Monument Plan and the uncertainty associated with actual grazing intensity and resultant fine fuel loading across the alternatives a qualitative description of the effects of grazing on fuel loads and fire behavior was deemed appropriate. Please refer to P.185 of the FEIS.</p>

			At this stage, the alternatives and their analysis fall short of addressing the wildfire issue. ISDA would like to have an active seat at the table to ensure the final EIS and MMP Amendment allows for adaptive management to assure properly managed grazing.	
31	vi	Idaho State Department of Agriculture	<p><i>Grazing management and Permitted AUMs</i></p> <p>ISDA has also addressed the management of grazing in the Monument in our reviews of the administrative DEIS, and continues to do so in this review. Previous comments have highlighted ISDA’s disagreements with reduction of Animal Unit Months (AUMs) or the closure or retirement of allotments, especially without site-specific monitoring data and requisite NEPA.</p> <p>The DEIS includes management alternatives that permit 0% (Alternative D) to 33% (Alternative C) of the available forage estimate based on the unfavorable (low production) level described in Ecological Site Descriptions for the Monument. The DEIS should include a direction that AUMs can be increased or decreased based on monitoring and forage availability. As an example, the 2015 Jarbidge Resource Management Plan (RMP) contains direction in part of LG-A-3 that “Changes to AUMs in the future will be determined by the BLM after monitoring and site-specific NEPA analysis. (RMP-41)” While ISDA recognizes and supports the BLM’s responsibility to analyze a reasonable range of alternatives, including reduced grazing alternatives, we don’t agree with proposed reductions based on billed or actual use over the last 15 or 20 year period. 43 CFR 4110.3-2(b) states in part “when monitoring or field observations show grazing use or patterns of use are not consistent with the provisions of subpart 4180, or grazing use is causing an unacceptable level or pattern of utilization, or when use exceeds the livestock carrying capacity..... The authorized officer shall reduce permitted grazing use or otherwise modify management practices.”</p>	In all alternatives with AUM reductions, except for Alternative D, reductions are based on monitoring data.
31	vii	Idaho State Department of Agriculture	ISDA highly recommends grass banks be proposed in the Monument as a management option rather than closure or retirement. Temporary non-renewable AUMs should also be considered. Again, ISDA cautions the BLM against implementing alternatives that reduce permitted AUMs. Reductions in AUMs will limit flexibility in grazing applications and possible success of even the best management practices. Proper stocking rate, including analysis of increased stocking rates, coupled with the correct management can help achieve and maintain desired conditions much more effectively.	ARMPA allows for the establishment of forage reserves.
31	viii	Idaho State Department of Agriculture	Livestock grazing represents one of the most economical landscape management tools the BLM has at its disposal. However in the Monument, and much of the west, AUMs have continued to decrease while fire and invasive species continue to increase. Reductions in AUMs do not automatically resolve range health issues related to livestock grazing; rather, improper management of livestock grazing is often the culprit despite AUM reductions. BLM has in its employ and guiding principles a tool box filled with options for better management of livestock grazing. These tools need to be properly utilized. Adaptive management includes a host of management options to better distribute grazing pressure, target invasives plant	BLM looks forward to working with the Idaho State Department of Agriculture.

			species, improve wildlife habitat, improve watershed conditions, and enhance profitability to Idaho’s economy. As noted multiple times in our previous comments and also in this review, BLM’s regulations provide the use of range improvements and multiple adaptive management methods that provide for credible and defensible management actions beyond simply reducing AUMs on a landscape scale. There has been a recent increase in research and science outlining the benefits of properly managed grazing to ecosystems and wildlife habitats. This available research and knowledge should not go unheeded, disregarded, or become lost in policy. Where grazing changes are needed and are consistent with the Idaho Plan, ISDA is committed to working with BLM and partners to improve the way livestock grazing is managed by proposing and supporting range improvement projects that enhance livestock grazing viability for the benefit of industry, wildlife, and people. When working together, State, federal, and public parties can provide expertise and ideas about how to properly manage public lands to achieve desired goals. Again, ISDA supports adaptive management of livestock grazing in the Monument and would like to continue working with BLM to assure that the options are available to do so in the preferred alternative in the final EIS.	
31	ix	Idaho State Department of Agriculture	<p><i>ARMPA inconsistencies</i></p> <p>The State of Idaho is currently challenging the legality of portions of the sage-grouse ARMPAs. ISDA reserves the right to further review the Crater EIS DFCs for their consistency with the Idaho Plan for sage-grouse, and requests a discussion with BLM about the DFCs specific to the ARMPA that could take precedence over the MMP DFCs. The Federal Land Policy and Management Act (“FLPMA”), 43 U.S.C. §§ 1701 et seq., requires BLM land use plans and amendments to be consistent with other Federal agency, state, and local plans to the maximum extent consistent with Federal law and FLPMA. Id. §1712(c)(9). While there are multiple inconsistencies, the ARMPA that the Craters EIS tiers to presents a significant departure from the Idaho Plan in its eleventh-hour designation of SFAs in additions to Priority, Important, and General Habitat Management Areas. In the Monument, BLM has designated approximately 52% of BLM-administered lands as SFA. ISDA disagrees with this designation and is concerned with the additional management BLM required of SFAs, especially the prioritization for management and conservation action in these areas including the review of livestock grazing permits. Again, nothing in these comments should be construed as endorsing any portion of the sage-grouse ARMPAs unless it is explicitly stated.</p>	<p>Your opposition to ARMPA is noted.</p> <p>The BLM strives to be consistent with State Plans, but in this instance, the ARMPA provides the management direction for sage-grouse on public lands.</p>
31	x	Idaho State Department of Agriculture	As a cooperative agency, our disagreements regarding substantive portions of alternatives to be analyzed or analysis of effects must be included in the EIS. ISDA also has the option to terminate its cooperating agency relationship with the BLM. The DEIS states that “Cooperating local, State, and Federal agencies have been a part of the MMP Amendment effort to the fullest extent possible.” During plan implementation, BLM will continue partnerships with those entities to select high priority projects and resolve emerging issues.” <i>See</i> DEIS page 21. ISDA is encouraged to see BLM’s intent to meaningfully involve CAs to resolve issues	Idaho State Department of Agriculture’s input is always welcome.

			during plan implementation in the future, and would like to stress the need address ISDA’s concerns before the final DEIS in order to follow the spirit of this commitment. As a cooperating agency, we hold the right to identify and comment on other portions of the DEIS. We look forward to further discussion with the BLM to ensure the best management actions are outlined in the final EIS that provide for rangeland health, wildlife habitat, and proper grazing management, and predictable levels of land use. I appreciate BLM’s positive consideration of these comments. Don’t hesitate to contact me if you have questions.	
31	xi	Idaho State Department of Agriculture	<p>BLM acknowledges that herbaceous habitat components are not the primary significant cause of unsuitable habitat conditions in the management area for sage-grouse, and that fire is the primary threat to sage-grouse habitat in the Monument. On the same page, BLM acknowledges that while the grass production could reach the high-end potential of 222,000 AUMs, the current allocation of 38,187 AUMs for livestock grazing is only 34% of the minimum possible production. ISDA requests supporting documentation of the process or method used to allocate this percentage of estimated production to permitted livestock use.</p> <p>Page 13 of the Idaho Governor’s Sage-Grouse Management Plan (The Idaho Plan) requires that “the unintended consequences of altering grazing use, such as a possible increased risk of wildfire...be carefully considered in any management proposal.”</p> <p>As referenced on page 342 of the Craters DEIS, the ARMPA provides specific analysis direction that the State agrees with in MD LG 5: “When modifying grazing management, analyze indirect impacts on habitat, including changes in fuel loading and wildfire behavior.”</p> <p>The DEIS does not go into enough detail under the Environmental Impacts and Cumulative Impacts to discuss how the implementation of each alternative would make the habitat more or less susceptible to wildfire. Multiple examples are included as comments following in this table. This comment table is not an exhaustive list of locations within the DEIS which would benefit from a more complete discussion or accurate assumptions regarding the analysis of livestock grazing management and fuels.</p> <p>Many studies have shown the benefits of properly managed livestock grazing to wildlife habitat, as well as its ability to influence fire characteristics. These should be included in analyses and discussions throughout the MMP DEIS.</p> <p>The DEIS cites Davies et al. 2014 in several locations; one key point of this summary is that “Long-term rest causes an accumulation of fine fuels that increases wildfire risk and potential severity and subsequently the cost of fire suppression efforts and the likelihood of conversion to exotic annual grasslands.” This should be included in each grazing and wildfire discussion, and in the analysis and assumptions in the direct and cumulative effects for alternatives which propose grazing closures.</p> <p>A Nevada case study from 2006-2009 evaluated the effects of fall cattle grazing in cheatgrass dominated range (Foster et al., 2015). Foster et al. 2015 report that</p>	<p>See Appendix D for forage calculation method.</p> <p>This EIS lays the groundwork for future, site-specific analyses to include the impacts of potential reductions by allotment if necessary. While moderate grazing has an effect on fire behavior that supports effective fire suppression it does not reduce the fuel loading to the less than 400 lbs/acre prescribed by science (Diamond et al, Effects of targeted cattle grazing... International Journal of Wildland Fire, 2009) supporting targeted grazing for fuelbreaks - where the objective is to typically to reduce flamelengths to less than 4' under high fire danger, to provide relatively safe</p>

			<p>“cheatgrass standing crop was reduced by 43 percent to 80 percent each year.” After two years in the same study, cheatgrass was 64% less on the grazed treatment compared to the ungrazed area. Grazing also was shown to decrease the cheatgrass seed bank by 95%.</p> <p>Foster, Steve, Lee Schmelzer, John Wilker, Brad Schultz, Kent McAdoo, Sherm Swanson, and Barry Perryman. (2015). Reducing Cheatgrass Fuel Loads Using Fall Cattle Grazing." University of Nevada Cooperative Extension Special Publication 15-03. 1-11. Available at https://www.unce.unr.edu/publications/files/nr/2015/sp1503.pdf</p> <p>See also: Schmelzer, L., Perryman, B., Bruce, B., Schultz, B., McAdoo, K., Schmelzer, L., Perryman, B., Bruce, B., Schultz, B., McAdoo, K., McCuin, G., Swanson, S., Wilker, J. and Conley, K.. (2014). Case Study: Reducing cheatgrass (<i>Bromus tectorum</i> L.) fuel loads using fall cattle grazing. <i>The Professional Animal Scientist</i>, 30(2), 270-278. Available at http://greatbasinenvironmentalprogram.org/wp-content/uploads/2010/07/ARPAS_1279_final.pdf</p>	<p>conditions for effective suppression by all types of firefighting resources.</p>
31	xii	Idaho State Department of Agriculture	<p>Executive Summary Page xvi Suggest "observable" rather than noticeable. This statement also leaves the question as to what the specific species composition changes are, and in what way those early impacts have been measured, monitored, or observed.</p>	<p>The Executive Summary isn't intended to provide detailed information. Please see Ch. 3 for more information on existing vegetation condition.</p>
31	xiii	Idaho State Department of Agriculture	<p>Executive Summary Page xvii There are multiple considerations in the assessment, evaluation, and determination of meeting of Idaho's Standards for Rangeland Health (Standards) in relationship to sage-grouse habitat. BLM should follow the Idaho Plan's guidance on meeting Standard 8 and Standards 2 and 4 based on the Conservation Objectives Team Report (COT Report) with respect to sage-grouse. A causal factor determination that indicates livestock grazing as the causal factor would elicit changes to that permit in relation to sage-grouse habitat characteristics. The State of Idaho agrees with the assertion of Alternative E (The Governor's Alternative) in the Final Sage-Grouse EIS at 4-193: Existing grazing management would be maintained unless the current grazing system does not meet sage-grouse habitat objectives and there is compelling information that changing the system would enhance habitat. Specifically, management actions in this alternative state that where population and habitat triggers are being maintained within a Conservation Area, this shows that the current grazing system is adequate to</p>	<p>These matters are addressed at the permit renewal level and are not precluded by this EIS.</p>

			<p>maintain viable GRSG populations and therefore absent compelling information, no further changes to BLM grazing systems would be required pursuant to Standard 8. Modifications to grazing management would continue to be implemented, however, where Standards 2 and 4 are not being met. FEIS, at 4-193.</p> <p>More specifically, Standard 8 addresses habitat for all special status plant and wildlife species in Standard 8, not solely sage-grouse. Suggest clarification of the relationship between the standards, or rewording to “considerations for sage-grouse habitat.”</p> <p>Also, sage-grouse habitat “objectives” are not “requirements”, but guidelines to describe characteristics of productive sage-grouse habitats based on the best available science, site potential, and other important, local considerations (see Idaho Plan page13).</p> <p>It’s also important to note that “Proper grazing management greatly benefits from flexibility and the opportunity to schedule and adjust intensity, timing, duration, and frequency of grazing use over time in a manner that maintains rangeland health and habitat quality. In addition, vegetative characteristics of sage-grouse seasonal ranges can change spatially and temporally due to a wide variety of other influences. Therefore, these sage-grouse habitat characteristics should be viewed as a tool for assessing habitats and guiding management actions but not as a means of dictating grazing strategies or stocking rates. (Idaho Plan, page 13).</p>	
31	xiv	Idaho State Department of Agriculture	<p>Pg. 4 The NTT Report is outdated and is scientifically and procedurally flawed. BLM should reference the Fish and Wildlife Service (Service) Conservation Objectives Team (COT) Report and the most current and best available science. The State of Idaho has previously requested and recommends that the BLM use the COT Report to assess conservation measures for sage-grouse. Rather than dictate a “national” solution, like the NTT Report, the COT Report recommends that individual states put in place the best management practices, with monitoring and implementation, to address state- and site-specific issues. ISDA request that BLM revisit the Office of Species Conservation (OSC) 2013 scoping comments for a more in-depth analysis to assure the DEIS and its proposed actions for sage-grouse management do not follow the one-size-size-fits-all approach of the NTT Report.</p>	<p>The BLM used a number of information sources such as the COT and NTT Report. The ARMPA decisions are the current guidance for the Monument and do not follow a one-size-fits-all approach when making implementation level decisions.</p>
31	xv	Idaho State Department of Agriculture	<p>Pg. 7 ISDA agrees it’s important to maintain a network of roads to aggressively manage fire. This network could allow for better access and construction of livestock water sites and result in better grazing distribution and management of. These grazing management benefits as well as the benefits of grazing infrastructure such as roads and water developments for wildfire suppression activities should be included in the analysis of alternatives.</p>	<p>The Comprehensive Travel Management Plan was completed in 2009 to address the travel network in the Monument.</p>

31	xvi	Idaho State Department of Agriculture	Pg. 14 The law and regulation to analyze a reasonable range of alternatives does not remove the need to follow a reasonable and science-based approach designating and analyzing alternatives. Due to the primary threats of fire and invasive species in sage grouse habitat, this would be the logical primary issue used to develop alternatives for this Amendment.	The plan analyses a reasonable range of alternatives and uses a science-based approach to address grazing management within the Monument.
31	xvii	Idaho State Department of Agriculture	Pg. 25 “There is no net loss, and preferably a net gain, of sagebrush steppe communities over the life of the plan.” This DFC is worth highlighting and revisiting for achievability in this Amendment due to the influence of fire in the Monument. It’s been 10 years since the adoption of the 2007 MMP.	Your comment is noted.
31	xviii	Idaho State Department of Agriculture	Pg.25 “All plant communities are in or making progress toward Fire Condition Class 1.” The DEIS would benefit from a brief description of the fire condition classes referenced from the 2007 MMP.	Your comment is noted.
31	xvix	Idaho State Department of Agriculture	The State of Idaho is currently challenging the legality of portions of the GRSG ARMPAs. ISDA reserves the right to further review the Crater EIS DFCs for their consistency with the Idaho Plan for sage-grouse, and requests a discussion about the DFCs specific to the ARMPA that could take precedence over the MMP DFCs. Pg. 26 Again, the sage-grouse habitat “objectives” that are included in the ARMPA Table 2-2 are not “requirements” or “standards”, but guidelines to describe characteristics of productive sage-grouse habitats based on the best available science, site potential, and other important, local considerations (see Idaho Plan page13). For example, there is not a 7 inch standard for herbaceous height or set time 80% habitat extent for nesting/early brood rearing habitat. The following current research on sage-grouse habitat characteristics should be incorporated into the DEIS. Gibson, D., Blomberg, E. J. and Sedinger, J. S. (2016), Evaluating vegetation effects on animal demographics: the role of plant phenology and sampling bias. <i>Ecol Evol</i> , 6: 3621–3631. doi:10.1002/ece3.2148 Gibson, D., Blomberg, E. J., Atamian, M. T., & Sedinger, J. S. (2016). Nesting habitat selection influences nest and early offspring survival in Greater Sage-Grouse. <i>The Condor</i> , 118(4), 689-702. doi: http://dx.doi.org/10.1650/CONDOR-16-62.1	Your opposition to ARMPA is noted.
31	xix	Idaho State Department of Agriculture	Pg. 36 ISDA agrees that new range improvements to meet objectives for rangeland health and proper livestock management are consistent with BLM’s grazing regulations as described in 43 CFR 4100. All permittees and allotments should have the opportunity to propose range improvement projects. Range improvements and	ARMPA and Alternatives A, B,C, and E of this draft EIS

			<p>their importance in the permit renewal process are clearly noted in part of 43 CFR 4180.2c through direction that “Practices and activities subject to standards and guidelines include the development of grazing-related portions of activity plans, establishment of terms and conditions of permits, leases, and other grazing authorizations, and range improvement activities such as vegetation manipulation, fence construction, and development of water.”</p> <p>We have concerns with the unclear standard for net benefit even if only identified for these allotments or portions thereof. Similar to the ARMPAs imposition of an undefined “net conservation gain” mitigation standard for all third party actions, this direction is ambiguous. This is unclear what is meant by “resources identified.” What are the concerns in these areas? Is it because the allotments or portions of allotments are not meeting rangeland health standards and the causal factor has been determined to be livestock grazing? These development stipulations have the potential to limit the tools that a land manager has available to properly manage livestock grazing and benefit habitat for sage-grouse and the other resources BLM is ambiguously referring to.</p> <p>Arbitrary lek buffers should not impede the positive consideration and construction of range improvements. The Idaho Plan requires fences to have a 0.6 mile (1 km) buffer and other structures should be placed in a manner that considers their impacts on sage-grouse (Idaho Plan pages 36-37). Page 46 of the USFWS 2013 COT Report states that range structures should be designed and placed to be neutral or beneficial to sage-grouse, which highlights the site and allotment-specific nature of these considerations. While ISDA support actions that benefit sage-grouse habitat conditions, and those actions are appropriate to analyze at the project level, this Amendment’s final decision and requirement should not require an ambiguous “net benefit.” The net benefit language is also included in other actions in the DEIS, and these comments apply to those, as well (see various comments below).</p>	do not preclude the construction of range improvements subject to Required Design Features.
31	xx	Idaho State Department of Agriculture	<p>Pg. 36-37 Subpoint a of point 4 should specify that proposed AUM reductions in this alternative could be implemented following BLM’s grazing regulations through the permit renewal process using Rangeland Health Standards and Guides, adequate monitoring data, a causal factor analysis tied to grazing, and the requisite NEPA. This process is also partially and incompletely referenced in point 6 on page 37 of the DEIS.</p> <p>Also, the State has concerns about the permit renewal priority process, especially given the uncertainty of the process in SFAs. The Idaho Plan directs permit review and renewal prioritization for allotments in the Core Habitat (CHZ) where sage-grouse populations are declining. This process does not presume that simply because an allotment is in CHZ that changes to the grazing system are needed or required.</p>	Alternative B requires AUM reduction. Site specific AUM reduction will be based upon the bulleted list of methods on page 37.

