

Nevada State Clearinghouse

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DATE: 2/6/2015

Division of Water Resources

Nevada SAI # E2016-037

Project: Scoping - Virginia Mountains Vegetation Treatments Project

_____ No comment on this project X Proposal supported as written

AGENCY COMMENTS:

All waters of the State belong to the public and may be appropriated for beneficial use pursuant to the provisions under Chapters 533 and 534 of the Nevada Revised Statutes (NRS), and not otherwise. Any water developments constructed and utilized for a beneficial use whether surface or underground must be done so in compliance with the referenced chapters of the NRS. Any water used for the project to Establish Vegetative Cover to Prevent or Reduce Wildfire may be subject to NRS 533.436.

Any water used on the described project for construction, dust control, or maintenance should be provided by an established utility or under permit or waiver issued by the State Engineer's Office. Treated effluent is considered water as referred to in NRS Chapter 533, and is subjected to appropriation for beneficial use under procedures described in NRS Chapter 533, and specifically NRS § 533.440. Any water or other boreholes located on the project lands are the responsibility of the owner of the property and must be plugged and abandoned as required in Chapter 534 of the Nevada Administrative Code. If artesian water is located in any well or borehole it shall be controlled as required in NRS 534.060(3).

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Working to protect and restore Western Watersheds

November 25, 2015

By Email

U.S. Department of the Interior
Bureau of Land Management
Carson City District
Sierra Front Field Office
5665 Morgan Mill Road
Carson City, NV 89701

Email: <VirginiaMtns@blm.gov>

RE: BLM Carson City District Sierra Front Field Office
Virginia Mountains Vegetation Treatments Project
EA.DOI-BLM-NV-C020-2015-0034-EA

Dear Field Manager:

Western Watersheds Project thanks you for the opportunity to submit scoping comments in response to your September 28, 2015 scoping letter proposing a vegetation treatment project in the Virginia Mountains in Washoe County, Nevada. The Planning Area for the Virginia Mountains Vegetation Treatments Project is approximately 193,213 acres. Given the significant sensitive resources in the project area, this project is of particular interest to our organization and its members. The closing date for scoping comments is November 27, 2015 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 its wildlife, cultural and natural resources for health, recreational, scientific, spiritual, educational, aesthetic, and other purposes. Western Watersheds Project has over 1,500 members nationwide. Through its relation with the Sagebrush Conservation Fund, Western Watersheds Project indirectly manages 10,000 acres of land in Washoe County north of the project area.

The planning area for the Virginia Mountains Vegetation Treatments Project covers some 193,213 acres and the BLM's Proposed Action is to implement vegetation treatments on approximately 30,387 acres of that. Given the massive scale of the project, we expect that based on the results of the NEPA analysis, the Field Office will need to complete an Environmental Impact Statement ("EIS").

In the NEPA analysis for the project, please address the following issues and concerns:

Baseline Conditions.

The NEPA requires an agency to take a "hard look" at the site-specific environmental impacts of a project. Defining the baseline conditions or problem at hand is a first, vital step in understanding the effects and likely effectiveness of the proposed treatments. According to the scoping letter, a large focus of this Project would be to improve and protect greater sage-grouse habitat. Please provide site-specific information in the NEPA documents showing:

- (a) The historic distribution of juniper and juniper woodlands in the project area.
- (b) The characteristics of the extent juniper communities.
- (c) The role of livestock grazing and other BLM authorized activities in any changes in juniper distribution, habitat type conversion, and habitat degradation.
- (d) The effects of the recent fires on juniper and sage-steppe habitat.
- (e) Greater sage-grouse population trends.
- (f) Occupied greater sage-grouse habitat, and the condition of the birds' winter, breeding, nesting, and brood rearing habitats.
- (g) Habitat that exceeds the minimum 40% total shrub canopy cover in sage-grouse nesting areas that has been shown to be key to improved reproductive success (Lockyer *et al.*, 2015¹).
- (h) Areas that have been previously "treated" so the public can understand how long the effects of the proposed treatments are expected to last before repeat treatments are needed.

Alternatives.

The comparison of alternatives is the heart of the NEPA process. These are public lands that are to be managed for "multiple use" not for the benefit of one or two individuals. For all proposed uses of chemical treatments please consider non-chemical treatment alternatives so that the public can appreciate the viability of alternative methods.

Because the purpose and need for the proposed Project is "to restore the balance of perennial grasses, shrubs, and trees in the Virginia Mountains area" please propose using of only native species as alternatives to planting/seeding unnatural, invasive plants such as forage kochia and crested wheatgrass. Once established these exotic plants are extremely difficult to eradicate

¹ Lockyer, Z. B., Coates, P. S., Casazza, M. L., Espinosa, S. and Delehanty, D. J. 2015. Nest-site selection and reproductive success of greater sage-grouse in a fire-affected habitat of northwestern Nevada. *The Journal of Wildlife Management*, 79(5): 785-797.

(Pehrson and Sowell, 2011²). The planting of these exotics benefits only a couple of ranchers; their planting does not benefit either the public at large or wildlife and wild plants.