31	xxi	Idaho State Department of Agriculture	Pg. 37 As noted above, and consistent with the Idaho Plan, the State does not think a “net benefit” should be required. ISDA is supportive of sage-grouse conservation and benefitting its habitat, but a benefit should not be required. This requirement is inconsistent with Idaho state policy and the COT Report.	The BLM strives to be consistent with State Plans when possible.
31	xxii	Idaho State Department of Agriculture	Pg. 39 Range improvements are not identified as large infrastructure (roads, transmission lines, gas lines, etc.) in the ARMPAs. See Idaho Plan page 43-45. Range improvements (for example, spring developments, watering troughs and cross fences) are usually not in disturbance corridors or unsuitable habitat, but are crucial for managing proper livestock grazing and maintaining habitat characteristics for sage-grouse. Also see comments regarding range improvements above. While it includes recommendation for livestock grazing infrastructure in sage-grouse habitat on pages 36 and 37, it does not require a no net gain in disturbance from these developments. Also see previous comments in this table regarding range improvements and net benefits to habitat.	The BLM strives to be consistent with State Plans when possible.
31	xxiii	Idaho State Department of Agriculture	Pg. 42 What are the species, habitats, and seasonal periods being proposed here? This is a very broad statement that refers to multiple species with overlapping times. This may be an unreasonable action to follow through on. These species and the applicable seasons should be described so the DEIS reviewers and users within the monument have a clear understanding of the potential impacts of this action. In regards to sage-grouse, there are inconsistencies between timing restrictions between the Idaho Plan and the sage-grouse ARMPA with respect to activities and noise levels during lekking periods. The lekking periods are also defined differently in the Governor’s Plan. As outlined on Page 44 of the Idaho Plan, the State’s management policy keeps new noise levels under 10dBA above ambient noise from 6:00 pm to 8:00 am during the initiation of breeding (March 1 through May 15).	Priority species depend on the location of the projects and the time of year. Avoidance or minimization efforts are dependent upon those factors.
31	xxiv	Idaho State Department of Agriculture	Pg. 45 ISDA supports proper grazing management to meet site-specific, measurable, achievable, and realistic objectives for riparian areas. However, the BLM already has the mechanism to achieve Standards for riparian areas under various portions of the Standards and Guides process for grazing permit renewals. That fact makes this action seem duplicative. Written as is, this action sets an unreasonable goal. Implementing actions to make progression toward the stated goals is different than the ability for those actions to achieve those goals. It would make more sense to change the language to implement management actions that make progress toward meeting PFC or toward ESDs for riparian areas given site potential and accounting for thresholds. To explain it another way, the document should state that the proposed action will allow authorized actions to meet these goals, rather than anticipate these goals are possible to meet until otherwise determined through monitoring. Grazing-related management such as short-duration, high intensity grazing and the necessary range improvements can facilitate progress toward riparian areas conditions meeting Standards. As noted in the previous paragraph, thresholds that	Attaining proper functioning condition for riparian areas is a component of meeting Standards. There is flexibility to make progression toward the stated goals. This process does not replace the requirement for site specific NEPA that would be necessary to make changes, if

			may have been crossed must also be considered when evaluating current conditions and deviations from Ecological Site Descriptions.	necessary, during the implementation phase.
31	xxv	Idaho State Department of Agriculture	<p>Pg. 45 It would be beneficial to make the option available to adjust grazing on native perennial seedings in which herbaceous competition is precluding re-establishment of sagebrush or in seedings that pose a wildfire risk. For example. Snake River wheatgrass has high biomass production, and these seedings often needs to be managed similar to a crested wheatgrass seeding in some areas in order to reduce competition for sagebrush and other native perennial grasses, as well as to manage fine fuel load.</p> <p>The Assumptions on page 165 of the DEIS state in part that “Cultivars of native species would be considered native. Communities dominated by native cultivars would be classified as Native Perennial or Shrub/Native Perennial in the current vegetation map. In general, these communities would be expected to emulate native communities with respect to structure and ecosystem processes. Natural processes would continue to drive plant communities between ecological state and transitions.” It is also true of non-native perennial seedings that natural processes such as competition drive plant communities between ecological states.</p> <p>As also mentioned in the following comments in regards to Page 164 of the DEIS, plant communities are rarely if ever static, and certainly not without active management. Due to succession, removing an influencing factor such as livestock grazing will have impacts on both native and non-native vegetation. Both management actions and processes such as drought, plant competition, wildfire, etc. influence succession and rangeland trend. Succession and trend are either progression (upward trend), maintenance (static trend), or retrogression (downward trend) in respect to the rangeland conditions or composition value identified as the objective or successional climax for specific plant communities. Sometimes a “lower” seral state or stage in a state-and-transition model is the objective for a plant community. It is also true of non-native perennial seedings that natural processes such as competition drive plant communities between ecological states.</p> <p>Removal of grazing does not allow for “continued existing vegetation condition.” This action would also benefit from including livestock grazing as a method to control cheatgrass. ISDA requests that annual grasslands be incorporated into this management action in addition to perennial seedings.</p> <p>A study near Burns Oregon found that restoring sagebrush in areas dominated by perennial grass may require reductions in competing perennial grasses (Boyd and Svejcar, 2011).</p> <p>Boyd, C. S., & Svejcar, T. J. (2011). The influence of plant removal on succession in Wyoming big sagebrush. <i>Journal of Arid Environments</i>, 75(8), 734-741. doi:10.1016/j.jaridenv.2011.03.008</p>	<p>Grazing within seedings is allowed for in Alternatives A, B, C and E. Preferred Alternative C allows for directed grazing for sagebrush recovery where needed.</p> <p>Annual grasslands are not precluded from directing grazing.</p>

31	xxvi	Idaho State Department of Agriculture	Pg. 46 Cultural clearances should have been done prior to the construction of existing infrastructure and developments under NEPA regulations. Identification or creation of new sites should be subject to the same clearances outlined in the NEPA process including coordination requirements with permittees.	New projects are subject to Section 106. Historically installed infrastructure may predate NHPA in some cases and may not have been inventoried for cultural resources.
31	xxvii	Idaho State Department of Agriculture	<p>Pg. 46 Complete avoidance of grazing in nesting and brood-rearing habitat is not consistent with the Idaho Plan or the BLM’s own Sage-grouse ARMPA. There is nothing in the BLM’s ARMPA, including in its requirement design features, that says to avoid grazing in nesting or early brood rearing habitats completely during the time period of March 15 – June 15th or during lek habitat use periods from March 1 to May 15. Grazing management should be specific to the habitat and environmental conditions unique to each allotment. This language mandates an unreasonable and complete avoidance of grazing in these areas annually when properly managed grazing can be beneficial to meet the needs of sage-grouse. A complete exclusion of spring grazing can perpetuate high-risk fuel characteristics in nesting and early brood-rearing habitat. Strand et al. (2014) reports that properly managed spring grazing can be an effective tool to suppress annual grasses. Diamond et al. (2012) found that spring grazing can be used in combination with prescribed fall burning to reduce annual grass seed bank density and increase plant community diversity.</p> <p>In regards to seasonal sage-grouse habitat, local science should be the sole determinant of nesting and early brood-rearing dates. ISDA is encouraged to see BLM incorporating the North Magic Valley Local Working Group’s Conservation Plan. The BLM’s ARMPAs do not dictate adhering to the seasonal use period identified in the referenced Table 2-2. BLM should solely adhere to local dates for sage-grouse seasonal habitats within the Monument regardless of proposed actions within those dates.</p> <p>As previously asserted, “Proper grazing management greatly benefits from flexibility and the opportunity to schedule and adjust intensity, timing, duration, and frequency of grazing use over time in a manner that maintains rangeland health and habitat quality. In addition, vegetative characteristics of sage-grouse seasonal ranges can change spatially and temporally due to a wide variety of other influences. Therefore, these sage-grouse habitat characteristics should be viewed as a tool for assessing habitats and guiding management actions but not as a means of dictating grazing strategies or stocking rates. (Idaho Plan, page 13)</p> <p>Again, ISDA encourages coordinating with permittees in planning and carrying out flexible grazing management that benefits habitat, but disagrees with mandates for exclusion of grazing during the identified period(s).</p>	<p>A full range of alternatives is important for thorough NEPA analysis. Greater sage-grouse are a primary species of conservation concern. The assessment of this EIS is to analyze the effects of livestock grazing. One of the primary tools for livestock management is timing of season of use.</p> <p>This analysis provides the platform for future grazing management. The implementation phase (e.g. permit renewal), would occur with a coordination process.</p> <p>ARMPA provides for flexibility in grazing, including targeted grazing. This amendment does not</p>

			<p>Diamond, J. M., Call, C. A., and Devoe, N. (2012). Effects of targeted grazing and prescribed burning on community and seed dynamics of downy brome (<i>Bromus tectorum</i>)-dominated landscapes. <i>Invasive Plant Science and Management</i>, 5(2), 259-269. doi:10.1614/IPSM-D-10-00065.1</p> <p>Strand, E. K., Launchbaugh, K. L., Limb, R. F., & Torell, L. A. (2014). Livestock grazing effects on fuel loads for wildland fire in sagebrush dominated ecosystems. <i>Journal of Rangeland Applications</i>, 1, 35-57.</p> <p>Available at: http://journals.lib.uidaho.edu/index.php/jra/article/view/12/59</p>	amend any of the provisions of ARMPA.
31	xxviii	Idaho State Department of Agriculture	<p>Pg. 48 Allotment specific objectives and monitoring should be coordinated closely with permittees, and should be supported by, approved monitoring methods and current, repeated data. In some cases a lower successional stage may be desired in order to meet these objectives. It's also possible grazing management alone may not meet the objectives. What is the benchmark for restoration? ESDs? BLM must take into account thresholds and other factors that influence ecological capabilities.</p>	BLM actively engages in coordination efforts with permittees and other interested publics. Grazing related objectives at the site scale would be addressed during the implementation phase.
31	xxix	Idaho State Department of Agriculture	<p>Pg. 48 GRAZ-13C This action should also list the full suite of management options listed in Alternative A. For instance, distribution of livestock use is a consideration that should be taken into account. Range improvements should also be listed for consideration to make progress toward Standards. All options should be thoroughly considering for proper grazing management. BLM should specify that changes be made to the permitted number of AUMS only if livestock grazing is determined to be the causal factor of not meeting Standards after a full assessment and evaluation during the permit renewal process.</p> <p>ISDA supports collaborative, flexible, and proper management of livestock grazing to achieve appropriate rangeland health goals. Livestock AUM reductions do not automatically result meeting Standards. ISDA has concerns about the processes used to employ the referenced AMP and grazing modifications that we request are remedied with BLM. See following comments in regards to proposed actions in Alternative C.</p>	The three actions listed in GRAZ-13C are required to be analyzed, but future grazing management is not limited to those.
31	xxx	Idaho State Department of Agriculture	<p>Pg. 49 GRAZ-15C ISDA supports collaborative, adaptive, and proper livestock management that benefits sage-grouse habitat, rangeland health, and livestock production. However, ISDA has concerns about the process to determine "when practical." Meaningful cooperation, coordination, and consultation must be conducted.</p> <p>Again, the Idaho Plan states that changes related to existing grazing permits should only be undertaken if improper grazing is determined to be the causal factor in not</p>	Coordination regarding permit-level actions will occur. The language "when practical" is identified, because there may be situations

			meeting habitat characteristics, specific to site capability, based upon monitoring over time with appropriate site variability. It does talk about enhanced grazing opportunities with introduced seedings, annual grasslands, or areas with lower value to sage-grouse. Allocation of resources should be concentrated on allotments within the CHZ that have declining sage-grouse populations, followed by Important Habitat (IHZ) with breeding habitats that have decreasing lek counts. Sage-grouse populations that are stable or trending upward would be a lower priority for the permit renewal and the assessment process.”	where avoidance of seasonal habitat is not necessary or feasible to meet desired outcomes.
31	xxxii	Idaho State Department of Agriculture	Pg. 49 GRAZ-25C ISDA commends flexibility in grazing management to meet agreed upon objectives for livestock management and rangeland health. It is crucial that these management objectives be developed in consultation, coordination, and cooperation with permittees and clearly defined, monitored, and understood so that there is not a moving goalpost for livestock managers.	Your comment is noted.
31	xxxiii	Idaho State Department of Agriculture	Pgs. 97-98 and other relevant pages the state. Bighorn sheep are governed, managed, and controlled by the State of Idaho. The State is responsible for assessing and managing the disease transmission between domestic sheep and bighorn sheep. Idaho departments and agencies must have a prominent seat at the table in developing any future plans or proposed action that attempts to address wildlife and livestock management issues in the Monument.	The Idaho Department of Fish and Game has been notified of the development and availability of this plan amendment.
31	xxxiiii	Idaho State Department of Agriculture	Pg. 103 This is inconsistent with State policy. The Idaho Plan does not have a 3% disturbance cap.	This amendment has been developed consistent with the recent guidance identified in ARMPA, which identifies a 3% disturbance cap.
31	xxxv	Idaho State Department of Agriculture	Pg. 107 BLM should coordinate with the Idaho Department of Fish and Game in regards to sage-grouse population data. According to the IDFG 2016 Sage-grouse Population Triggers Analysis, the lambda or population growth rate for the Desert Priority was 1.108 and 1.295 for the Desert Important zones for the 3 year average from 2014 -2016 counts.	The Idaho Department of Fish and Game has been notified of the development and availability of this plan amendment. The lambda estimates have been added to the Final EIS.

31	xxxv	Idaho State Department of Agriculture	Pg. 107 This discussion should differentiate between the potential primary and potential secondary threats to sage-grouse. Wildfire and invasive species are the primary threats to sage-grouse and their habitat in Idaho, as stated in Governor Otter’s Executive Order 2015-04 and the Idaho Plan. The Craters DEIS on page xvii also asserts that fact that “Wildfire and the incursion of invasive plants are currently identified as primary threats to sage-grouse habitat on public lands in Idaho [USDI USFWS, 2013], including within the Monument [Jurs and Sands, 2004].”	The amendment has identified that recurrent fire is a primary threat to Greater sage-grouse in the planning area.
31	xxxvi	Idaho State Department of Agriculture	Pg. 111-112 Again, wildlife in the primary threat to sage-grouse habitat in the Monument. Low herbaceous cover was solely responsible for only 2.6% of monitoring sites not being suitable for sage-grouse habitat, which shows there is not a major herbaceous hiding cover/forage issue.	This amendment has identified that recurrent fire is the primary threat to Greater sage-grouse in the planning area.
31	xxxviii	Idaho State Department of Agriculture	Pg. 123 The language from the administrative draft in this section was removed “...then a plan to meet each Standard is typically developed through an environmental assessment (EA).” Why is this? The appropriate monitoring methods and current monitoring data must be used to assess rangeland health and sage-grouse habitat. The HAF is a method specific to the assessment of habitat suitability for sage-grouse. Comprehensive monitoring of resources is necessary to evaluate whether areas are meeting or making significant progress toward meeting the Standards for Rangeland Health, including but not solely standards for special status species. The HAF cannot be the only assessment used to measure rangeland health and determine if livestock grazing is a causal factor in not meeting Health Standards or habitat suitability for sage-grouse.	The statement was removed because there are other options for making progress within the confines of existing permits or other NEPA analysis. HAF is not the sole monitoring method utilized.
31	xxxix	Idaho State Department of Agriculture	Pg. 140 A discussion on the relative impact of livestock grazing on soil crusts in comparison to other factors should be discussed to make a full analysis throughout the document. Davies et al. found that “Long-term rest likely benefits soil biological crust, though results are not consistent and other factors (e.g., soil chemistry, fire, exotic annual grasses) are more influential than livestock grazing. Davies et al 2014.” This fact is important given fire’s known impact in the Monument.	Additional discussion of soil crusts has been added to the final EIS.
31	xl	Idaho State Department of Agriculture	Pg. 164 “Alternative D completely removes livestock grazing, which would allow for the continued existing vegetation condition, except in areas where vegetation manipulation treatments are implemented, such as the poor condition sites identified for restoration in the 2007 MMP through the use of fuels treatments (e.g., prescribed fire, herbicide, and seedings).” This is an inaccurate assumption. Removal of grazing does not allow for “continued existing vegetation condition.” For example, exclusion of livestock does not necessarily slow invasion or reduce the abundance of annual grasses (Anderson &	Please see pg. 181 of the draft EIS for an explanation of how removal of grazing would affect vegetation in Alternative D. Edits

			<p>Inouye 2001, Courtois, Perryman, & Hussein, 2004). Plant communities are rarely if ever static, and certainly not without active management. Due to succession, removing an influencing factor such as livestock grazing will have impacts on vegetation. Both management actions and processes such as drought, plant competition, wildfire, etc. influence succession and rangeland trend. Succession and trend are either progression (upward trend), maintenance (static trend), or retrogression (downward trend) in respect to the rangeland conditions or composition value identified as the objective or successional climax for specific plant communities. Sometimes a “lower” seral state or stage in a state-and-transition model is the objective for plan community.</p> <p>Page 177 of the DEIS also misstates that “Removing areas from livestock grazing would maintain the current condition of those plant communities as related to any composition shifts that may be related to livestock grazing; however, natural processes would continue, such as wildfire, and the plant community would respond as expected in a dynamic system [Davies et al., 2014].” Grazing has indirect effects on vegetation. Simply removing livestock grazing does not change the effects of previous grazing nor does it maintain the existing condition.</p>	<p>have been made to the final EIS to clarify.</p>
31		Idaho State Department of Agriculture	<p>ISDA strongly opposes closure or retirement of permits. Each alternative that includes the ability to retire or close allotments must thoroughly analyze the ecological and economize impacts of the closure.</p> <p>Allotment closures would have management impacts limiting the State’s ability to generate revenues from both private property and endowment lands. Any action must be consistent with BLM’s grazing regulations, noted in 43 CFR 4100.0-2 in part, to allow for the promotion of healthy sustainable rangeland ecosystems and to provide for the sustainability of the western livestock industry and communities that are dependent upon productive, healthy public rangelands.</p> <p>Any allotment closure or grazing restriction must follow 43 CFR 4110.4-2-“When public lands are disposed of or devoted to a public purpose which precludes livestock grazing, the permittees and lessees shall be given 2 years' prior notification except in cases of emergency (national defense requirements in time of war, natural disasters, national emergency needs, etc.) before their grazing permit or grazing lease and grazing preference may be canceled. A permittee or lessee may unconditionally waive the 2-year prior notification. Such a waiver shall not prejudice the permittee's or lessee's right to reasonable compensation for, but not to exceed the fair market value of his or her interest in authorized permanent range improvements located on these public lands (see 43 CFR § 4120.3-6).</p>	<p>Your opposition to closure and retirement of permits is noted. GRAZ-3D recognizes the regulations necessary for closure.</p>
31	xli	Idaho State Department of Agriculture	<p>Pg. 173 ISDA agrees that properly managed grazing can be used as a restoration tool in addition to a fuels management method. The benefits of grazing and threat of fire in these systems should be included here in the DEIS, and included in the analysis of each alternative in the DEIS.</p> <p>Proper grazing management in Larkspur Park can help break the devastating fire cycle, whereas long-term rest would be highly unlikely to restore the area. Davies et</p>	<p>Alternative E is part of a reasonable range of alternatives.</p>

			<p>al. 2015 is cited in several places in the DEIS. This synthesis paper goes on further than the BLM has referenced to state that "Though prolonged, improper grazing undoubtedly contributes to the exotic annual grass problem, long-term rest from grazing is unlikely to facilitate the conversion of annual grass-dominated plant communities back to native-dominated communities." Davies et al. 2014 goes on to explain that "Establishment and persistence of perennials in annual grass-invaded plant communities will require a break in the annual grass-fire cycle (Mata-González et al., 2007)."</p> <p>Mata-Gonzalez, R. R. G. H., Hunter, R. G., Coldren, C. L., McLendon, T., & Paschke, M. W. (2007). Modelling plant growth dynamics in sagebrush steppe communities affected by fire. <i>Journal of Arid Environments</i>, 69(1), 144-157. doi:10.1016/j.jaridenv.2006.09.010</p>	
31	xlii	Idaho State Department of Agriculture	<p>Pg. 178 ISDA supports spring grazing as an option to control cheatgrass. However, this language should be reworded as not to limit targeted grazing to control cheatgrass to that season. The same language is also in the DEIS on page 185. Targeted grazing in other seasons should be available as a management option in order to achieve the most effective and practicable method for each specific location and the reasonable goals for that area (including site potential, etc.). Fall and winter grazing have also been proven effective in reducing the dominance of annual grasses. In an Oregon study, a shrub-grassland community was grazed for 5 years before burning and compared with ungrazed control areas. Davies et al. 2016 found that "Winter grazing decreased fine fuels and increased fine fuel moisture, which reduced flame height and depth, rate of spread and area burned. Winter-grazed areas also had lower maximum temperature and heat loading during fires than ungrazed areas, and thereby decreased risk of fire- induced mortality of important herbaceous functional groups."</p> <p>Davies, K. W., Boyd, C. S., Bates, J. D., & Hulet, A. (2016). Winter grazing can reduce wildfire size, intensity and behaviour in a shrub-grassland. <i>International Journal of Wildland Fire</i>, 25(2), 191-199. Available at http://oregonstate.edu/dept/EOARC/sites/default/files/854_winter_grazing_2015.pdf There are also references on page 1 of this comment table discussing fall grazing of cheatgrass that are germane to this analysis.</p> <p>Pg. 178 Again, other seasons can be used as a window for targeted grazing of invasive annual grasses. See comment and references immediately previous.</p>	<p>Targeted grazing prescriptions that do not conform to the terms of existing grazing authorizations would be subject to site specific NEPA analysis. ARMPA, allows for: "Targeted grazing as a fuels treatment to adjust the vegetation conditions to reduce the potential start and spread of wildfires may be implemented within existing grazing authorizations if feasible such as through temporary non-renewable authorizations, or through contracts, agreements or other appropriate means separate from existing</p>

				grazing authorizations and permits.”
31	xliii	Idaho State Department of Agriculture	<p>Pg. 181 “Davies et al. (2014) states that “in the absence of fire, well-managed livestock grazing and long-term grazing exclusion often produce similar plant community composition, productivity, and densities”.” However, the document has already noted that there is not an absence of fire on the landscape and BLM has assumed that wildfire will likely continue. It follows that the relationship among grazing, fire, and vegetation communities must be a significant part of the entire analysis, including the analysis of grazing on fuel loads and fire behavior.</p> <p>Pg. 182 “Meanwhile, fine fuel loading and continuity would increase without the reductions from a well-managed grazing program and would result in increased rates of spread, flame lengths, and final fire size [Strand et al., 2014].” ISDA is encouraged to see this brief analysis of grazing and fuels, though it would be beneficial to discuss the fuel loading potential with a closure of grazing in more depth, including but not limited to a discussion of invasive and noxious plants. A full analysis should also be included in the analysis of other alternatives that outline reductions and/or grazing closures.</p>	An alternative that increased AUMs to the level required for fuels reduction was considered, but not analyzed because it was not feasible. Please see Section 2.3.
31	xliv	Idaho State Department of Agriculture	<p>Pg. 188 “Areas closed or excluded to use or activity would not be impacted by that activity, whereas areas open or available would likely be influenced by the use or activity.” Grazing and its management, and the exclusion of grazing, has an effect on fuel loads. ARMPA MD LG 5: “When modifying grazing management, analyze indirect impacts on habitat, including changes in fuel loading and wildfire behavior.”</p>	The BLM will be in conformance with ARMPA.
31	xlv	Idaho State Department of Agriculture	<p>Pg. 189 “Because sage-grouse are sensitive to habitat disturbance and require large, intact habitat patches to complete their annual life history, alternatives proposing to protect the most sage-grouse habitat from disturbance are considered of greatest beneficial impact to the species.” Assumptions in the Environmental Consequences and Cumulative Impacts analyses are an appropriate place to emphasize that the primary, largest-scale, direct disturbance threatening sage-grouse and its habitat in the Monument is wildfire. This referenced assumption underscores that. Wildfire and invasive species are the primary threats to sage-grouse and their habitat in Idaho, as stated in Governor Otter’s Executive Order 2015-04 and the Idaho Plan.</p>	Wildfire has been acknowledged to be a primary threat to Greater sage-grouse and their habitat in the planning area.

31	xlvi	Idaho State Department of Agriculture	Pg. 191 The following assertion would strengthen relevant analysis in the DEIS: “Wildlife response to long-term rest is highly variable among species because of their different habitat needs. Some species may benefit and other species may be negatively impacted with long-term rest from livestock grazing” (Davies et al. 2014)	Davies et al. 2014 has been cited.
31	xlvii	Idaho State Department of Agriculture	Pg. 217 Throughout the DEIS, it is an incorrect assumption that Idaho State Department of Lands (IDL) endowment lands could continue to be used. The feasibility of continued grazing isolated sections of State lands given closures of surrounding federal land is low. An economic analysis of allotment closures or reduction in grazing should be included in the DEIS (See IDL’s Craters DEIS comment letter). Private land use is also likely to be impacted, resulting in either an increase or decrease in grazing on those lands depending on the specific scenario.	Edits have been made to the Final EIS regarding State endowment lands.
31	xlviii	Idaho State Department of Agriculture	Pg. 264 ISDA is encouraged to see the beneficial impacts of properly managed grazing and its relationship with fuels and soils discussed along with the potential negative impacts to soils by improperly managed grazing. The mitigating effects of sustained or increased grazing levels on wildfire should be also discussed above in cumulative effects of Alternatives A and C. Also see previous comments in this table regarding range improvements.	The amount of fuels reduction possible under Alternatives A and C is low, even at full permitted use.
31	xlx	State of Idaho Dept. of Agriculture	Pg. 379 and other relevant pages ISDA supports the use of the best science and most current local verified data for assessing occupied sage-grouse habitat for all seasonal habitats, and encourages BLM in proactive coordination with the State in verifying this information. BLM states on page 380 of this DEIS that “Some of the mapped, occupied breeding areas do not currently provide suitable breeding habitat (e.g., [Stiver et al., 2010]) for sage-grouse due to plant structure characteristics, edaphic conditions, slope, aspect, or other factors.” ISDA cautions BLM from over-reliance on GIS modeling to determine site-scale occupied habitat or potential future habitat. There is the need assess both ecological site potential and the existing site condition when evaluating habitat objectives for sage-grouse. If a site has crossed an ecological threshold that is difficult or impossible to return to a reference state or other preferred state, sage grouse habitat objectives may not be possible to be met.	Mapping seasonal habitat at the broad scale requires some inferences. The process to identify these seasonal habitats is identified in Appendix G. This process was informed by extensive vegetation monitoring in 2012 and 2013. Also, Appendix F describes the Greater sage-grouse Habitat Assessment Framework process, where it is noted that ecological site potential is

				recognized at the site scale process.
32	i	Idaho Dept. of Lands	<p>The Idaho Department of Lands (IDL) has reviewed the Draft Management Plan Amendment for the Craters of the Moon National Monument and Preserve (Plan Amendment). IDL hopes that the Bureau of Land Management (BLM) will consider the following comments in the continued drafting of the EIS and the selection of a management alternative. In addition to the comments included herein, IDL also requests that BLM consider comments provided by IDL during the 2013 scoping period.</p> <p>IDL's mission is to manage Idaho's state endowment trust lands (Endowment Lands) to maximize long-term financial returns to public schools and the other endowment beneficiaries. The Craters of the Moon Management Area contains about 8,200 acres of Endowment Lands which are managed for public school endowment revenue. The Plan Amendment acknowledges and IDL agrees that the BLM does not have decision authority on state lands. However, due to the intermingled nature of state endowment lands, the reduction or complete closure of grazing from federally-managed lands has a direct impact on the amount and feasibility of grazing of Endowment Lands. Most of the Endowment Lands within the Craters of the Moon are currently leased for grazing. However, a variety of income producing activities may occur on Endowment Lands, often with more than one use at a time. Endowment Lands may also be sold or exchanged.</p>	Edits have been made to the Final EIS regarding State endowment lands.
32	ii	Idaho Dept. of Lands	<p>The Planning Criteria/Legislative Constraints, section 1.5 of the Plan Amendment, specifically outlines several principle standards that IDL recognizes as relevant to the continued achievement of our state endowment trust land mission. The Plan Amendment states that the BLM will: <input type="checkbox"/> Include coordination with state, local, and tribal governments to ensure that BLM considers provisions of pertinent plans; seeks to resolve any inconsistencies among state, local, and tribal plans, and provides ample opportunities for state, local, and tribal governments to comment on the development of the Plan Amendment.</p> <p><input type="checkbox"/> Incorporate and observe the principles of multiple use and sustained yield;</p> <p><input type="checkbox"/> Recognize valid existing rights;</p> <p>IDL encourages and appreciates the BLM's recognition of the potential impacts to Endowment Lands. While IDL recognizes and supports the need to achieve goals for greater sage-grouse, it is also important that the BLM recognize the potential financial impact to the Endowment Land beneficiaries resulting from reductions in levels of grazing. The Plan Amendment does not address Endowment Land leases that may be impacted by management changes nor does it adequately address the full economic impact. The enclosed table estimates that more than \$140,000 in revenue would be lost for the Endowment Land beneficiaries with the implementation of 2.2.3 Alternative D (Elimination of Grazing). IDL is currently estimating the financial impact of the other alternatives that reduce grazing and</p>	Edits have been made to the Final EIS regarding State endowment lands.

			<p>requests active coordination from the BLM in determining a more complete analysis of potential financial impacts of each alternative to the State Endowment Fund.</p> <p>IDL appreciates the opportunity to comment on the Plan Amendment. IDL also provided an estimate of impacts to the Endowment in our 2013 scoping comments. IDL hopes that the BLM will consider the enclosed comments in the analysis. If you would like clarification or additional information on any of the comments provided, please feel free to contact us.</p>	
32	iii	Idaho Dept. of Lands	<p>Pg. 36-37</p> <p>2.2.2 Alternative B – Reduced Grazing</p> <p>This alternative does not consider the impact to state endowment trust lands and potential revenue loss of grazing reduction.</p> <p>North Pasture of Laidlaw Park Allotment would be unavailable for livestock use.</p> <p>This alternative does not consider the impact to state endowment trust lands and potential revenue loss due to no livestock grazing of 1,160 acres, represented by 154 unavailable AUMs, by State lessees.</p>	Edits have been made to the Final EIS regarding State endowment lands.
32	iv	Idaho Dept. of Lands	<p>Pg. 37-38</p> <p>2.2.4 Alternative D – No Grazing</p> <p>Under Alternative D, livestock grazing would be eliminated. This alternative directly disregards the economic impact to state endowment trust lands based on the elimination of AUM’s. This alternative also disregards the BLM’s planning criteria as follows:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Include coordination with State, local, and tribal governments to ensure that BLM considers provisions of pertinent plans; seeks to resolve any inconsistencies among State, local, and Tribal plans, and provides ample opportunities for state, local, and tribal governments to comment on the development of the Plan amendment. <input type="checkbox"/> Incorporate and observe the principles of multiple use and sustained yield; <input type="checkbox"/> Recognize valid existing rights; <p>The alternative further states there would be a “removal of infrastructure coincident to livestock grazing management.” This alternative also disregards the economic impact to state endowment trust lands.</p>	The State loss of income will be incorporated into the Final EIS. BLM will seek to coordinate with all interested parties under all alternatives.
32	v	Idaho Dept. of Lands	<p>Pg. 35-42 Common to All Alternatives</p> <p>The plan amendment does not analyze the economic impacts to state endowment trust lands and potential loss of revenue to the beneficiaries. This is inconsistent with the planning criteria outlined above. The estimated total Alternative D is as follows:</p> <p>*Figure was calculated by determining the amount of time left in each affected lease, multiplied by the 2017 State AUM rate of \$9.01/AUM. Alternative D Estimate of Lost Revenue Over Lifetime of Current, Affected Leases \$140,754.22</p> <p>100% Loss</p>	Edits have been made to the Final EIS regarding State endowment lands.

33	i	Kenneth Cole	<p>Please find attached the following comments from Western Watersheds Project in response to the September 30, 2016 Federal Register Notice. The closing date for scoping comments is December 29, 2016 so these comments are timely. Western Watersheds Project works to protect and conserve the public lands, wilderness, wildlife, and natural and cultural resources of the American West through education, scientific study, public policy initiatives, and litigation. Western Watersheds Project and its staff and members use and enjoy the public lands, including the lands at issue here, and their wildlife, cultural and natural resources for health, recreational, scientific, spiritual, educational, aesthetic, and other purposes. Western Watersheds Project has over 1,500 members nationwide.</p> <p>On a personal note, my great grandfather, Walter L. Cole, accompanied Bob Limbert on his first expedition of what is now the Craters of the Moon National Monument in the spring of 1920. A 1924 article written by Bob Limbert in National Geographic Magazine that detailed this and a following expedition, as well as lobbying efforts by Limbert, contributed to the effort to establish the Monument. This has been an important part of my family’s history in Idaho and the proper management of Craters of the Moon National Monument is important to my family and the members of Western Watersheds Project.</p> <p>WWP supports Alternative D which most protects the named objects of the Craters of the Moon National Monument. Any alternative chosen must include an option for permit retirement and must prioritize protection and restoration of the named objects of the monument. Cessation of livestock grazing would result in the fastest recovery for native plants, biological soil crusts, and wildlife habitat.</p>	<p>Your support of Alternative D is noted. Alternative B allows for permit retirement as part of a reasonable range of alternatives. Protection of Monument objects is a priority across all alternatives.</p>
33	ii	Kenneth Cole	<p>Western Watersheds Project challenged the Craters of the Moon MMP in Federal Court and the Court found “that with regard to the Craters EIS, the BLM violated NEPA by (1) failing to consider a no-grazing alternative, (2) failing to consider the Nature Conservancy Report and Policy and the National Strategy, and (4) failing to consider any alternative that would have reduced grazing levels.”</p> <p>In the EIS for the project, please address the following issues and concerns: The MMPA fails to consider the impacts of the 2016 fires that burned in the western portion of the Monument including portions of the Paddleford Flat and Laidlaw Park kipukas. This process is ongoing and should be updated with most recent information.</p>	<p>The 2016 fires have been added to the analysis.</p>
33	iii	Kenneth Cole	<p>All alternatives need to focus on restoration of non-native perennial grass seedings with native grasses. The DEIS fails develop a set of specific required actions under clear and forthright action alternatives that chart a rapid and decisive path forward to ensure protection of remaining intact native vegetation communities, and that support passive restoration of sagebrush communities, and active restoration of exotic seedings, cheatgrass, and road/livestock facility degradation. BLM must conduct targeted active restoration especially removal of large acreages of crested wheatgrass, and recent forage kochia or other exotic species plantings, and</p>	<p>Specific restoration objectives were outlined in the 2007 MMP. Alterations to those objectives are outside</p>

			cheatgrass expanses that threaten the Monument and surrounding lands and the crucial sagebrush wild land habitats critical to sage-grouse, and a wealth of other threatened wildlife as well.	the scope of the Purpose and Need for action.
33	iv	Kenneth Cole	<p>Alternatives A, B, C, and E fail of the DEIS fail to protect lands in the planning area in a manner that maintains the Monument values listed in Proclamation 7373 which expanded the Craters of the Moon National Monument in 2000. Only an alternative, similar to Alternative D,</p> <p>with clear standards and objectives that charts a rapid and decisive path forward to ensure protection of the named objects in the Monument will fulfill the mandate of protecting and restoring the named values listed in the Proclamation.</p> <p>The kipukas provide a window on vegetative communities of the past that have been erased from most of the Snake River Plain. In many instances, the expanse of rugged lava surrounding the small pocket of soils has protected the kipukas from people, animals, and even exotic plants. As a result, these kipukas represent some of the last nearly pristine and undisturbed vegetation in the Snake River Plain, including 700-yearold juniper trees and relict stands of sagebrush that are essential habitat for sensitive sage grouse populations. These tracts of relict vegetation are remarkable benchmarks that aid in the scientific study of changes to vegetative communities from recent human activity as well as the role of natural fire in the sagebrush steppe ecosystem.</p>	All alternatives promote and protect the Monument values listed in the Proclamation.
33	v	Kenneth Cole	<p>The DEIS fails to consider an alternative that transfers grazing administration to the Craters of the Moon National Monument office. All grazing within the Craters of the Moon National Monument should be administered by the Craters of the Moon National Monument office not the surrounding BLM field offices. Administration of grazing allotments by the surrounding field offices has been unduly influenced by political forces and has not protected the named objects of the Craters of the Moon National Monument.</p>	Delegation of authority is an administrative process and is outside the scope of this EIS.
33	vi	Kenneth Cole	<p>The Draft EIS fails to set adequate thresholds for resumption of grazing after fire and does little to protect the Monument from cheatgrass invasion. The BLM cannot rely on the ES&R handbook for setting standards on the Monument because of the special designation that the Monument holds. (Shinneman and Baker 20091) recommends “proactive strategies to improve chances for effective control of post-fire cheatgrass invasion, including long-term restoration of biological soil crust and native species diversity and cover. Reducing livestock grazing intensity before fire occurs, along with using native-seed mixes in burned areas considered highly vulnerable to invasion (e.g. where pre-fire biological soil crust cover was reduced) may provide a more effective strategy for controlling cheatgrass invasion after fire.”</p> <p>Current resumption of livestock grazing criteria too low. The BLM must allow for habitat to recover to ensure that sage grouse, pygmy rabbit, other sagebrush</p>	Reintroduction of grazing after fire is addressed by the Programmatic ES&R Plan and sets no specific time limit on rest.

			obligates have adequate habitat and to ensure that cheatgrass does not dominate the vegetation of the Monument.	
33	vii	Kenneth Cole	<p>The DEIS fails to set standards for livestock grazing that will meet the biological soilcrust DFCs in the MMP. The BLM should not rely on the analysis in the MMP for biological soil-crusts because livestock grazing has the greatest impact on the integrity and function of biological soil-crusts and the purpose of this EIS is to analyze the impacts of grazing. The BLM cannot attribute the lack of biological soil-crusts simply to the “disturbance history” of the Monument without referencing current and ongoing grazing activity that prevents recovery and increases the ability for cheatgrass to expand on the Monument. Livestock grazing is much more likely to interfere with restoration objectives. Negative vegetation changes are also much more likely to accelerate in the presence of grazing.</p> <p>Unfortunately, the DEIS continues to downplay the function of biological soil-crusts to prevent spread of cheatgrass. The DEIS fails to connect livestock disturbance to the degradation of biological soil-crusts and resulting cheatgrass expansion which increases the fire frequency and inhibits sagebrush steppe ecosystem recovery. Reisner et al 2013² finds that:</p> <p>“Results [] suggest that cattle grazing reduces invasion resistance by decreasing bunchgrass abundance, shifting bunchgrass composition, and thereby increasing connectivity of gaps between perennial plants while trampling further reduces resistance by reducing [Biological Soil Crusts].”</p>	Additional analysis regarding soil crust has been added to the Final EIS.
33	viii	Kenneth Cole	<p>The DEIS fails to adequately analyze and quantify the role that livestock play in spreading weeds in relation to other uses. The BLM simply claims that other uses, such as vehicle use, will continue to spread weeds yet fails to quantify the difference in impacts and extent that the different uses spread weeds across the landscape. Weed spread by livestock occurs over a much larger landscape than vehicle use which is concentrated near roads and trails. Livestock can also spread the weeds brought in by vehicle use to new areas compounding the impacts of vehicle use. Alternative D would slow the spread of noxious weeds by reducing disturbance.</p>	The EIS acknowledges all sources of weed introduction and spread.
33	ix	Kenneth Cole	<p>The DEIS fails to provide measure of greenhouse gasses contributed from grazing on the Monument. There is little to suggest that the BLM understands the role that livestock play in greenhouse gas emissions through soil compaction and release of CO₂ and methane but the BLM must manage BLM lands to reduce the amount of greenhouse gasses contributed to the atmosphere due to permitted livestock grazing on BLM managed lands. The DEIS must make an effort to quantify the contribution of greenhouse gasses due to permitted livestock grazing activities. Alternative D would reduce the amount of greenhouse gas contributed to the atmosphere.</p>	The EIS quantified the contribution of greenhouse gases from livestock grazing by alternative. See section 4.2.14 and table 4.7.

33	x	Kenneth Cole	The DEIS fails to analyze an alternative that requires the use of only cultivars of native plants that mimic the function and stature of pre-settlement conditions. All too often the BLM uses perennial grasses such as crested or Siberian wheatgrass or native cultivars selectively bred for livestock forage rather than native cultivars bred to mimic native grasses in stature and function. The use of these grasses contributes to the declining ecological function of the arid Craters of the Moon landscapes. Elimination of grazing from the Monument would reduce the temptation of managers to plant cultivars developed for livestock forage and should be analyzed in this EIS.	Restoration objectives were identified in the 2007 MMP.
33	xi	Kenneth Cole	The BLM falsely asserts that wildfire is a “naturally occurring disturbance” (DEIS P 182). Wildfire on the scale seen in recent years is not just a “naturally occurring disturbance,” it is primarily due to climate change and the increase and spread of cheatgrass exacerbated by livestock grazing disturbance to soils and biological soil crusts.	The BLM agrees that fire intervals have shortened.
33	xii	Kenneth Cole	Cheatgrass control is not accomplished with grazing. Grazing perpetuates the spread of cheatgrass. No evidence to support cheatgrass control through grazing. Under extreme fire weather fuels do not really affect fire spread. Why is this important? Because the fires that the BLM is concerned about – the big ones that burn tens of thousands of acres – occur under these conditions. Strand et al 20133 notes climate change is exacerbating this situation. The BLM must acknowledge that climate change is the problem and understand that any "solutions" won't work in the long run unless climate change is addressed.	Climate change has been discussed in the EIS. Please see Sections 3.3.5 and 4.2.14.
33	xiii	Kenneth Cole	Under less than severe fire weather, most fires do not spread rapidly and are easy to control. While it is true that grazing can reduce the continuous nature of fuels, under extreme weather, fires jump across the landscape and are driven through vegetation even if there are not continuous fuels. And keep in mind that unless the area is totally converted to cheatgrass, there is typically residual vegetation, including sage brush that is still fuel for fire spread. In Strand et al 2013, their review of historic grazing they cite Rick Miller ⁴ who argue that grazing reduced the fuels and hence the frequent fires. Yet others have recently countered this basic assertion by arguing that we would not have had any sagebrush at all if fires were as frequent as Miller argues because sagebrush takes much longer to recover from fires than grasses. Yet there are plenty of historic references to abundance of sagebrush suggesting that Miller's assertions are unlikely to be accurate. Bukowski and Baker 2013 ⁵ found that: <i>Historical fire rotations were estimated at 171–342 years for Wyoming big sagebrush (A. tridentata ssp. wyomingensis) and 137–217 years for mountain big sagebrush (A. tridentata ssp. vaseyana).</i>	The FEIS considered an alternative for grazing to reduce fuels but eliminated it from further analysis. See section 2.3.

			<p>In addition, there is a landscape factor. In order to have any significant effect you must reduce fuels over a large area. To do this means impacting more than fuels and causing degradation to habitats.</p> <p>Strand et al 2013 admits that grazing more than 50% of the vegetation harms the landscape. But if you are only taking 30-40% of the vegetation, you still have plenty to carry a fire. In other words, it is not clear that moderate grazing will have any real effects on fire spread. And if you graze at a heavier level, you harm a lot of other things including reduction of hiding cover for sage grouse, etc.</p>	
33	xiv	Kenneth Cole	<p>Targeted grazing should not be considered for use as fire breaks or to reduce fine fuels. It is expensive and you need to keep the animals corralled and concentrated in one way or another.</p> <p>Whether that is with riders or fencing, it adds greatly to the costs. Targeted grazing might be effective in very limited areas (if you don't care about anything else other than halting fires) but it will compact soils adding to desertification, will push cheatgrass seeds into the soil, eliminate hiding cover for small animals and birds, and removes other vegetation important to wildlife like forbs. Essentially, targeted grazing is one of those "solutions" that does far more harm than good.</p>	Your opposition to targeted grazing is noted.
33	xv	Kenneth Cole	<p>Sage Grouse breeding, nesting and brood rearing can be affected by fall grazing by reducing residual stubble height of perennial grasses needed for cover. Braun's Blueprint for Sage-grouse Conservation and Recovery (2006)⁶ recommends that grazing should not occur between March 1st to June 20th and between August 1st to November 15th to provide adequate breeding, nesting, and brood-rearing cover for sage grouse. Hot season grazing has its own negative impacts, particularly to riparian habitats and watering locations.</p>	The Greater sage-grouse habitat guidelines for greater sage-grouse cover/height are identified in ARMPA (Table2-2). Proper grazing management can provide for adequate cover needs.
33	xvi	Kenneth Cole	<p>The EIS fails to consider an option that would analyze collision threat to Greater Sage-grouse from existing fences using the SGI fence collision tool⁷ and remove all fencing posing a high collision risk (See attached map).</p>	Collision risk estimates for fences have been provided. These estimates are updated using the SGI fence Collision Tool in the Final EIS.
33	xvii	Kenneth Cole	<p>The Final Management Plan can and should implement the standards laid out in the Sage-grouse RMP Amendment as terms and conditions to all existing permits now</p>	This amendment is consistent with ARMPA. This EIS

			instead of waiting until permit renewal. The Sage-grouse RMP Amendment is fatally flawed because none of the standards it calls for are implemented until permit renewal. The BLM has the opportunity to remedy this flaw using this process.	does not amend ARMPA.
33	xviii	Kenneth Cole	WWP provided a list of literature to be considered	BLM reviewed the provided literature and incorporated the pertinent sources in the Final EIS.
34	i	Environmental Protection Agency	In accordance with our responsibilities under Section 309 of the Clean Air Act, the National Environmental Policy Act, and the Council on Environmental Protection Agency has reviewed the Bureau of Land Management Draft Monument Management Plan Amendment and Environmental Impact Statement for the Craters of the Moon National Monument and Preserve (Monument) in Blaine, Butte, Lincoln, Minidioka, and Power Counties, Idaho (EPA project Number 02-030-NPS). We recognize the challenges of managing resources on tracts of lands involving a mix of ownership, especially when addressing multiple statutory requirements to protect resources and restore the environment. Thus, we comment BLM for efforts in putting together the proposed MMP Amendment/EIS, which can serve as a guide for future development of individual plans and projects. In addition, we note with appreciation that the MMP Amendment/EIS includes responses to public comments and that identification of planning criteria, significant issues, and alternative actions addressed in the Amendment/EIS considered inputs received from the public. The document addresses many of the issues we raised during the scoping period, including cumulative and climate change effects. Based on our review, we have assigned a rating of EC-2 (Environmental Concerns Insufficient Information) to the EDIS due largely to concerns about impacts to water quality and increased levels of grazing pressure anticipated to occur on the planning area that could exacerbate these impacts.	All alternatives identify management actions to promote proper functioning condition of riparian areas, which includes water quality.
34	ii	Environmental Protection Agency	Because the draft MMP Amendment/EIS is not clear about the outcomes of previous management scenarios under the 2007 MMP/EIS, we recommend that the final MMP Amendment/EIS discuss the results of monitoring programs that tracked the results of management directions taken since 2007, and document adaptive management changes made and currently proposed, particularly in favor of sage grouse recovery and sustainability. The description of the affected environment should incorporate these conditions and outcomes. We would expect lessons learned from past practices and adaptive management efforts, combined with the need to account for new challenges e.g. climate change and fire frequency, would influence proposed management directs in this Amendment/EIS.	The BLM's monitoring program was used to inform the affected environment, as discussed in Ch. 3 of the EIS. Climate change and fire frequency are included in this discussion.

34	iii	Environmental Protection Agency	<p>Since this Amendment is designed to address deficiencies in the 2007 MMP/EIS and determine lands to be made available to livestock grazing and with protections for greater sage grouse, BLM is proposing several action alternatives focused primarily on managing livestock grazing, while protecting sage-grouse and its habitat, including reduced-grazing and no-grazing alternatives. Of all action alternatives proposed, Alternative B appears to be environmentally preferable because this action includes considerable reduction of grazing pressure and at the same time increases resource recovery which would benefit sage grouse conservation as compared with the other grazing alternatives (A, C, and E). In particular, Alternative B would:</p> <ul style="list-style-type: none"> -reduce AUMs allocated for livestock grazing by almost 75% -close six areas to grazing (Little Park kipuka, the North Pasture of Laidlaw Park allotment, Larkspur Park kipuka, the North Pasture of Bowl Crater Allotment, Park Field kipuka, and a portion of the Craters allotment. -make up to 21,000 acres unavailable for livestock grazing by adjust the boundary between Kimama and Poison Lake allotments -limit range improvement to net benefit to wildlife habitat. <p>As the draft MMP/EIS also indicates historic grazing on the monument has caused noticeable changes in plant community species composition, which still persists (p. xvi). Therefore, we believe Alternative B which emphasizes protection of Monument values and biological resources, including habitat values for sage-grouse would result in fewer impacts to resources in the planning area and lead to rapid resource recovery and improved overall ecosystem health and resiliency that the other grazing options.</p>	Your support of Alternative B is noted.
34	iii	Environmental Protection Agency	<p>Because of the proposed action/s potential impacts to water quality within impaired creeks on the planning area, we recommend the following:</p> <ul style="list-style-type: none"> -continued coordination with Idaho Department of Environmental Quality and Tribes affected by the proposed MMP Amendment to assure that state and tribal water resources are protected from livestock grazing impacts. The draft MMP Amendment/EIS indicates that Big Cottonwood Creek and Copper Creek, and grouped stream orders thereof, are identified as not supporting beneficial uses and are listed under as such under CWA Section 303 (d). 	BLM actively coordinates with Idaho Department of Environmental Quality. They have been notified of the development and availability of this document. Affected Tribes have been involved in the planning process. Edits have been made to Ch. 3 Water Resources to clarify in the Final EIS.

34	iv	Environmental Protection Agency	-Exclude or minimize grazing in wetland/riparian zones and consider taking additional early actions to address streams that have already been affected and are currently functioning at risk. Actions to increase shade and improve hydrologic functioning of streams would be beneficial. Similar actions would also benefit many riparian areas where most hydrologic impacts are found. Further protection of riparian areas may be warranted, especially around creeks on allotments that do not currently meet standards and guidelines (p. 124). Other beneficial actions would include use of aquatic Best Management Practices such as those prescribed in the USDA National BMPs for Water Quality on National Forest System Lands and effective enforcement of grazing permit conditions.	Your support for promoting the proper functioning condition of riparian areas is noted. Please see section 3.3.1. In allotments where all Standards were not met (including water quality) and livestock grazing practices were determined to be the cause, changes to management were made to lead towards uniform achievement of all Standards.
34	v	Environmental Protection Agency	-Continued coordination with the US Fish and Wildlife Service and, as appropriate, with the Idaho Department of Fish and Game to reduce risks to species and protect biota and habitat during implementation of the proposed livestock grazing. The draft MMP Amendment/EIS indicated threatened, endangered, and candidate species and associated habitats occur on the planning area (p. 99) including greater sage grouse. The final MMP Amendment/EIS should include any additional relevant information developed as a result of coordination with the agencies and recommended measures to protect species and their habitats.	BLM actively coordinates with IDFG and the USFWS on management actions.
35	i	Alan Schmierer	Our NNL Coord (Laurie Lee Jenkins) would like to remind BLMs planning team that the Great Rift National Natural Landmark (NNL) exists in or adjacent to the project APEs, in Blaine, Minidoka, and Power Counties. Following evaluation by Donald E. Trimble, USGS in 1974, this NNL was originally designated in March 1968, and enlarged in August 1980. Here is a brief NNL summary, and for location please refer to the attached map: Description: The Great Rift System of the eastern Snake River Plain is a dramatic and outstanding example of tensional tectonic forces in the earth's crust. The Great Rift System involves four areas that merge into one another. From north to south these include the following: 1) Crater of the Moon National Monument and Preserve, 2) Open-Crack Set, 3) King's Bowl Set; 4) Wapi Lava Field. The combination of these four areas provides a geological historic record of crustal	Your comment is noted.

			<p>rifting and basaltic volcanism unmatched anywhere in North America and perhaps in the world.</p> <p>Significance: The Great Rift System is unique in North America and has few counterparts anywhere in the world. It is a tensional fracture in the earth's crust that may extend all the way to the crust-mantle interface. Nowhere else is the result of a tensional stress system in the earth's crust so dramatically illustrated. The landmark also has biological interest as an example of primary vegetation succession on very young lava flows.</p> <p>For further information, please contact Laurie Lee Jenkins, Natural Landmarks Program, Pacific West Region, National Park Service, 810 State Route 20, Sedro Woolley, WA 98284 (360) 854-7206.</p>	
36	i	Katie Fite	<p>Here are additional comments of WildLands Defense on the severely flawed and livestock industry-biased Craters of the Moon DEIS. We are so disappointed in this poor effort, and the hundreds of thousands of dollars BLM continues to waste on efforts to protect the status quo stocking (and thus likely the status quo subsidies the Craters ranchers get).</p> <p>The DEIS must be scrapped, and an honest and science-based Supplemental EIS with a valid range of Alternatives that protect Monument values must be prepared.</p>	A Supplemental EIS is not required.
36	ii	Katie Fite	<p>The DEIS is based almost entirely on a deficient and limited AMS.</p> <p>The AMS and proposed RMPA rely on only limited scientific and other information that ignores public submissions during scoping. The agency failed to conduct necessary baseline surveys for sensitive species occurrence, habitats and populations and other Monument values. The AMS and EIS fails to provide an adequate basis for developing actions and alternatives necessary for conservation, enhancement and restoration of sage-grouse and other imperiled biota. The EIS blindly ignores the need (and requirements under the old 2007 Craters Plan) for large-scale restoration of habitats across the Monument and surrounding public lands. This includes removal of vast areas of weedy aggressive exotic crested wheatgrass or intermediate wheatgrass seedings – which form the basis for the inflated “forage” claims of the EIS.</p>	Your comment is noted.
36	iii	Katie Fite	<p>The AMS and DEIS rely on inflated “forage” claims (as if the ONLY impact the herds of cows and sheep were having was eating generic forage). The entire process largely ignores trampling causing severe loss of protective microbiotic crusts - allowing cheat and weeds to invade, take hold and come to dominate –or trampling and destroying nests and eggs and increasing prevalence of nest and egg predators). Or livestock eating and beating the limited native shrubs trying to recover from the combined effects of fire and excessive chronic grazing damage inflicted under the harmful grazing schemes.</p>	Please see Appendix D for information on forage calculation methods. Additional discussion of microbiotic soil crusts is included in the FEIS.

36	iv	Katie Fite	The Purpose was claimed to be: To consider a reasonable range of Alts. But the range is not reasonable – see discussion of Actual Use. Extensive effective restoration must be a vital component of all alternatives. This is required under the 2007 RMP to fulfill the mandate for protection of monument Objects of importance as well as the promises of the ARMPAs to conserve, enhance and restore habitats ad populations.	A range of reasonable alternatives has been analyzed as required.
36	v	Katie Fite	BLM’s Need: To cure deficiencies recognized by District Court. BLM ignores that the need is also to protect the values of the public lands and Monuments and comply with FLPMA and the Antiquities Act. However, this minimal and dismissive “need” statement exposes that BLM is merely going through the NEPA motions and is fully intent on rubberstamping the status quo, and the grossly overstocked permits and Paper cows and sheep forward.	Your comment is noted.
36	vi	Katie Fite	Craters of the Moon is part of the NLCS where BLM is to manage lands for exceptional opportunities recreation, solitude, wildlife viewing, history, science, etc. To do this, a very hard and comprehensive look must be taken at the current state of these opportunities, and impairment of these values. BLM arbitrarily cherry-picked only four Management Objectives from the 2007 COM Plan as the basis for the flawed AMS and continuing in the DEIS: Proactively protect and restore sage communities; keep lots of roads for fire; emphasize protection of vegetation; support a large and proactive integrated weed management program. BLM in cherry-picking these Objectives appears to forget the remarkable and important Objects identified in the Monument Proclamation.	All of the Desired Future Conditions outlined in the 2007 MMP apply to this amendment.
36	vii	Katie Fite	The management is split between three FOs, and the DEIS would allow this broken split system to continue – as it diminished management for aimed at protecting core Monument values and ecological processes – because if there was more cohesive instead of broken fragmented management, it might mean more changes and oversight to grazing abuse. The EIS is based on no integrated Monument management. A fundamental problem is the Monument lands are nearly always part of larger grazing allotments, and are managed under the abusive patterns that the Twin Falls and ID Falls Districts impose – often with ancient Land Use Plans, gross overstocking, minimal, deficient, outdated or non-existent modern day FRH and grazing analyses. The monument is treated as an afterthought.	Delegation of authority is an administrative action and outside the scope of this planning effort.
36	viii	Katie Fite	BLM states existing conditions vary and tries to focus only on the most severe disturbance sites ... areas heavily impacted – roads, OHVs, range improvement projects, seep bed grounds, exhibit compaction. This ignores trampling and the ecological doom trampling by immense herds of sheep and cows causes.	Your comment is noted.
36	ix	Katie Fite	AMS Wind erosion shows that many soils are susceptible to “moderate”, water erosion susceptibility is moderate as well.	Your comment is noted.

36	x	Katie Fite	<p>There are important Wetland and riparian communities – 18 springs, 192 playa lakes, 127 stock ponds. Carey Hot Springs developed. These areas, often grossly polluted and abused by uncontrolled grazing impacts or relegated to complete sacrifice area status as “stock ponds”, are even more vital to wildlife given the scarcity of surface water in the region.</p> <p>Big Cottonwood Creek info illustrates how old the Data is -BURP info from 1997, and other 1996 info. Despite Low to “moderate” fecal coliform in 2007, there is no current information.</p>	The Final EIS incorporates the available data.
36	xi	Katie Fite	<p>There is minimal and only the most cursory and generalized info on vegetation communities and ecological processes. Minim (sic)</p>	Your comment is noted.
36	xii	Katie Fite	<p>Between 1970 and 2013, 310,000 acres burned in the Monument. 2/3 of the Monument has burned two or more times. P. 16. The many fires make the AMS lack of current on the ground vegetation inventories including for cheatgrass, cwg invasiveness, rush skeletonweed, etc. even more shocking. Plus, there is no look outside the Monument lands –even the lands included in the same allotments are ignored and omitted from the baseline. This means there is no effort made at looking at the indirect and cumulative effects of large-scale fires, vast sterile habitat-destroying crested wheatgrass seedings, development sprawl on INL, etc. – and the impacts combined threats may be having on habitats and viability of populations of vulnerable wildlife species, recreational uses, etc.</p>	Impact analysis is not included in the AMS. Please see the Final EIS for direct, indirect, and cumulative effects analysis.
36	xiii	Katie Fite	<p>The Veg map shows how deficient the baseline is– On the ground surveys were only done in 1985, 1992, 2004. Veg is broken into very limited categories. Non-native AG, Non-native PG, non-sage shrub and grass. Yet across vast areas there are in reality a blend of disturbance-related veg types, and not “pure” vegetation communities.</p> <p>Mapping on AMS p. 19 “midscale” shows a shocking excess of non-native vegetation and demonstrates how greatly needed active removal of cwg/swg is. BLM can no longer try to claim this is a placeholder and refuse to act to restore with stocking rates cut or grazing stress removed in order to be effective.</p>	Your comment is noted.
36	xiv	Katie Fite	<p>BLM cannot continue status quo stocking and avoid the large-scale restoration that even this AMS and DEIS extremely biased towards the livestock industry admits is needed. The alternatives range and stocking rates and practices are at odds, and incompatible with, the pressing need for effective restoration of native vegetation communities – both passive and active restoration. See WLD proposed Restoration and Mitigation actions – separately submitted. It is now a decade since the old COM Plan and no restoration has taken place.</p>	<p>Restoration objectives were set forth in the 2007 MMP and many restoration projects have been conducted since then.</p> <p>Approximately 80,000 acres have been treated and successfully restored by fire rehabilitation efforts</p>

				and planned restoration efforts. The stocking levels described in the alternatives are consistent with the restoration objectives set out in the 2007 MMP.
36	xv	Katie Fite	Only two sagebrush communities are used in mapping: Desert sage shrub, tall sage shrub. Why? Communities are much more complex than this.	This is BLM's standard mapping unit required for the land use planning level. Please see Ch. 3 Vegetation Resources in the Draft EIS for additional discussion on vegetation complexes.
36	xvi	Katie Fite	The AMS admits that reduction of large tracts of sage through fire is a concern. How much was purposefully reduced in the Monument and surroundings by purposeful agency removal in the past – including all years for which records are kept? There has also been reduction through purposeful seeding of exotics – using wildfire as an excuse at times. These areas must be restored for sagebrush biota and their recreational and other values as well, and this ARMPA must cut and/or remove grazing sufficiently to allow this long-promised restoration to take place.	Restoration objectives were set forth in the 2007 MMP.
36	xvii	Katie Fite	Laidlaw, Paddelford, Larkspur Park, Little Park meet definition of kipuka	Your comment is noted.
36	xviii	Katie Fite	BLM combines dry non-native perennial grass and dry non-sage grass - with 60% of the Monument (based on the inadequate generalized Landsat data from 2013 (or perhaps even earlier). Why?	This is BLM's standard mapping unit required for the land use planning level. Please see Ch. 3 Vegetation Resources in the Draft EIS for additional discussion on vegetation complexes.

36	xix	Katie Fite	<p>BLM claims CWG is a key component of the vegetation communities. It is a key undesirable component that prevents and precludes expeditious recovery of a full complement of native species required by sage-grouse and other wildlife.</p> <p>BLM, with great bias towards continuing status quo stocking and grazing at all costs, provides an arbitrary self-serving and rosy picture of cwg - claiming because cwg can be beat to death by livestock and survive – it is resilient and can withstand moderate to heavy grazing. We stress that cows and sheep eat anything BUT the CWG. Not only is cwg highly aggressive and out-competes native forbs and grasses, agency stocking based on mere forage results in the inability of essential native vegetation components to recover – as livestock avoid the coarse unpalatable exotic cwg and intermediate wheat, too. IWG is also rhizomatous which means it chokes out natives, covers the ground surface, and prevents their recovery.</p>	Your objection to crested wheatgrass is noted.
36	xx	Katie Fite	Rare Plants and Wildlife and Fish are only minimally addressed. Solid data and information on baseline occurrence, habitat quality and quantity, degree of habitat fragmentation threats, status of local and regional populations, rates of decline, restoration needs, a concrete and well-defined path to restoration, etc. are ignored.	Your comment is noted.
36	xxi	Katie Fite	<p>The AMS Table of species “that can be found” in Monument is limited, and outdated – doesn’t even have species like burrowing owl. Very old and outdated extraordinarily limited info on wildfire. The Big game info is old. There are requirements for populations, seasonal habitats, viability, and population targets in many of the old land use Plans that are required to be met in the surrounding areas – have they been met? What is the current population of these species of importance – and what the habitat constraints and bottlenecks? What are the threats?</p> <p>The Special Status animal list is similarly woefully outdated. Several sage migratory songbirds, burrowing owl, long-billed curlew, etc. are missing.</p>	The special status species is up to date in the Final EIS. It was recently updated. The identified species are not missing from the list. Please refer to table 3.4 of the Draft EIS.
36	xxii	Katie Fite	The AMS states that key sage-grouse habitat is “large-scale intact sagebrush steppe”. R1 – sage-limited areas with “acceptable” understory; R2 areas with existing sagebrush “that may or may not meet the needs of sage-grouse, but understory is poor; R3 junipers”. Within the Monument area of 266,000 acres, 62% is R1, 2% is R2. How has this changed since Monument designation? Up to the present?	Please refer to pages 100-101 of the Draft amendment for most recent data.
36	xxiii	Katie Fite	Figure 2.5 shows how devoid of sage so much of the area is. A solid and concrete integrated de-stocking and restoration plan to fix this mess must be part of a valid EIS.	The lack of sagebrush is noted in the amendment. Fire has resulted in the loss of sagebrush.

36	xxiv	Katie Fite	<p>At the time of the AMS 92% of BLM land was Priority Habitat, 4% was other. (2012 Makela and Majors). This must be compared to what is described in the EIS – a hatchet has been taken to Priority habitat, and vast areas chopped out. Later we discuss how BLM has shockingly abandoned and sacrificed habitats in and surrounding the Monument, caving to public lands rancher political pressure to lower the management status of habitat for Monument object of importance sage-grouse and other imperiled species. See also WLD letter re: Focal Habitats.</p> <p>The Snake-Salmon-Beaverhead GRSG population consists of Sub-populations: Upper Snake, Lemhi-Birch, Little Lost, Big Lost, North Side Snake. The AMS admits the GRSG Population has markedly declined from historical levels. Loss and fragmentation of sagebrush habitats is a primary cause of GRSG decline (AMS p. 36).</p> <p>The AMS identified 211,700 acres of breeding habitat. Habitat assessments are old - from 2012 and 2013. Only 20,766 (16%) acres of habitat were found suitable (AMS Table 2.5). 59,432 acres were found to be marginal.</p>	Please see the draft EIS for the most up to date data.
36	xxv	Katie Fite	<p>The Wildlands fire discussion of loss of shrub cover. Ignores that grazing inhibits growth and recovery of shrubs – as cows and sheep eat and beat back shrubs – especially in landscapes where shrubs are so deficient. BLM admits a “lack of perennial grass and forbs have detracted from the ability of areas to provide for the life-cycle needs of greater sage-grouse in the Planning Area”. Yes it does - and livestock grazing profoundly alters and depletes native elements. It retards or prevents recovery of native components. Mack and Thompson 1982, Fleischer 1994, Braun 1998, Belsky and Gelbard 2000, Belsky et al. 1999, Connelly et al. 2004, Catlin et al. 2011, Carter et al. 2014, Beschta et al. 2012, 2014, Manier et al. 2013, Arkle et al. 2014, Soda Fire Scientists letter 2016.</p>	<p>The ability for livestock to influence herbaceous cover has been discussed in the amendment. The provided quote, which is identified on page 111 of the Draft Amendment: “...<i>lack of perennial grass and forbs have detracted from the ability of areas to provide for the life-cycle needs of greater sage-grouse in the Planning Area</i>” represents only a minimal percentage of the unsuitable breeding habitat sites. Please refer to the percentages</p>

				identified on page 111 of the Draft EIS.
36	xxvi	Katie Fite	<p>BLM tries to blame long ago grazing, but admits that effects persist to this day. Chronic grazing disturbance inflicted at high and unsustainable levels under the current permits prevent recovery, and cause a downward ecological trajectory. The high levels of chronic grazing disturbance BLM has inflicted and proposes to continue to inflict at status quo levels is like giving a patient with potentially curable cancer a regimen of three packs of cigarettes a day.</p> <p>BLM tries to downplay/obscure the degree of Monument degradation, claiming only 5 to 10% of area - water troughs and the like. We also note that under current nearly anything goes grazing in the Monument, sheep trucks (and increasingly cow water hauling) haul water and troughs are placed all over the lands – resulting in intensive cheatgrass-causing disturbance zones in thousands of places each grazing bout. Plus tubs of supplement feed are placed in thousands of sites within ANY controls by BLM - causing severe damage and loss of recovering sage, forbs, native bunchgrasses – and this supplement is needed to get the livestock to survive on the coarse, poor “forage” of crested wheatgrass and weeds that is prevalent now in so many areas. This also enables livestock to eat more shrub wood – setting back pr preventing recovery of shrubs following fires. ALL of this artificial “life support” for the abusive Craters grazing schemes has been required – just to eke out the AUMs under the current average Actual use.</p>	Your comment is noted.
36	xxvii	Katie Fite	<p>BLM turns a blind eye to the needs of other rare and imperiled species. “Habitat suitability rankings of other Monument wildlife have not been assessed” p. 38. Only GRSG have been given any consideration – in violation of sensitive species policies and FLPMA – as many species have specific requirements that are not addressed by the artificial “Ecosite” models with their erroneous fire/disturbance interval inputs and other incorrect inputs including ignoring the vital role and cover from microbiotic crust in intact native vegetation communities, and HAF or other schemes BLM imposes to keep abusive grazing maximized.</p>	<p>Please refer to Ch. 4 Wildlife assumptions: “Sage-grouse are an umbrella or indicator species for other sagebrush-associated special status wildlife including pygmy rabbits and passerine birds such as Brewer’s sparrow, sagebrush sparrow, and loggerhead shrike [Hanser & Knick, 2011]. Therefore, actions taken to benefit sage-grouse are assumed to result in</p>

				benefits to other sagebrush-associated species.”
36	xxviii	Katie Fite	The AMS states that managing for GRSG will generally benefit other obligates - with nothing of substance provided. There are no integrated surveys even for pygmy rabbits. Rare insects are also ignored – despite vulnerability to trampling and other impacts - Idaho point-headed grasshopper, dunes Tiger beetle.	The management actions for greater sage-grouse are expected to benefit other sensitive species, including those identified in ARMPA.
36	xxix	Katie Fite	Cultural resources are glossed over with almost no info provided or collected.	Cultural resources are addressed in Sections 3.2.6 and 4.2.6 of the FEIS.
36	xxx	Katie Fite	The only positive element is that the COM Plan designated (27%) and II (73%). BLM should use this Plan as an opportunity to upgraded visual protections for LWC areas to 1. Affected WSAs include all or part of Raven’s Eye, Great Rift, Bear den Butte, Little Deer WSAs. There is no analysis later in the EIS of how impacted by grazing, weds, disturbance the entire WSA area may be, and how impaired the values are.	Designating visual Resource Management classes is outside the scope of this plan. The purpose and need for action is to address grazing management within the Monument.
36	xxxi	Katie Fite	The Monument grazing lands include 274,000 acres, and 22 allotments. Only 4 lie wholly within. There are 86 permittees (how many graze under multiple permits? Or have very few livestock?), 36,393 AUMs. 15,936 cattle, 21,027 AUMs sheep (on paper). Actual Use reveals the truth about how unsustainable the current permitted grazing scheme that BLM seeks to rubber-stamp forward as a further subsidy to public “welfare” ranchers is: Since 1997, livestock use has averaged 11, 791 AUMs within Monument, 32% of permitted use, and 9 operators, 13 operators. AMPs are old. In truth, the use within the Monument is likely to be even less, given the generally more rugged, rocky and inhospitable areas in Monument lands - relative to surroundings.	Many permittees have multiple permits. Actual use numbers are a reflection of market conditions as well as forage availability. Consequently, it is not correct to infer that poor conditions in the

				Monument are the basis for lower actual use.
36	xxxii	Katie Fite	ALL the Standards & Guides assessments in AMS and DEIS Tables are old, and are often based on very limited and cherry-picked sites that sought out the most “pure” vegetation communities as distant as possible from areas of more intensive livestock use.	Your comment is noted.
36	xxxiii	Katie Fite	There is a plethora of existing livestock facilities, and the magnitude of harm being caused to GRSG and other sensitive and important species, cultural sites, etc. must be assessed.	Your comment is noted.
36	xxxiv	Katie Fite	Farm earnings (of which grazing is a small part) – are only a small part of the local economy, which is much more based on recreation and other inputs. Exploitation of workers (particularly shepherders) and environmental justice must be considered here. Costs to the public, including alternative uses foregone, costs to recover a pygmy rabbit population in an area where grazing and seeding with cwg wiped it out – as an example – must be assessed. Costs of herbicide use must be identified, as must all costs of the grazing scheme and artificial inflated stocking to benefit ranchers.	BLM does not analyze projected costs in its NEPA documents.
36	xxxv	Katie Fite	The AMS climate discussion ducks and deflects the issue, and BLM Basically conducts no analysis. See WLD separate submission and Beschta 2012 describing how livestock grazing and climate stress interact and amplify adverse effects. Grazing harms the natural resiliency of the sagebrush ecosystem and destroys the ability of the lands and natural ecological processes to buffer climate stress effects. This further demonstrates the urgency for BLM to conduct effective passive restoration and active restoration. See WLD separate submission on Alternative and Mitigation actions.	Please see Final EIS for climate change analysis.
36	xxxvi	Katie Fite	BLM admits that it is to Comply with FLPMA, Monuments, Judge’s order, Wilderness, Meet or make significant progress. We are very concerned that BLM resorts to using the 2007 analysis “to the greatest extent possible”??? Why? What reason is there for this – the data the COM Plan was based on is almost all from the early 2000s, never addressed climate change, or current science on many species degree of endangerment, the current enormity of sagebrush habitat loss and failed fire rehab (Arkel et al. 2014) and threats/problems in this landscape including the invasive nature of crested wheatgrass – now documented at INL.	It is not necessary to undertake a wholesale revision of the MMP. The purpose and need for action is to analyze a range of alternatives for livestock grazing within the Monument.
36	xxxvii	Katie Fite	AMS 4.1.2 carried forward management actions from the COM Plan. Yet nearly all of these are inexplicably absent from the cherry-picked mere 4 Management Actions previously mentioned. Nearly ALL of the MAs are violated by the same or increased level of grazing “alternatives” in the EIS, and failure to combine grazing actions and large-scale	All of the Desired Future Conditions outlined in the 2007 MMP apply to this amendment. Analysis

			<p>reductions under actual use in order to allow the long-promised restoration to take place. The AMS appears to be the same as DEIS Appendix B, which includes lists of actions nearly all of which are impacted and often adversely affected, by livestock grazing impacts, grazing disturbance, grazing interference with recreational uses and enjoyment, scenic vistas, degrading. Destroying cultural sites, etc.</p> <p>For example: Soil Resources Management Actions SOIL-1: Soils would be protected from accelerated or unnatural erosion from ground disturbing activities. This can't be done until BLM honestly assesses grazing disturbance impacts to soils, including microbiotic crusts and applies measurable use standards under all alternatives to control this disturbance to both soils and native vegetation communities. WLD submitted alternative standards in a separate comment Alternative and Mitigation submission. SOIL-2: The potential for, or presence, extent and condition of, biological soil crusts would be investigated to provide specific management guidance. The DEIS ignores protection of crusts and ignores consideration of any protective measurable use standards. SOIL-3: Biological soil crusts would be considered in management decisions where appropriate.</p>	demonstrates that all alternatives in this EIS allow for progress toward meeting Desired Future Conditions of the 2007 MMP. Additional analysis of biological soil crusts is included in the FEIS.
36	xxxviii	Katie Fite	<p>Water Resources Management Actions WATER-1: No additional playas would be modified or developed. WATER-2: Playas would be evaluated for restoration on a case-by-case basis. As with all restoration actions the EIS avoids any effective restoration actions under several alternatives, and provides no clear measurable actions to turn around the collapse of the sage-steppe ecosystem under the hooves of livestock, or caused by developments for livestock, or due to the purposeful seeding of vast areas with exotics. WATER-3: The agencies would work with appropriate State of Idaho authorities to obtain water resources needed for Monument purposes.</p>	All of the Desired Future Conditions outlined in the 2007 MMP apply to this amendment. Analysis demonstrates that all alternatives in this EIS allow for progress toward meeting Desired Future Conditions of the 2007 MMP.
36	xxxix	Katie Fite	<p>Vegetation, Including Special Status Species, and Fire Management Actions See Comments under soils VEG-1: To protect vegetation resources, no new livestock developments will be permitted in Bowl Crater Allotment or the North Pasture of Laidlaw Park Allotment unless they result in a net benefit to those resources identified as needing improvement or protection. VEG-2: Existing sagebrush steppe communities will be protected to prevent loss of shrub cover and managed to promote a diverse, desirable grass and forb understory. Several of the EIS alternatives are therefore non-starters and unreasonable. None of</p>	All of the Desired Future Conditions outlined in the 2007 MMP apply to this amendment. Analysis demonstrates that all alternatives in this EIS allow for progress

			the continued grazing alternatives apply conservative measurable use standards to protect shrubs, grasses and forbs. None of the grazing alternatives provide a concrete path - or any path at all - forward to achieve effective restoration.	toward meeting Desired Future Conditions of the 2007 MMP.
36	xl	Katie Fite	VEG-3: Annual grasslands and highly degraded sagebrush steppe communities will be restored to achieve a mosaic of shrubs, forbs, and grasses capable of sustaining native animal populations. Several of the EIS alternatives are therefore non-starters and unreasonable. None of the continued grazing alternatives apply conservative measurable use standards to protect shrubs, grasses and forbs. None of the grazing alternatives provide a concrete path - or any path at all - forward to achieve effective restoration. BLM failed to provide current surveys and studies of native animal populations so the jeopardy these species face from the harmful alternatives can not be assessed.	Surveys of Greater sage-grouse (Leks and telemetry studies), and breeding bird surveys have been completed and incorporated in the FEIS.
36	xli	Katie Fite	VEG-4: Restoration projects will be prioritized relative to locations of key greater sage-grouse habitat and population strongholds. Emphasis will be on projects that restore annual grasslands and degraded sagebrush steppe communities, as well as enlarging and connecting habitats in good condition. See above. The DEIS literally thumbs its nose at restoration with its inclusion of status quo stocking alternatives and no accounting for the large-scale de-stocking required to restore lands.	Reductions in AUMs, including no grazing, have been considered in 3 Alternatives.
36	xlii	Katie Fite	VEG-5: National and Idaho state habitat guidelines for greater sage-grouse and sagebrush steppe obligates developed by interagency working groups regarding composition and structure of sagebrush habitats on a landscape scale will be adopted to guide sagebrush steppe management. VEG-6: Current science and best available technologies and plant material will be considered in analysis and implementation of all restoration projects. Restoration treatments may be active or passive and may include, but are not limited to, the following: prescribed fire, thinning, mowing, herbicide treatment, seeding, temporary removal of livestock and/or changes in grazing regimes or facilities, and road closures. BLM must use only native species in any restoration actions. Also – this shows how dated the COM Plan is – as no one in their right mind would use prescribed fire in the sage-steppe system of Idaho these days.	All of the Desired Future Conditions outlined in the 2007 MMP apply to this amendment. Analysis demonstrates that all alternatives in this EIS allow for progress toward meeting Desired Future Conditions of the 2007 MMP.
36	xliii	Katie Fite	VEG-7: Areas classified as poor to fair biotic integrity will be highest priority for restoration treatments. This is vast areas of the Monument, yet there is no integrated grazing-restoration strategy provided.	A restoration strategy is an implementation level action and is outside the scope of this amendment.

36	xliv	Katie Fite	VEG-8: Aggressive protection of existing sagebrush steppe communities and proactive restoration of areas with poor to fair biotic integrity through both active and passive means will be emphasized. This shows that BLM must include in all alternatives removal of livestock from all areas of currently intact native vegetation that are at risk of succumbing to flammable weeds with continued grazing disturbance.	This EIS analyzes a range of alternatives for livestock grazing.
36	xliv	Katie Fite	VEG-9: Approximately 80,000 acres of BLM-administered land will be restored. About 31,000 acres of annual grassland and 49,000 acres of highly degraded low elevation sagebrush steppe (poor to fair biotic integrity) will be treated to control cheatgrass and restore big sagebrush cover. Then these lands cannot continue to be grazed, because any treatment would be futile.	Your comment is noted.
36	xlvi	Katie Fite	VEG-10: All special status species in the Monument will be inventoried with monitoring plans established, particularly when and where, adverse impacts may occur. Where are these inventories and plan?	A coordinated monitoring plan has not been established by the BLM for the Monument. Numerous formal and informal monitoring efforts are ongoing (livestock grazing, recreation, special status wildlife species, caves, ES&R and fuels treatments). Additional monitoring needs have been identified in the Craters of the Moon NM and Preserve Management Plan Implementation Strategy which was compiled in 2007 and informally updated since that time. Monitoring continues to be an important aspect of managing resources in the Monument and will be considered

				through implementation of the original Plan decisions as well as new or updated decisions in the Plan Amendment.
36	xlvi	Katie Fite	VEG-11: Actions and stipulations necessary to protect special status species and their habitats will be made part of land use authorizations (e.g., limiting fragmentation of special status species populations when considering road maintenance) and fire planning. BLM has not conducted the necessary surveys to determine this, and no valid grazing EIS can be developed until this is done. It appears BLM is afraid of what it might find – as increasing species rarity and declines – would make it even more obvious how severely flawed the status quo alternatives are.	Special status plant inventories are completed before implementation projects as required.
36	xlvi	Katie Fite	VEG-12: Use of native plants will be emphasized in rehabilitation and restoration projects, and only native plants will be used for rehabilitation or restoration projects within the Pristine Zone. Integrated weed management principles will be used to: <ul style="list-style-type: none"> ● Detect and eradicate all new infestations of noxious weeds; ● Control existing infestations; and ● Prevent the establishment and spread of weeds within and adjacent to the planning area. BLM has failed to conduct the necessary current veg surveys to determine lands with various mounts of cheat, skeletonweed and other weeds present, or identify areas at risk where livestock must be removed. 	BLM conducts vegetation inventories as necessary. BLM has not identified any areas at risk that require removal of livestock. Proper management of livestock will mitigate risk. Where warranted, livestock removal will be considered.
36	xlix	Katie Fite	VEG-13: Weed infestations in wilderness areas will be controlled by methods consistent with minimum tool requirements and integrated weed management principles, including prevention of disturbance activities, use of chemical and mechanical methods to control or physically remove noxious weeds, and selective application of herbicides and possibly biological controls. VEG-14: Integrated weed management principles will be applied proactively throughout all zones. This program will emphasize protection of weed-free areas and aggressive detection and control of noxious or highly invasive exotic weeds and will include an analysis of the trade-offs involved in herbicide use versus non-chemical methods of weed control. The EIS lacks controls on grazing use areas and use levels, and there is no integrated analysis.	This is implementation level analysis that will be done for any future proposed projects.
36	l	Katie Fite	VEG-15: Only certified weed-free hay, straw, and mulch will be permitted within the Monument. Yet sheep/cows can be trailed from weed-infested private lands right onto the Monument.	Please see WO IM 1999-076.

36	li	Katie Fite	<p>VEG-16: Wildland fires will be suppressed to protect life and property, healthy sagebrush steppe communities, recent rehabilitation and restoration projects, cultural sites, and the Little Cottonwood Creek watershed.</p> <p>VEG-17: Fire will be managed to maximize protection and restoration of sagebrush steppe in the Passage and Primitive Zones.</p> <p>VEG-18: Wildland fire use will be allowed in the Wilderness and Preserve except when incompatible with resource management objectives or if there is a danger to life or property.</p> <p>VEG-19: Limited prescribed fire (<500 acres) will be used in the aspen, conifer, and mountain shrub vegetation types to improve wildlife habitat and invigorate plant communities while protecting the Little Cottonwood watershed.</p> <p>VEG-20: In the event of wildland fire, burned areas will be rehabilitated when necessary to restore the appropriate mosaic of sagebrush species and subspecies, along with a diverse perennial understory, and to suppress invasive and noxious weeds.</p> <p>VEG-21: The cooperative arrangement between the Bureau of Land Management and the National Park Service related to fire management will continue, including cooperative agreements with local fire departments and rural fire districts.</p> <p>VEG-22: The Bureau of Land Management and the National Park Service will develop a joint fire management implementation plan for the Monument.</p> <p>VEG-23: The network of main arterial roads will be managed to support access for wildland fire suppression. We are greatly concerned at the road and road blading excesses in the Monument that are done to facilitate grazing disturbances.</p>	The 2009 Comprehensive Travel Management Plan addressed roads in the Monument.
36	lii	Katie Fite	<p>Wildlife Management Actions</p> <p>WLIFE-1: Inventory and monitoring of wildlife will emphasize species that are regionally or nationally important. This has not been done, and the EIS and its status quo alternatives are invalid.</p>	Wildlife surveys are ongoing within the Monument. There is nothing to preclude BLM from conducting inventories or monitoring in the future.
36	liii	Katie Fite	<p>WLIFE-2: A monitoring program will be established to detect species populations in decline and species as indicators of the health of the ecosystem, and to record the presence of species of special concern. This has not been done, and the EIS and its status quo alternatives are invalid. BLM has no idea of the status of local or regional populations of concern. See Dobkin and Sauder, for instance – where once-common animals are often lacking over large areas of the grazed western U.S.</p>	BLM has recently updated its sensitive species list, which is reflected in the FEIS. One of the primary reasons for adding sensitive species is a concern for declining

				trends in populations or habitats.
36	liv	Katie Fite	<p>WLIFE-3: The NPS, in consultation with the State and Tribes, will designate areas within the Preserve and periods of time when no hunting will be permitted for protection of the area's resources.</p> <p>WLIFE-4: On all NPS-administered lands, predator control will not be authorized by the Park Service except on a case-by-case basis. The DEIS has failed to adequately assess the impacts of predator control on native biota. The whole reason for the predator control taking place is livestock grazing including in the Monument, Under this Plan, BLM can adopt reasonable and prudent measures, including a Hold Harmless requirement and other prudent measures for non-lethal predator control in association with grazing in the Monument that protects the Monument Objects of importance, and the public.</p>	Predator control activities are not conducted by the BLM. NEPA analysis for these activities is not completed by the BLM.
36	lv	Katie Fite	<p>WLIFE-6: All special status species in the Monument will be inventoried with monitoring plans established, particularly when and where adverse impacts may occur. THIS has not taken place and must be done with any valid grazing FEIS given the severe impacts of, and conflicts with, grazing disturbance. It is also impossible to gauge and properly analyze the severity of threats posed by grazing under the various alternatives, and it is impossible to sufficiently assess indirect and cumulative impacts, prioritize restoration and reduction/removal of grazing stress from particular species habitats in order to provide for viable populations and/or prevent extirpation of local populations.</p>	A coordinated monitoring plan has not been established by the BLM for the Monument. Numerous formal and informal monitoring efforts are ongoing (livestock grazing, recreation, special status wildlife species, caves, ES&R and fuels treatments). Additional monitoring needs have been identified in the Craters of the Moon NM and Preserve Management Plan Implementation Strategy which was compiled in 2007 and informally updated since that time. Monitoring continues to be an important aspect of managing resources

				in the Monument and will be considered through implementation of the original Plan decisions as well as new or updated decisions in the Plan Amendment.
36	lvi	Katie Fite	WLIFE-7: Actions and stipulations necessary to protect special status species and their habitats will be made part of land use authorizations (e.g. limiting fragmentation of special status species populations when considering road maintenance) and fire planning. Unless proper baseline surveys and inventories and candid science-based assessment of grazing conflicts with habitats and populations takes place, and restoration needs are identified and management changed accordingly- this can not be complied with.	Special status species assessments are completed prior to project implementation as required.
36	lvii	Katie Fite	<p>WLIFE-8: Active and historic leks will be protected from disturbance during the sage-grouse breeding season. Some examples of potential protection measures as presented in Sage-grouse Advisory Committee's 2006 Conservation Plan for the Greater Sage-grouse in Idaho include:</p> <ul style="list-style-type: none"> ● Apply use restrictions where needed and appropriate on existing roads or trails near occupied leks to minimize nonessential activity between 6 PM and 9 AM (in general this guideline should be applied from approximately March 15 through May 1). ● Avoid human activities such as fence maintenance or construction or any project or related work at or near (1 km or 0.6 mile) occupied leks that results in or will likely result in disturbance to lekking birds, between 6 PM and 9 AM (in general this guideline should be applied from approximately March 15 through May 1). ● Avoid creating unnecessary disturbance related to livestock management activities near occupied leks whenever possible. ● Improve the dissemination of information to elementary and high school students, hunters, resource user-groups, and others to increase their understanding of sage-grouse and sagebrush steppe conservation issues. ● Monitor leks in a manner that minimizes disturbance to sage-grouse following established protocol (Idaho Sage-grouse Advisory Committee 2006, Sections 5.2.1.1 and 5.2.1.2). <p>Greater distances and protections are now known to be required. Knick and Connelly 2011.</p>	Please refer to ARMPA for a compendium of conservation actions for Greater sage-grouse and sensitive species. In addition, specific areas will be addressed during permit renewals.
36	lviii	Katie Fite	WLIFE-9: Consistent with Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management (USD BLM 1997) determinations, livestock grazing management will be modified as necessary to ensure key sage-grouse	A reasonable range of alternatives has been analyzed in the Final

			habitat achieves site potential. Changes cannot be made that ensure this under the series gross overstocking grazing alternatives.	EIS. Specific allotment stocking rates will be adjusted as necessary within the maximum AUM level of the selected alternative.
36	lix	Katie Fite	WLIFE-10: The BLM will continue to hold annual meetings and coordinate closely with U.S. Department of Agriculture, Wildlife Services Program, and livestock lessees to reduce livestock losses. The BLM will encourage non-lethal methods, education, and the targeting of specific offending animals for lethal methods. These procedures will be implemented to protect both public safety and the natural resources for which the Monument was designated. The EIS provides no evidence that this is taking place. BLM must require a Hold Harmless policy as part of this grazing EIS, i.e. grazers accept predator losses as part of the cost of doing business and a small cost to pay for enjoying massively subsidized public lands grazing.	Your opposition to predator control is noted and is outside the scope of this EIS.
36	lx	Katie Fite	Livestock Grazing Management Actions (Revisited in this amendment) GRAZ-1: Nine allotment boundaries will be altered to accurately reflect the NPS/BLM boundary. There will be no change in AUM preferences actually available for grazing. THIS is crazy – it is a politically biased decision to continue to artificially overinflate the value of public lands grazing permits. We are also very concerned that the paper cows and sheep maybe used as a basis for getting even more subsidies in a fraudulent manner. What subsidies do all permittees currently get? What are they based on? How are AUMs actually grazed (or not grazed) actually “vetted” by the federal government in doing out wool subsidies, mutton subsidies, “disaster/drought relief, etc.? BLM violates FLPMA and NEPA in failing to squarely address this serious concern.	The alternatives of this EIS reflect the ecological effects of livestock use on the Monument, not subsidies.
36	lxi	Katie Fite	GRAZ-2: BLM land available for livestock use totals approximately 273,900 acres. BLM land not available for livestock use totals approximately 1,200 acres. NPS land not available for livestock use totals approximately 463,300 acres. (These acre values were updated using the best available information and GIS data; however, this statement has the same intent as GRAZ-2 of the 2007 MMP.) Nearly all acres of unavailable lands are lava/isolated by lava.	Your comment is noted.
36	lxii	Katie Fite	GRAZ-3: Permitted livestock use totals 36,965 animal unit months. (Corrected AUMs are calculated at 38,187 AUMs since the 2007 MMP estimate.) The current livestock use authorizations will be maintained until Idaho Standards for Rangeland Health evaluations or similar NEPA-compliance decisions identify the need for adjustments in livestock use to meet standards, vegetation, livestock, or resource objectives. The RMPA must cut the AUMs – otherwise all that will be done on FRH assessments is point to the RMPA and say it allowed the same number of AUMs to continue, and gross political pressures from the lavishly subsidized	Your support of an AUM reduction is noted.

			sheepmen and other permittees will continue. This also ignores the whole intent of requiring an EIS - and shows BLM is not serious about complying with Judge Winmill’s Court Order. BLM has overwhelming evidence to support cutting AUMs. Just look at the catastrophic losses and downgrading of “key” habitats, the expanding cheat and skeleton weed, the science of climate change which was never addressed in the 2007 Plan (which was based on much older data) and which is brushed aside in this severely flawed DEIS. This EIS must cut the AUMs so restoration is possible.	
36	lxiii	Katie Fite	GRAZ-4: Use of existing livestock developments in Primitive and Pristine Zones may continue. The BLM may remove developments if they are no longer serving a useful purpose or resource objectives warrant their removal. Sites will be restored. This must be assessed as part of this process – BLM has abundant evidence of the harms – weeds, mesopredators, West Nile breeding sites, lethal or injurious collisions, etc. – these developments cause. Connelly et al. 2004, Knick and Connelly 2009/2011, Manier et al. 2013.	Livestock developments will be assessed at the permit renewal phase as directed by ARMPA.
36	lxiv	Katie Fite	GRAZ-6: There will be no new livestock developments permitted in Bowl Crater Allotment or the North Pasture of Laidlaw Park Allotment unless they result in a net benefit to those resources identified as needing improvement or protection. This is an utterly minimal concession – and actually allows BLM to put in more harmful developments if the agencies misleads the public and claims “need.	Your comment is noted.
36	lxv	Katie Fite	Cultural Resources Management Actions CULT-1: A comprehensive Archaeological Overview and Assessment of known and potential archaeological resources (baseline research report) within the planning area will be completed. Has this been done? If so, where is the public version? If it has not been done, it must be done as part of this process so areas being damaged, or which are at risk of damage can be removed from allotments, have AUMs dramatically reduced, etc. livestock break and dislodge artifacts; cause erosion which exposes artifacts to damage and looting, mix and churn soils and destroy the integrity of sites and cultural materials; foul and despoil cultural settings and locales. The degree to which this is taking place is not studied and not addressed in this travesty of a rubber-stamp EIS. CULT-2: A Cultural Resource Management Plan that describes how specific sites will be managed, defines what areas need additional inventory, and designates potential use categories for sites will be completed for the Monument. See preceding comments. CULT-3: Measures such as access limitations and periodic monitoring will be identified to proactively manage and protect cultural resources, including traditional cultural properties. See preceding comments. CULT-4: Projects will be planned and designed so as to avoid adversely impacting cultural resources where possible. The BLM and the NPS will consult with Tribes and the Idaho State Historic Preservation Officer (SHPO) to develop alternatives to avoid, minimize, or mitigate any potential adverse effects. See preceding comments.	An Archaeological Overview for the Monument was completed in 2012. The document has not been made public due to sensitive site location information within the document.

36	lxvi	Katie Fite	<p>CULT-5: Through consultation with the Idaho SHPO, areas for Section 110 cultural resource inventories will be prioritized. Why haven't they been done yet?</p> <p>CULT-6: A proactive Section 110 inventory will be conducted as funding allows, expanding the cultural resource database for the Monument. Why haven't they been done yet? Use of even a portion of the funding that BLM has squandered on this do nothing deficient EIS could have paid for many types of vitally needed baseline studies. How much has been wasted on this EIS that refuses to protect public lands of the Monument to date?</p>	Section 110 inventory is conducted in the Monument every year.
36	lxvii	Katie Fite	<p>CULT-7: A minimum of 10% of the Monument will be inventoried for cultural resources over the life of the plan. The focus of the Section 110 Inventory will be in the Primitive and Passage Zones. All grazed areas should be inventoried so damage can be understood and prevented.</p>	Your comment is noted.
36	lxviii	Katie Fite	<p>CULT-8: The significance of known archaeological and historic resources, structures, and landscapes will be evaluated and documented, in conjunction with the Idaho SHPO, for listing on the National Register. What sites are known or suspected to be eligible to date, and has BLM gone through the process? Is grazing impacting any of these sites? If so, how?</p>	This process is conducted on a regular, ongoing basis and SHPO is consulted with every time a site is recorded.
36	lxix	Katie Fite	<p>CULT-9: Activities that may affect the Goodale's Cutoff of the Oregon Trail, the NPS headquarters/visitor center Mission 66-era, or other properties listed or eligible for the National Register will be undertaken in consultation with the Idaho SHPO. Is grazing causing erosion or weed infestation of the trail? Has seeding marred it? If so, how can the Trail be restored to some degree?</p>	Please see Ch. 4 Cultural Resource analysis for a discussion of Goodale's Cutoff impacts from grazing.
36	lxx	Katie Fite	<p>CULT-10: At-risk National Register eligible sites will be monitored for vandalism or other disturbances and protected/stabilized as necessary. Is grazing impacting any of these sites?</p> <p>CULT-11: National Register eligible properties will be monitored periodically and steps will be taken to stabilize any property found to be deteriorating and to limit access as needed. See preceding.</p> <p>CULT-12: The agencies will pursue more public education and interpretation off site, with increased monitoring and protection for those sites at risk.</p>	Please see Ch. 4 Cultural Resource analysis for a discussion of grazing impacts to archaeological sites.
36	lxxi	Katie Fite	<p>Native American Rights and Interests Management Actions</p> <p>NAAM-1: Native American Tribes that have expressed an interest in traditional cultural properties within the Monument will be consulted on a regular basis regarding the management of those properties.</p> <p>NAAM-2: Handling of Native American Graves Protection and Repatriation Act materials will be addressed as a component of a Cultural Resources Management Plan.</p>	NAGPRA applies to all federal lands and federal land users.

			<p>NAAM-3: Should any Native American Graves Protection and Repatriation Act material ever be inadvertently discovered within the Monument, the agencies will follow the tribal consultations procedures outlined in the Act regarding their treatment. Will protections be on grazing permits? They had been in the past, but we have seen some offices now strip the NAGPRA protections to protect ranchers from facing consequences related to potential loss of grazing permits (as a prohibited act) if they disturb/destroy such sites.</p> <p>NAAM-4: The agencies in consultation with the Tribes will identify protection measures for any places of traditional cultural importance to Native Americans to preserve the integrity and use of those areas as described in National Register Bulletin 38.</p> <p>NAAM-5: Agencies will consult with associated Native American tribes to develop and accomplish the programs of the Monument in a way that respects their beliefs, traditions, and other cultural values.</p> <p>NAAM-6: Agencies will consult with Native American tribes prior to taking actions that will affect natural and cultural resources that are of interest and concern to them.</p> <p>NAAM-7: Hunting, gathering, and the use of certain natural resources as sacred objects for religious use will continue on the Preserve and the expanded areas of the Monument.</p>	
36	lxxii	Katie Fite	<p>Visual Resources Management Actions</p> <p>VRM-1: BLM and NPS managers should seek the cooperation of visitors, neighbors, and local government agencies to prevent or minimize impacts and prevent the loss of western landscape vistas and natural dark conditions. Grazing and cwg seedings mar and alter the scenic landscape – with abrupt weedy contrasts, ugly often junk-riddled facilities, damage to formerly intact and continuous tracts of sage, etc. Noise of bleating sheep and mooing cows is also a negative impact to recreation and must be addressed.</p>	Any proposed projects are required to conform to the designated VRM classes. The VRM classification system does not address noise impacts.
36	lxxiii	Katie Fite	<p>VRM-2: Existing waste dumps will be inventoried and cleaned up. VRM-3: VRM inventory classes will be designated as management classes. Wilderness and Wilderness Study Areas Management Actions.</p> <p>WILD-1: NPS and BLM will develop a joint Wilderness/Wilderness Study Area (WSA) Management Plan following the completion of this plan. No additional wildlife water developments or other habitat manipulations will be undertaken to manage wildlife populations in Wilderness, Wilderness Study Areas, or the Preserve. Will this apply to LWC?</p>	Lands with wilderness characteristics is not a special designation, but a resource identified through inventory, so WILD-1 would not apply to those lands.
36	lxxiv	Katie Fite	<p>WILD-2: As part of the joint Wilderness/WSA Management Plan, and consistent with current guidance on inventorying for and managing to protect or enhance wilderness characteristics, the agencies may conduct additional inventory, consider citizen proposals, and consider protections of lands with wilderness characteristics.</p>	There is no grazing in the Wilderness within the Monument. Please

			WILD-3: Minimum requirement analysis will precede any proposed management activities within designated wilderness areas and WSAs will continue to be managed under the guidance of the Interim Management Policy for Lands under Wilderness Review (replaced in 2012 by Manual 6330 Management of Wilderness Study Areas). Comprehensive baseline inventories must be conducted across the Monument and surroundings (the entire WSA/LWC) to determine the degree to which livestock-related activities are intruding into, impairing and degrading Wilderness natural, biological, and other values.	see Ch. 4 WSA section for impact analysis.
36	lxxv	Katie Fite	WILD-4: Use of aircraft to survey and monitor wildlife populations could be continued, but flights will be scheduled to avoid high visitor use periods. Any landing of aircraft or dropping of supplies from aircraft in wilderness or WSAs will be consistent with a minimum requirement and minimum analysis. How are drones being regulated? They can (sic)	Drones are not regulated in the BLM portion of the Monument. Drones are regulated by FAA.
36	lxxvi	Katie Fite	WILD-5: Ways or travel routes within WSAs not identified during wilderness inventories will be closed to motorized vehicles and rehabilitated. How many currently exist, and how have grazing activities played a part in this – for example, the out of control sheep camp roads and roadlets infested with knapweeds – there are a greatly excessive number of such routes/sites and this process must identify and act to close both currently authorized, as well as ever-proliferating sites. WILD-6: Should Congress release any Wilderness Study Area from WSA status, then the area will be managed under the direction of this land use plan.	The 2009 Travel Management Plan eliminated unnecessary, unused or redundant routes.
36	lxxvii	Katie Fite	Socioeconomic Values Management Actions VISIT-15 Safety and resource protection will be emphasized at all access points. Socioeconomic Values Management Actions vs. sheep diseases like Q fever that persist on soil and sicken the public, other pathogens in livestock waste the public is exposed to, vicious guard dogs that injure people and pets, Wildlife Services or other predator control activities that endanger public and pets and that are only taking place because of the presence of livestock.	Your comment is noted.
36	lxxix	Katie Fite	BLM wrongly limits and constrains “issue development” - considering that grazing is beneficial (fuels, sage-grouse, both spring and fall grazing) and BLM abandons science. This claim relies on rosy unsubstantiated self-serving claims of the grossly subsidized public lands livestock industry. Then lists some negatives. BLM can't just pay lip service. BLM biased input from the start with “scoping” meetings held in small towns only –avoiding even meetings in the Wood River Valley. This biased public meeting input extended to the DEIS sessions too.	Comments regarding the DEIS were received through a variety of media, and contained a variety of viewpoints.
36	lxxx	Katie Fite	BLM inflates “socioeconomic impact”. This is especially the case with the flawed and deficient alternatives that continue carrying forward bloated paper cows and sheep to attempt to artificially inflate the value of the public land grazing permit.	Your comment is noted.

36	lxxxi	Katie Fite	BLM’s treatment of management concerns minimizes scoping input claiming a lower (but has a lower level of controversy): Soils and water, special status species, cultural resources, LWC, visual resources, Comp trails. Climate. AMS 5.3.1.1	Please see the Final EIS for the most current analysis.
36	lxxxii	Katie Fite	BLM wrongly claims ACEC designation, updating all components of the Craters Plan- are “beyond the scope”. AMS 5.4.1.	The BLM has the discretion to determine whether a particular action falls within the Purpose and Need for Action. In this case, the BLM identified a need to amend the MMP to address livestock grazing. ACEC designations may be, but are not necessarily, an avenue to address livestock grazing in particular areas.
36	lxxxiii	Katie Fite	Climate BLM goes out of its way to minimize any consideration of climate change effects on the Monument values. On p. 69, BLM portrays emissions as a tiny fraction. The AMS and DEIS state bluebunch wheatgrass may not be ‘resilient’ due to climate p. 86 “The reduction of large tracts of sagebrush through increased size and frequency of wildfires is a concern in the area. Less obvious is the loss of native understory plants, particularly native bunchgrasses that are valuable components to the ecosystem. Plants such as bluebunch wheatgrass and Idaho fescue may not be resilient under conditions of closed shrub communities, frequent fire regimes, cheatgrass invasion, altered climate or site conditions, or excessive grazing. The reduction in these native species by one factor increases their susceptibility to other factors. Once native understory species are excluded, they are very difficult to reestablish [Hironaka et al., 1983]”. Here, as throughout the EIS, current science is nearly lacking, and cherry—picked to support the status quo and BLM self-serving claims of benign grazing effects. BLM reverts to the same old failed range info that has caused the public lands calamity of the massive facility burned, destruction of sage communities by intensive livestock grazing combined with purposeful destruction of sagebrush, and severely flawed post-fire rehab and seedings that have resulted in vast areas of	Effects to climate change have been analyzed in the Final EIS.

			<p>crested wheatgrass and increasingly cheatgrass in the cwg interspaces and sage communities, rush skeletonweed, and many other exotics.</p>	
36	lxxxiv	Katie Fite	<p>Then, in a minimal and dismissive mention under Affected Environment ...</p> <p>A number of sources contribute to the phenomenon of climate change, including emissions of GHGs (especially carbon dioxide and methane) from livestock production, fossil fuel development, large wildfires, activities using combustion engines, changes to the natural carbon cycle, and changes to radiative forces and reflectivity (albedo) [Gerber et al., 2013]. It is important to note that particular types of GHGs will have various sustained climatic impacts over different temporal scales due to their differences in global warming potential (described above) and lifespans in the atmosphere.</p> <p>.. methane has an average atmospheric life time of 12 years [Climate Change SIR, 2010]. Land uses and/or land management activities that increase the ability of vegetation and soil to sequester carbon can help mitigate the effects of climate change. Such activities include improving/restoring riparian and wetland areas, improving forest age class diversity, health, and resiliency, mitigating the size and intensity of wildfires, and maintaining/improving livestock grazing management. Activities in Idaho accounted for approximately 8.5 million metric tons (Mt) of gross carbon dioxide gross GHG emissions [World Resources Institute, 2014]. Idaho's gross GHG emissions are rising faster than those of the nation as a whole (gross emissions exclude carbon sinks, such as agricultural soils). Idaho's gross GHG emissions increased 51% from 1990 to 2011, while national emissions rose by only 8% from 1990 to 2011 [World Resources Institute, 2014].</p> <p>In 2011, the principle sources of Idaho's GHG emissions were energy and agriculture, accounting for about 57% and 36% of Idaho's gross GHG emissions, respectively. Within the energy sector, transportation accounted for the majority of emissions [World Resources Institute, 2014]. Environmental Protection Agency (EPA), 2014a]; current U.S. emissions of all GHGs Resources Institute, 2014].</p> <p>Indicators of climate change include temperature, precipitation, snowpack, stream flow, stream temperature, plant phenology, wildfire, and vegetation dynamics [Gillis et al., 2010], all of which continue to change throughout Idaho. A recent study of Idaho meteorological data collected from 1968 to 2008 shows a decrease in precipitation and an increase in temperature across the state [Sohrabi, Ryu, Abatzoglou, & Tracy, 2012]. Within the Monument, trends in temperature and precipitation generally appear to fall within the historical range of variability (1901–2012), although temperature extremes (extreme warm) have occurred [USDI NPS, 2014]; [Monahan & Fisichelli, 2014]. P. 131-133.</p> <p>BLM relies on a 2008 study, and again goes to extreme lengths to avoid any real current science-based analysis of the ecological threat posed by grazing and continuing grazing-caused and exacerbate desertification processes that are amplified by climate change stress on arid lands systems. See Seinfeld et al. 2006, Catlin et al. 2011, Beschta et al. 2012, 2014, Ruppert 2014.</p>	<p>Most current pertinent science was used to analyses the effects of climate change in the Final EIS.</p>

36	lxxxv	Katie Fite	<p>BLM buries its head in the sand. There is no scientifically defensible way to claim that continuing gross overstocking under the proposed action and woefully limited alternatives range is sustainable. Basically, there can be no valid analysis and hard look as required under NEPA until the AMS and entire scientific basis is re-done. We are very concerned that the U of I Range Department or others may be involved in this gross EIS cover-up of the toll taken by livestock grazing on Monument lands and the environment. Is there a grazing study taking place in the area in which the U of I is involved in trying to claim grazing benefit for sage-grouse???</p>	<p>The EIS considers a range of alternatives, including a no-grazing alternative.</p> <p>There is no University of Idaho Study currently in the Monument.</p>
36	lxxxvi	Katie Fite	<p>Sage-Grouse BLM states without any supporting scientific evidence : While historic grazing practices were a factor contributing to the decline of sage grouse habitat [Jurs and Sands, 2004], grazing management on BLM lands has changed and rangeland health has steadily improved in recent decades. BLM managed lands in the Monument currently must meet or make progress towards meeting Idaho’s Standards for Rangeland Health, which include requirements for sage-grouse habitat. The AUM levels are not dramatically reduced in Alternative C because the forage to provide for the full permitted use is currently present provided proper management is followed. For a variety of economic and logistical reasons, as well as current trends and effective cooperation with permittees, it is unlikely permittees would graze to that level. By adjusting the AUM level slightly, land managers retain the flexibility to use livestock grazing as a tool to attain restoration objectives. Xvii BLM admits: Since the 2007 MMP, wildfires have markedly reduced the amount of key sage grouse habitat to 27% of the habitat in the Monument.</p>	<p>Please see Ch. 3 Vegetation affected environment for vegetation condition discussion.</p>
36	lxxxvii	Katie Fite	<p>The DEIS p. 1. gives a flawed and arbitrary interpretation of FLPMA. FLPMA requires the BLM to develop, maintain, and revise land use plans to ensure public lands are managed in accordance with the principles of multiple use and sustained yield. FLPMA recognizes the nation’s need for minerals, food, timber, and fiber from public land as well as the importance of maintaining some lands in their natural condition to provide food and habitat for fish and wildlife and opportunities for outdoor recreation. BLM states its Goal here is: At the completion of the Craters of the Moon MMP Amendment,: (1)sage-grouse specific conservation measures that help to alleviate threats to sage-grouse in the Monument and (2) management actions and goals for livestock grazing within the Monument that will guide management of those BLM lands. A SEIS is required to do this and stop pandering to the livestock industry. BLM must develop a suitable range of alternatives based on candid science based analysis of ecological impacts of grazing damage to Monument values, sensitive species, and the landscape.</p>	<p>A Supplemental EIS is not required.</p>

36	lxxxviii	Katie Fite	<p>DEIS 1.21. BLM wrongly limits what it considers Monument attributes as follows and attempts to inflate ranching:</p> <p>For the purposes of this plan amendment, Monument Values/Objects, as identified through proclamations, legislation, and the public scoping process, to be protected will refer to:</p> <ul style="list-style-type: none"> ● All volcanic features in the Monument, including, but not limited to kipukas, craters, cones, lava flows, caves, and fissures ● The Great Rift ● Wilderness and Wilderness Study Areas ● Scenic vistas and great open landscapes ● Important habitat for Greater sage-grouse ● Historic and traditional relationships with the land including but not limited to traditional ranching, hunting, and all traditional Native American practices. <p>We are dismayed that BLM Places “ranching” which has destroyed so much of the native ecosystem, native predator prey systems, etc. before Native American practices.</p>	<p>The Tribes have not identified any ranching practices they feel are specifically impinging on their traditional practices. There is no priority ranking in the bulleted list.</p>
36	lxxxix	Katie Fite	<p>DEIS at 1.6.2 is false. BLM states: The interdisciplinary planning team used the most accurate and current data available when analyzing the impacts of alternatives ... BLM had abundant current ecological science on hand, including submitted by the public, that it ignored in retreating to 1960s era livestock grazing myths embraced by the U of I “range” Department. BLM knows full well that immense fires have burned in the most recent years, and the larger losses in the landscape that were ignored in the out-dated and deficient version of the HAF that this purposefully misleading EIS analysis/rubberstamping of the status quo is based on. MAs (same as in scoping) are listed here. Please refer to list and concerns earlier in these comments.</p> <p>Then, DEIS Sec 1.8.1.1 to 1.8.1.12 – Soils, veg, fish and wildlife, wildfire and ecology, native American, cultural, visual, wilderness, livestock, transportation and range, rec and visitor, socioeconomic is nearly identical to the AMS.</p>	<p>All pertinent information provided was considered in the drafting of this EIS.</p>
36	xc	Katie Fite	<p>The No Action Alternative is described as:</p> <p>Alternative A serves as the baseline for comparison with the other four alternatives. The amount of forage allocated in the Monument is 38,187 animal unit months (AUMs, the amount of forage needed to support a cow/calf pair or livestock equivalent for one month) and is based on the best available GIS data. This total is based on the percentage of BLM land within the Monument, compared to the total BLM land within each allotment. The 2007 MMP estimated the forage available in the Monument based on the calculated percentage of each allotment within the Monument compared to the size of the entire allotment, regardless of land ownership within the allotment boundary. The GIS data at that time calculated the forage at 36,963 AUMs. This is not a change in the total forage allocation, merely a more accurate estimate of the current condition.</p> <p>Actual livestock use for allotments in the Monument, however, has been much lower than the permitted numbers since 1998 when Idaho Standards were</p>	<p>Your comment is noted.</p>

			<p>implemented. The 15-year average actual use for allotments in the Monument has been determined to be 11,791 AUMs with a range of 7,744 AUMs to 16,805 AUMs in any particular year. The full range of Actual Use, while accounting for fires, varying forage conditions, and permittee operations is 5,847 AUMs to 19,388 AUMs. This range is based on adding the low actual use for each allotment compared to the high actual use for each allotment since 1997. Approximately 1,200 acres are currently unavailable for grazing, leaving 273,900 acres of BLM land open to grazing in the Monument.</p> <p>Under the No Action Alternative, livestock grazing would continue to be managed under direction found in the 2007 MMP, which will be analyzed in two ways:</p> <ol style="list-style-type: none"> 1. Actual use: 11,791 AUMs over 273,900 acres of public land based on a 15-year average arrives at the existing condition. 2. Full permitted use: Active permitted livestock use of 38,187 AUMs annually over 273,900 acres of public land analyzes full implementation of the alternative. [This is not done]. 	
36	xcii	Katie Fite	<p>Alt. B</p> <p>A 20% reduction from the 15-year average actual use would be applied to those areas remaining available to livestock grazing, setting the maximum number of AUMs allowed in the Monument to 9,432. AUM reductions would be implemented during the grazing permit renewal process in order of priority, based on current policy. Reduction methods could include the following ...</p> <p>What is the rationale for this being sufficient to stave off further harm, and allow for the large-scale restoration that is required under the 2007b Plan? --- including removal of cwg/iwg and healing through passive restoration.</p>	Alternative B was not crafted to address large-scale restoration.
36	xciii	Katie Fite	<p>Alt. C</p> <p>Maximum AUMs at 37,792.</p> <p>This is NOT a reasonable alternative and does not allow for immense restoration needs, its only purpose is to artificially inflate the value of permits through retaining paper cows and sheep and enable ranchers to get even more subsidies.</p>	Your opposition to Alternative C is noted
36	xciiii	Katie Fite	<p>Alt. D</p> <p>No grazing permits would be authorized in the Monument. No public lands would be available for livestock grazing for the life of the plan. The current livestock use authorizations would remain in effect for 2 years following the signing of the Record of Decision (43 CFR 4110.4-2(b) (2005)).</p> <p>All livestock developments (e.g., corrals, cattleguards, fences, tanks, troughs, pipelines, reservoirs/ponds, spring developments, wells) on BLM-administered lands within the Monument would be removed or decommissioned, unless needed for fire suppression ...</p> <p>BLM fails to adequately evaluate the magnitude and scope of beneficial effects of No Grazing, including over large percentages of the landscape, and how this will enable effective passive and active restoration.</p>	All impacts were analyzed under Alternative D, both beneficial and adverse..

36	xciv	Katie Fite	<p>Alt E</p> <p>A reduction from the full permitted 38,187 AUMs would be applied to those areas available to livestock grazing, setting the maximum number of AUMs allowed in the Monument to 19,388 9max single year actual use in past 15 years ... and a minimal closure of land area. ...</p> <p>This is not a reasonable alternative, as the downward spiral of habitat degradation, weeds, exotic seedings and failed fire rehabs or fire rehabs worthless for wildlife but that only benefit livestock interests has taken place under this level of grazing. This is particularly unreasonable in the face of climate change stress and the MANY other Monument values and objects of importance that must be protected.</p>	Your opposition of Alternative E is noted
36	xcv	Katie Fite	<p>BLM Must fully assess ACECs in this process. DEISp. 41. Several proposed ACECs were analyzed in the 2007 MMP but were not designated at that time. ACECs have been deemed outside the scope of this effort, and proposals for ACEC nominations were not solicited during public scoping. For these reasons, an ACEC is not analyzed. ACECs must be fully be considered as part of this proposal. WLD Incorporates by reference ACEC proposals submitted during the 2007 Plan process as well as the GRSG ARMPA process into our comments on this DEIS.</p>	ACEC designation is outside the scope of this EIS.
36	xcvi	Katie Fite	<p>I had prepared alternatives and comments that BLM mis-represents here – such as <u>only closing one area to livestock grazing.</u></p>	Your comment is noted.
36	xcvii	Katie Fite	<p>DEIS at 2.4 inexplicably has only this new MA. Why? This illustrates BLMs livestock industry bias, and the refusal of BLM to honestly consider making substantial changes in livestock grazing.</p> <p>New Management Actions Common to All Alternatives Wildlife and Fish Management Action</p> <p>WLIFE-11A: Schedule small-scale construction and routine maintenance activities to avoid or minimize disturbance to priority species and their habitat during important seasonal periods.</p>	WLIFE-11 is the only management action common to all alternatives. Other management actions vary by alternative.
36	xcviii	Katie Fite	<p>Table 2.2 is a Comparison of Alternatives.</p> <p>Table 2.3 claims to be a Relative Comparison of Impacts - using terms like lowest, moderate minor potential, highest, etc.</p> <p>There is no information on the rationales used to justify these conclusions, the scientific literature and data used in making these assumptions, and just how these claims were arrived at.</p> <p>No adequate current baseline studies have been provided to support BLM making these claims. The magnitude of difference among alternative elements is ignored – for example, just how much more beneficial would No grazing be than grazing status quo Actual Use livestock? All the permitted AUMs including all the paper cows and sheep?</p>	Table 2.3 refers the reader Ch. 4 for an in depth analysis.
36	xcix	Katie Fite	<p>DEIS p. 81. Between 1970 and 2015, approximately 310,000 acres have burned in wildfires within the boundary of the expanded Monument, primarily on BLM-administered land. About two-thirds of this acreage has burned two or more times (Figure 3.4, “Fire Frequency in the Monument (1970–2015)”).</p>	Newer data provided to the BLM would be used

			The DEIS Still relies on old 2013 Landsat data of the AMS and lacks current on the ground veg surveys that assess the complexity of the native vegetation and the extensive disturbed areas and mottled mixed sites.	in the analysis, but none has been provided.
36	c	Katie Fite	The DEIS Map of fires fails to show the fires across the surrounding landscape so it is not possible to properly assess cumulative effects, including ESR, rehab, seeding, so-called fuelbreaks and other harmful activities with adverse effects (as they have been carried out by the agency). So the extent of GRSG and TES species habitats burned, areas seeded to cwg, areas with various percent cheatgrass, presence of a diversity of sagebrush communities, early successional rabbitbrush with native vegetation recovering, areas routinely herbicided, etc. are not identified. As with the AMS, only superficial, limited and cursory info on vegetation (such as forbs may be reduced in cwg seedings), claims of good things about cwg, etc. is provided – and this appears identical to the deficient AMS. Biotic Integrity (Jurs and Sands) 2001-2002 is old. Mapping of biotic integrity shows only a very small area is in good condition. The HAF and seedings info is from 2012 to 2013. There is old and nearly non-existent data on rush skeletonweed, and the blight of knapweed especially prevalent with sheep camps, sheep watering sites, and sheepled out areas is ignored. The weed mapping grossly under-estimates weed presence, and ignores risk of increases.	Each Cumulative Effects Analysis Area reflects the range of impacts that could be expected within and around the Monument.
36	ci	Katie Fite	The EIS claims that Approximately 28,000 acres of BLM-managed lands in the Monument have cheatgrass and other invasive annuals as a dominant component, or greater than 50% composition. The falsely rosy DEIS ignores that cheatgrass is adapting to grow at higher and higher elevations. As soils types change with increased precipitation and elevation and decreased temperature, the amount of cheatgrass present decreases.	Your comment is noted. Recent fire restoration efforts will likely reduce the number of acres dominated by cheatgrass.
36	cii	Katie Fite	BLM provides no basis for valid analysis and comparisons by trying to bury the role of livestock grazing disturbance and livestock as weed vectors in weed problems across the Monument. The dispersal and spread of noxious weeds can happen through a variety of means, including the visitor use for resources offered in the Monument (e.g. hunting, camping, and OHV use), wildfires, as well as natural transportation means, such as wind, birds, and other wildlife. Livestock can contribute to the dispersal of weed seeds and materials through feed consumption, and seeds can be transported by livestock coats and also by vehicles and equipment related to livestock grazing. Certified weed-free hay is required on all BLM lands (USDI BLM, 2011).	Please see Ch. 3 and 4 Vegetation Resources for a discussion of weeds.
36	ciii	Katie Fite	The DEIS at 3.2.4 does not even scratch the surface on wildlife. It starts out by saying: Sagebrush steppe communities comprise much of the wildlife habitat within the Monument. Numerous species are found in sagebrush habitats [Braun, Baker, Eng, Gashwiler, & Schroeder, 1976]; [Trimble, 1989]. This should say used to comprise --- because BLM post-fire exotic seedings for livestock forage have	Your comment is noted. Please see Ch. 3 Vegetation Resources

			<p>converted much of the area to cwg/iwg and chronic grazing stress under actual use has promoted weeds and lack of recovery.</p> <p>Yet the vegetation info showed this was not the case, that most of the lands had been converted to livestock forage seedings (non-native perennial grass) or were otherwise highly degraded, and that areas in good biotic condition were minima.</p>	for a discussion of vegetation condition.
36	civ	Katie Fite	<p>Why were western toads locally extirpated? Why have there been no recent surveys conducted to determine areas still currently occupied by all TES species, and the degree and severity of habitat fragmentation, etc./</p> <p>Four species of large mammals and one small mammal were extirpated from the Monument during the twentieth century. The North American bison, Rocky Mountain bighorn sheep, gray wolf, and grizzly bear were last documented in the early twentieth century [Smithsonian Institute, 2003].</p>	Your comment is noted.
36	cv	Katie Fite	<p>Key habitat is now in 2016 reduced to around ¼ of the Monument (text claims 28% but mapping makes it appear less, and the areas are scattered and fragmented. This makes it even more shocking that BLM developed its series of stocking at levels greatly above actual use alternatives – as it is clear that drastic cuts and effective restoration is desperately needed.</p>	Your comment is noted.
36	cvi	Katie Fite	<p>BLM refers to the ARMPAs: From this Decision the BLM and USFS have identified Priority Habitat Management Areas (PHMA), Important Habitat Management Areas (IHMA), General Habitat Management Areas (GHMA), and Sagebrush Focal Areas (SFA). PHMA habitat is generally described as having the highest conservation value to maintaining sustainable populations of sage-grouse. IHMA is generally described as lands that have a moderate to high conservation value for habitat and populations, but are not as important as PHMA. GHMA habitat is generally described as areas having lower quality or patchy habitat with reduced lek connectivity. Sagebrush Focal Areas are a subset of PHMAs, and provide for some additional conservation measures. In the Monument, approximately 52% (142,200 acres) of BLM-administered lands are classified as PHMA, 44% (121,400 acres) IHMA, 4% (10,800 acres) GHMA, and 52% (142,100 acres) SFA. This mapping was highly politicized and the livestock industry and Otter admin. whittled habitats down greatly with BLM conceding to cut after cut.</p>	Your comment is noted
36	cvii	Katie Fite	<p>BLM does not even begin to live up to the restoration promises of either the ARMPA or the old Craters RMP in its refusal to evaluate a range of passive and active restoration proposals coupled with dramatic cuts in the actual amount of livestock use.</p>	Your comment is noted
36	cviii	Katie Fite	<p>This effort should make ALL the GRSG habitats in the Monument a Priority – in order to comply with the Monument Proclamation. (Compare this to the Idaho Desert and other categories which were dreamed up under the ID Gov. Otter Plan to whittle down habitat acres of most concern and management measures. (As the sage-grouse habitat has continued to shrink and populations decline, BLM has capitulated t state desires to cut into habitat protections even more. This violates FLPMA and the Monument Proclamation. It must be reversed in this EIS process,</p>	Your comment is noted

			and all GRSG habitats must be managed as Priority Habitats, and restoration measures must be adopted with concrete sites and acreages to turn around the trend of disappearing habitats of importance and eve-shrinking populations The real reason BLM refuses to address restoration is that it would take out many of the very harmful crested wheatgrass seedings that agency hides behind in claiming there is “forage” available to support the paper cows and sheep.	
36	cix	Katie Fite	DEIS p. 102. It appears that Key habitat is segregated into lesser sacrifice area categories so all lands in lesser categories can be sacrificed to a higher degree to livestock interests. Within the Monument, there is approximately 266,000 acres of mapped "Key Habitat" on BLM administered public land, of which 28% is Key, 60% is R1, 2% is R2, 0% is R3, 7% is RB, and 3% is not classified.	There are no “sacrifice areas”. The key habitat map projections are developed through an ID team process based on the vegetation characteristics. These figures are updated annually and will be reflected in the Final EIS.
36	cx	Katie Fite	Figure 3.10 shows yet another slicing and dicing of GRSG habitat –allowing BM to sacrifice the entire central and southern area of the Monument – with Priority, Important and general habitat categories. This is like kicking a population when it is down – so that the population slides further past the point of no return. Areas with the most vulnerable populations receive fewer and lesser protections. This RMP process must Amend the one-size-fits all generic habitat sacrificing GRSG ARMPA categories of habitat, and management of all sage-grouse habitat recognized at the time of the Monument designation and/or in the ID 2006 Plan as highest priority. BLM must embark on an integrated livestock cut/removal and restoration program that is detailed in this EIS process in order to keep the crucial Monument values from sliding further into oblivion.	Your opposition to the delineation of habitat management areas is noted.
36	cxi	Katie Fite	Figure 3.11 shows yet another last minute habitat segregation scheme. See WLD letter on “Focal Habitats”. Again, ALL sage-grouse habitats within the Monument must be managed as Focal Habitats/whatever the MOST protective category in the ever-shifting terminology is. In all of these maps, BLM omits any information on the status of the surrounding lands so the context of the habitats being mapped only within the Monument can be understood, and cumulative effects properly assessed.	Your opposition to the delineation of habitat management areas is noted.
36	cxii	Katie Fite	BLM states: There are 110 leks on BLM administered public lands in the Monument, and 36 surveyed leks were documented as occupied in 2015. IDFG completed aerial lek surveys in the Monument in 2015 to identify and count new and historic sage-grouse leks. Specifically, Laidlaw, Little Park, and Paddleford Flat were surveyed.	The location of leks has not been provided due to the sensitive status of this information. BLM

			<p>IDFG surveyed 90 historic leks, 36 of which were active, and identified 12 possible new leks. A total of 606 sage-grouse were observed during the survey [Meints & Rasmussen, 2015.]</p> <p>Where are these leks located? What about leks in adjacent lands of which these birds are a population? Where have leks blinked out? When?</p>	<p>maintains a data sharing agreement with IDFG which prohibits BLM from sharing lek location information with third parties.</p>
36	cxiii	Katie Fite	<p>Loss and fragmentation of sagebrush habitats has been cited as a primary cause of the decline of sage-grouse populations [Connelly, Knick, Schroeder, & Stiver, 2004]; [Schroeder et al., 2004]; [Leu & Hanser, 2011]. Potential and current threats to sage-grouse in the Monument include wildfire and the change in wildfire frequency, incursion of invasive plants, drought, and improperly managed livestock grazing [USDI USFWS, 2010 & 2013]. Regional threats also include urban and rural development, large-scale infrastructure (e.g., major roads, power lines, and wind energy facilities), disease, agricultural practices such as sagebrush control and insecticides, predation, human disturbance, sport hunting, seeded perennial grasslands, and conifer encroachment [North Magic Valley Sage-grouse Local Working Group (NMVLWG), 2011]. P. 107.</p> <p>Yet the limited and deficient range of alternatives in the DEIS fails to address restoration as required under the 2007 Plan and ARMPA, and several alternatives would stock lads so that effective restoration would not be possible.</p>	<p>This MMP amendment is being developed to analyze the impacts of livestock grazing on the monument. ARMPA was completed to provide conservation measures for Greater sage-grouse and their habitats.</p>
36	cxiv	Katie Fite	<p>Occupied seasonal habitats for sage-grouse in the Monument were mapped in cooperation with the state wildlife agency (Appendix G, Greater Sage-Grouse Occupied Seasonal Habitat Methodology on Craters of the Moon BLM National Monument Lands). Historic and current data and knowledge by local sage-grouse experts were used to help identify seasonal use areas and to determine the migratory status of the local sage-grouse population. Three main sage-grouse seasonal use areas (breeding, summer, and late fall-winter) were identified. In many areas of the Monument, seasonal habitats overlapped or were occupied by sage-grouse year-round.</p> <p>Occupied seasonal habitats were delineated based largely on the presence of sagebrush, occupied leks, previously mapped seasonal use areas, and/or sage-grouse observation data (primarily from telemetry studies). Approximately 212,400 acres of BLM administered public lands in the Monument were mapped as occupied breeding habitat (Figure 3.12, “Greater Sage-Grouse Occupied Breeding Habitat on BLM Monument Lands”). Occupied summer and late fall-winter habitats encompassed 248,900 and 204,000 acres, respectively (Figure 3.13, “Greater Sage-Grouse Occupied Summer Habitat on BLM Monument Lands”, Figure 3.14, “Greater Sage-Grouse Occupied Late Fall-Winter Habitat on BLM Monument Lands”). DEIS P. 107.</p> <p>Figure 3.12 and 3.13 show breeding and fall-winter habitats.</p>	<p>The mapping is based on the most current data available..</p>

			Habitat suitability is the same as discussed in the AMS, and is old. It also does not take into account the severity of habitat loss and fragmentation in surrounding lands, and the relevant importance of Monument lands, or the pressing need to reconnect and restore the barren cwg seedings and other widespread and pervasive habitat loss and degradation that exists.	
36	cxv	Katie Fite	<p>As with the AMS, BLM never bothered to address habitat suitability for any other species. BLM relies on limited and old data. This is the same as the AMS too, and nothing has been to address scooping comments on the need for a sound baseline: The pygmy rabbit, a BLM sensitive species, has been documented in several areas of the Monument. Records ranging from the 1930s through 2013 indicate locations from the southernmost areas to the NPS Monument lands [Hoffman, 1988]. Pygmy rabbit populations have experienced severe declines throughout their range, including Idaho. The rabbits generally prefer mature sagebrush stands with a dense canopy cover [Gabler, Heady, & Laundre, 2001] and relatively deep, friable soils.</p>	<p>Please refer to Ch. 4 Wildlife assumptions: “Sage-grouse are an umbrella or indicator species for other sagebrush-associated special status wildlife including pygmy rabbits and passerine birds such as Brewer’s sparrow, sagebrush sparrow, and loggerhead shrike [Hanser & Knick, 2011]. Therefore, actions taken to benefit sage-grouse are assumed to result in benefits to other sagebrush-associated species.”</p>
36	cxvi	Katie Fite	<p>Only 10% of Monument land have been inventoried for cultural resources. BLM refers to a generic Programmatic Agreement – but this is not adequate to protect the lands of the Monument.</p>	<p>Proposed surface-disturbing projects are inventoried through the Section 106 process and consultation completed with SHPO to ensure no effects to cultural resources or to mitigate impacts that cannot be avoided. Please see the</p>

				Cultural Resources section of the EIS at 3.2.6 and 4.2.6.
36	cxvii	Katie Fite	Visual resources have become increasingly degraded and altered with drab colored grass seedings, straight lines, and loss of intact flowing gray-green sagebrush communities. HOW much has this been altered since the time of the Proclamation? The time of the 2007 Plan data?	All seedings since the Proclamation adhere to the VRM management classes designated in the 2007 MMP.
36	cxviii	Katie Fite	Great Rift, Ravens Eye, Little deer, Bear Den Butte WSAs. “The Monument’s lands with wilderness characteristics inventory was completed in 2014, with 21,300 acres found to contain wilderness characteristics. P. 117-118. How would this change if some of the roads whose only purpose is to drag sheep camps around were closed?	The 2009 Travel Management Plan closed unnecessary, unneeded or redundant routes in the Monument. No routes exclusively for sheep camps existed at the time of the lands with wilderness character inventory.
36	cxix	Katie Fite	An AUM – 790 lbs. of air-dried forage. BUT is that an 880 lb. AUM or a 1000 lb or greater in size current AUM? AND weren’t the bloated current allocations made based on an 800 lb. allocation? We are concerned that as BLM has seeded more and more cwg for livestock forage to the detriment of so many other values the lands – there has been a shocking increase in supplement feeding that further enables forage Mining. This allows the already greatly subsidized permittees to essentially “mine” forage – with cows and sheep eating shrub wood.	The NRCS standard of 790 lbs. was used to calculate forage in the Monument.
36	cxx	Katie Fite	The description of the allotments is nearly identical to the AMS. There is no data at all provided on how degraded and impaired lands are by allotment, stocking rate, monitoring data, etc so that alternatives that focus on closing or dramatic cuts in individual allotments can be developed, Table 3.8 is the same old info from the out-dated AMS showing ancient or out-dated FRH analyses.	Please see Ch. 3 Vegetation Resources for discussion of vegetation condition.
36	cxxi	Katie Fite	p. 126. According to the comprehensive TMP, livestock operators use the existing route network for a variety of livestock management activities such as trailing livestock, hauling water, moving sheep camps, and maintaining existing facilities.	Your comment is noted.

			Combining the cattle and sheep use together yields an estimated 1,575 vehicles using the route network per year for all grazing-related activities.	
36	cxxii	Katie Fite	DEIS Section 3.3.3 – Rec and visitor use fails to conduct valid analysis of how the grazing use and periods conflict with recreational uses and enjoyment.	Please see Ch. 4 Recreation and Visitor Use for analysis.
36	cxxiii	Katie Fite	DEIS Chapter 4 “Impact Analysis Descriptors” BLM claims Chapter 4 is the scientific and analytic basis for the alternative actions. It is pretty much devoid of any valid analysis, and just repeats the shallow and vacuous claims of the AMS/Chapter 3. BLM biased the Effects weighting. Categories are: Negligible ... not be of any measurable or perceptible consequence. Minor: The effects on the resource or resource use would be detectable but localized, small, and of little consequence to the resource or use. Mitigating measures, if needed to offset adverse effects, would be simple and successful. Moderate: The effects on the resource or resource use would be readily detectable, but localized. Mitigating measures, if needed to offset adverse effects, would be extensive and probably would be successful. ● For livestock grazing, localized effects would be defined as affecting an allotment, and/or pastures or small portions of multiple allotments. [WHY is this given such great consideration of effects – as an allotment is an artificial delineation. Under this livestock-industry biased EIS, even a small or tiny area can be claimed to suffer a “moderate” effect. Yet, as described below for fish and wildlife, plants, etc. – something having a moderate effect would need to cause a discernible impairment to an important habitat ...	Your objection to the definition of moderate impacts to livestock grazing is noted.
36	cxxiv	Katie Fite	● For wildlife and fish resources, the action would result in a level of disturbance that causes discernible impairment of the function of an important habitat (a significant reduction in wildlife or fish use is anticipated), but the impacts can often be reduced or eliminated through seasonal use restrictions, implementation of recommended management practices, and/or habitat mitigation. This level of impact can result in a cumulatively significant effect if multiple impacts are present over a large area and are not mitigated. BLM arbitrarily and with no scientific basis sets a very high bar for wildlife and fish (vs. even a tiny change in an artificial allotment can be considered a moderate impact). The absurdity of this is shown by the great endangerment of the sage ecosystem, and its high vulnerability cheatgrass, other weeds, and other harms caused by livestock grazing.	Your objection to the definition of moderate impacts to wildlife is noted.
36	cxxv	Katie Fite	● For vegetation resources, the effects would be perceptible across a sizable segment of the plant community over a relatively large area. Special status plants could be affected. This has the same absurd anti-environmental protection high bar standard as wildlife. BLM has resoundingly placed ranchers maximizing profit (and obtaining subsidies) above all other values of the Monument lands.	Your objection to the definition of moderate impacts to vegetation is noted.

36	cxxvi	Katie Fite	<ul style="list-style-type: none"> • The effect on soil productivity or fertility would be readily apparent and result in a change in the soil character over a relatively wide area. Same as for wildlife, plants. • The effects would be perceptible across a sizable segment of a riparian community or over a relatively large area containing water resources. Desired conditions would be altered on a short-term basis. Same as for wildlife, plants. 	Your objection to the definition of moderate impacts to soils and water resources is noted.
36	cxvii	Katie Fite	<ul style="list-style-type: none"> • For Native American Rights and Interests, the impact would be measurable and perceptible. The impact would change one or more characteristics or defining features of trust resources, ethnographic resources, traditional use areas or treaty rights, but does not diminish the integrity of the resource to the extent that it is jeopardized. Jeopardy is a much too high bar, and is not adequately defined. • For cultural resources, the impact would be measurable and perceptible. The impact would change one or more character-defining features of an archaeological resource. If the impact diminishes the integrity of the resource to the extent that its NRHP eligibility is jeopardized, the Section 106 determination of effect would be “adverse effect”. Jeopardy is a much too high bar. 	The definitions have been edited in the Final EIS to clarify.
36	cxviii	Katie Fite	<p>Major: The effects to the resource or resource use would be obvious and would result in substantial consequences to the resource or resource use. Extensive mitigating measures would be needed to offset adverse effects and their success would not be guaranteed.</p> <p>This same absurd elevation of allotments, pastures, etc. pervades the biased and improper categorization of major impacts.</p> <ul style="list-style-type: none"> • For livestock grazing, the effects would be widespread, affecting entire allotments, and/or multiple pastures or large portions of multiple allotments. How absurd that a “major effect to livestock might affect “multiple pastures”! 	Your objection to the definition of major impacts for livestock grazing is noted.
36	cxix	Katie Fite	<p>This same absurd elevation of allotments, pastures, etc. pervades the biased and improper categorization of major impacts.</p> <ul style="list-style-type: none"> • For livestock grazing, the effects would be widespread, affecting entire allotments, and/or multiple pastures or large portions of multiple allotments. How absurd that a “major effect to livestock might affect “multiple pastures”! • For wildlife and fish resources, the action would result in a level of disturbance that causes substantial impairment or loss of the function of an important habitat even though some animals may still be present in the affected areas. Changes in the abundance or distribution of wildlife or fish may occur to such an extent that a population would not likely return to its previous level. Seasonal use restrictions, implementation of recommended management practices, and/or habitat mitigation are still useful; however, the impact cannot be fully mitigated within the planning area. • For vegetation resources, the action would cause a considerable effect on native plant populations, including special status plants, and the effects would cover a relatively large area inside and outside the Monument. 	Your objection to the definition of major impacts is noted.

			<ul style="list-style-type: none"> • The effect of soil productivity or fertility would be readily apparent and long-term and would substantially change the character of the soils over a large area within and outside of the Monument. • The action would cause substantial and long-term impairment of water resources over a significant portion of the planning area. • For Native American Rights and Interests, the impact would be substantial, noticeable, and permanent. The impact would change one or more character-defining features of trust resources, ethnographic resources, traditional use areas, or treaty rights, diminishing the integrity of the resource to the extent that it is no longer able to sustain traditional uses or support the exercise of treaty rights. • For cultural resources, the impact on archaeological sites would be substantial, noticeable, and permanent. For NRHP eligible or listed archaeological sites, the impact would change one or more character-defining features of an archaeological resource and diminish the integrity of the resource to the extent that it is no longer eligible for listing on the NRHP. For purposes of Section 106, the site’s NRHP eligibility is lost and the determination of effect would be “adverse effect”. 	
36	cxx	Katie Fite	This extraordinarily livestock industry-biased analysis methodology must be discarded, and a SEIS must be prepared that conducts a fair, science-based comparative analysis. BLM has wasted hundreds of thousands (or more) of taxpayer dollars in coming up with a craven scheme to elevate ranching above all other values of the Monument, despite the severe irreparable harm being caused caused by grazing to Monument.	A Supplemental EIS is not required.
36	cxxi	Katie Fite	p. 138 continues the absurdity – claiming an assumption was made that veg rehab projects would be 100 percent successful.	Your comment is noted.
36	cxxii	Katie Fite	The discussion of impacts by Resource is equally flawed, and lacks any footing in current sound science. Only the most general statements are made. The reader is not provided with any site specific information on the conditions of any the attributes being discussed in allotments, pastures, etc. – as with soil.	Your comment is noted.
36	cxxiii	Katie Fite	There is a disconnect throughout the sham analysis. For example, BLM states: Under Alternative B, grazing would prioritize utilization on non-native perennial seedings. This would reduce grazing pressures on soils in native areas, but would increase impacts to soils in seeded areas. Grazing can increase soil compaction when concentrated or heavy use is allowed, and can also contribute to physical soil crusts, which can restrict water infiltration and seed ... p. 142-143. Plus HOW will this be done? Arent allotments sacred in this flawed analysis, and different permittees graze in different allotments – so BLM cannot just move cows/sheep around across allotment boundaries.	Your comment is noted.
36	cxxiv	Katie Fite	The bottom line is that BLM has really conducted NO valid analysis– the baseline is greatly deficient – and only the most generic and general info is provide on grazing and almost no info is provided on the significant and often irreversible ecological harms caused by grazing.	Your comment is noted.

36	cxxv	Katie Fite	For fish and wildlife, BLM claims Alt B and Alt A impacts would be the same – yet BLM had just stated that there would be more grazing in seedings (magically, somehow, somewhere, maybe) under Alt B than Alt A. Yet the reader is to assume there would be no difference.	Your comment is noted.
36	cxxvi	Katie Fite	This of course goes back to the arbitrary, biased and unsupportable methods the EIS uses to define impacts. ALL sections of the so-called analysis of impacts, discussion and assumptions” of 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 4.2.8, 4.2.9, etc. suffers from the same severe flaws, biases, lack of any specific information that allows BLM to make informed comparisons, and an almost complete lack of any mooring in current ecological science. There is no fair consideration of opposing points of view, including abundant information provided by the public during scoping. Absurd Tables like Table 4.4. Acres of Wildlife Habitat Available to Livestock Grazing on BLM-Administered Lands in the Monument merely list tallies of acres in broad categories of vegetation (divorced from any assessment of degradation, cheatgrass vulnerability, etc.) across the allotment. Throughout, BLM wrongly categorizes the status quo – for example, in claiming that restoration could only take place under fuels projects – pretending the ARMPA did not take place. This appears to be done so that BLM can try to inflate the differences between the series of largely status quo alternatives.	Your comment is noted.
36	cxxvii	Katie Fite	Every part of this analysis is severely flawed. For example, it would violate the existing RMP (and the land Use Plans affecting areas of pasture and allotment areas of OUTSIDE the Monument to do as claimed in the DEIS under Alt B): Important habitats, such as lekking, nesting, and early brood-rearing areas (i.e., breeding habitat) occupied by sage-grouse (see Appendix G, Greater Sage-Grouse Occupied Seasonal Habitat Methodology on Craters of the Moon BLM National Monument Lands), outside of closed areas, would be seasonally protected through restrictions on 191,964 acres, which would minimize potential adverse impacts on sage-grouse and other sagebrush steppe wildlife during important life-cycle activities, notably breeding, nesting, and calving/fawning. Approximately 62,100 acres in the planning area would be open to livestock grazing with no seasonal restrictions, which could result in adverse effects to big game or several ground-nesting species in these areas. Effects to wildlife would be more likely to occur where concentrated livestock use results in heavy utilization of herbaceous species (i.e., perennial grasses and/or forbs) or disturbance to individual wildlife.	Your comment is noted.
36	cxxviii	Katie Fite	Lack of restrictions would very likely violate BLM sensitive species policies and FLPMA, and violate the Goals, Objectives, Management Actions of the existing bundle of MFPs and RMPs that govern grazing on non-Monument lands in the pastures and allotments. The EIS is shockingly devoid of analysis of what protections are currently in those Plans, and how they must be applied. There is no fencing separating Monument from non-Monument lands over large areas.	The analysis in this EIS does not show a need for restrictions.

36	cxxxix	Katie Fite	The DEIS lacks a discussion of environmental justice and human rights particularly as it applies to the Peruvian or other shepherders, or impoverished cowhands that are exploited by ranchers profiting from public lands grazing permits in the Monument.	Please see Ch. 3 Socioeconomics for a discussion of environmental justice.
36	cxxx	Katie Fite	DEIS Sec 4.3 is woefully inadequate. Cumulative effects result from incremental impacts of actions - when added to other past, present, and foreseeable future actions - regardless of what person or agency (federal or non-federal) undertakes those actions. The entire process consist of BLM downplaying the massive losses due to exotic seedings, BLM treatments, wildfire, livestock facilities, facility development and activity and expansion at INL, intensified ag practices on private lands, extensive degradation of BLM and USFS allotments in this landscape, expanded development, the adverse effects of the gateway high voltage line and other potential lines and development Further, analysis of only the Counties in the Monument does not address the population effects.	Your comment is noted.
36	cxxxix	Katie Fite	How many acres have burned even in the five Counties in the past 25 years? How many acres have been seeded with exotics? Where are the fires and seedings in relation to sage-grouse, big game and other rare and sensitive species habitats and populations? How much change has taken place since development of the Monument Plan (and the older data it was based on)? How does management under a series of land use plans in the adjacent landscape affect sustainability of habitats and populations? What is the footprint of livestock facilities? Where are all existing powerlines – including extensive lines and development on INL with more likely soon. To what degree have habitats become increasingly fragmented? How much removal of crested wheat and re-seeding with native vegetation has taken place across this landscape? See Knick and Connelly 2011, Crist et al. 2015, Garton et al. PEW analysis 2015. How much of the landscape is invaded by cheatgrass? How much is at risk of cheatgrass invasion? How does grazing and the current grazing practices exacerbate that risk? It is impossible to gain an understanding of the magnitude of threats facing the local and regional populations from what is actually a NON-analysis of cumulative and other effects in the DEIS.	Please see Ch. 4 for an analysis of impacts to vegetation, wildlife, livestock grazing, and cumulative effects.
36	cxxxii	Katie Fite	A Supplemental EIS must be prepared. In the meantime, because BLM has wasted so much time stone-walling on any effective changes or valid analysis of grazing, BLM should apply much more conservative measurable use standards across the allotments and keep livestock out of all weed-vulnerable still intact communities – as Interim measures.	A Supplemental EIS is not required.
36	cxxxiii	Katie Fite	Provided BLM with a CD of literature to be considered.	The literature provided was reviewed and the pertinent sources

				incorporated in the Final EIS.
37	i	Shoshone-Paiute Tribes	The Shoshone Paiute Tribes did review the Craters of the Moon National Monument and Preserve Draft Management Plan Amendment. The Shoshone Paiute Tribes appreciates the efforts of the BLM to protect sensitive sage grouse habitat. We support the preferred alternative to allow the same numbers for grazing. Sage grouse do fine with cattle grazing. If grazing is not permitted, fire will become more of a threat because of the buildup of dry grasses. Duck Valley is a ranching community and we have seen sage grouse thrive alongside of livestock in moderate numbers. We still have a good population of sage grouse.	Your support of the preferred alternative is noted.
38	i	Idaho State Historic Preservation Office	The Idaho State Historic Preservation Office (SHPO) has reviewed the applicable sections of the Craters of the Moon National Monument & Preserve Draft Management Plan Amendment. The Idaho SHPO, directed by the policy of the Idaho State Historical Society, has statutory responsibility to carry out the preservation and protection of the state's historic, archaeological, architectural, and cultural heritage resources (§67-4601 to 4619). Idaho SHPO also shares consultative responsibilities with the Bureau of Land Management under Section 106 of the National Historic Preservation Act of 1966 (36 CFR 800). A State Protocol Agreement (SPA) between the BLM and the Idaho SHPO outlines how BLM will satisfy its Section 106 responsibilities. The Draft Management Plan Amendment addresses cultural resources in a broad overview, and discusses how they are affected by activities covered under the amendment. Additional historic properties identification efforts, and effect assessments, will be completed according to SPA, as undertakings are implemented. We look forward to reviewing future undertakings on the Craters of the Moon National Monument & Preserve, and we appreciate the opportunity to provide comments.	Your comment is noted.