In addition to no action, and any proposed action alternatives please consider the following reasonable alternative in the analysis:

Reduced Grazing/Habitat Restoration Alternative: Under this alternative, levels of livestock grazing in sagebrush habitat are reduced to fifty percent of current actual use, no use of pastures with leks would be authorized, and seasons use restricted to protect sage-grouse during the critical nesting and brood rearing seasons. This will:

- Reduce invasive species and fine fuels buildup on land managed by the BLM (Belsky and Gelbard, 2000³; Reisner *et al.*, 2013⁴)
- Maintain and improve healthy stands of sagebrush plant communities that contribute to proper ecological function and support a wide variety of wildlife
- Reduce predation on sage-grouse by native predators by removing fences and other infrastructure associated with livestock grazing that provides perches for sage-grouse predators and by allowing the removal of stock tanks and other water sources that subsidize sage-grouse predators.
- Reduce predation on sage-grouse by cattle (Coates *et al.*, 2008⁵; USFWS, 2013⁶; Dinkins *et al.*, 2013⁷), and reduce risks of sage-grouse being flushed from their nests by cattle and disclosing the nest location to would be predators.
- Allow the removal of fences which promote juniper encroachment and pose collision risks.
- Allow recovery of meadows and allow recruitment of sage-brush in impacted areas.
- Protect juniper communities.

Environmental Effects.

The EIS should consider the impacts (direct, indirect and cumulative) of each proposed alternative on the following elements: Areas of Critical Environmental Concern (“ACEC”) and special management areas; air quality; soils; biological soil crusts; birds protected under the Migratory Bird Treaty Act (“MBTA”); cultural resources; floodplains; global climate (mandated by Department of the Interior Order No. 3226); wildfire risks; invasive species; livestock

² Pehrson, K. A. and Sowell, B. F. 2011. Converting Crested Wheatgrass Stands to Enhance Big Sagebrush: A Literature Review. *Natural Resources and Environmental Issues*, 16: Article 16. 10 pp.

³ Belsky, A. J. and Gelbard, J. L. 2000. Livestock Grazing and Weed Invasions in the Arid West. Oregon Natural Desert Association, Bend, OR. 31pp.

⁴ Reisner, M. D., Grace, J. B., Pyke, D. A. and Doescher, P. S. 2013. Conditions favouring *Bromus tectorum* dominance of endangered sagebrush steppe ecosystems. *Journal of Applied Ecology*, 50(4): 1039-1049. doi: 10.1111/1365-2664.12097

⁵ Coates, P. S., Connelly, J. W. and Delehanty, D. J. 2008. Predators of Greater Sage Grouse nests identified by video monitoring. *Journal of Field Ornithology*, 79: 421-428.

⁶ Federal Register 78 at 2520.

⁷ Dinkins, J. B., Conover, M. R. and Mabray, S. T. 2013. Do artificial nests simulate nest success of greater sage-grouse? *Human-Wildlife Interactions*, 7(2): 299-312.

grazing; Native American concerns; riparian areas; sensitive species; soils; threatened and endangered species; Unusual Plant Assemblages; vegetation; watersheds; water quality; wilderness and wilderness character; wild horses; and, wildlife.

Results of project-specific baseline surveys for special status species, rare plants, and wildlife and population trends should be provided. Each proposed alternative should be reviewed for synergistic effects with livestock grazing.

Detailed maps that show the area(s) to be treated in relation to resources including roads, livestock facilities, habitat for listed and sensitive species including greater sage-grouse and pygmy rabbit, ACEC, other designated conservation areas, and Wilderness boundaries should be provided for each of the proposed treatment sites. Vegetation maps that show the distribution of communities (including sagebrush, aspen stands, and juniper woodland), invasive species, especially cheatgrass and medusahead, vegetation treatments, and fire history should be provided.

In the NEPA analysis, the BLM should carefully consider the environmental impacts of each of the proposed methods on greater sage-grouse and its habitat. Recent science (reviewed below) indicates that many vegetation treatment methods are inappropriate in sage-grouse habitat.

Impacts to Greater Sage-grouse.

Please consider the following in developing this project:

- Consider the timing of any potentially disruptive actions such as proposed in this project with respect to sage-grouse activity. Any proposed activities on the scale proposed here should be conducted outside the key sage-grouse nesting and brood-rearing periods.
- Habitat treatments for nesting sage-grouse applied in areas with an unsuitable landscape context are unlikely to achieve desired conservation results (Doherty *et al.*, 2010⁸). Please provide site-specific data on how the locations of vegetation treatments were identified as sites that would provide suitable habitat if treated.
- Removal of juniper may facilitate raven predation on sage-grouse by opening line of sight from fence posts. Sage-grouse select nest sites and brood sites away from avian predators (Dinkins *et al.*, 2012⁹); so, by opening up fences and facilitating raven perching, the juniper treatments could paradoxically result in less nesting habitat being available for sage-grouse. It is an important management consideration to avoid negatively influencing nesting habitat to maintain nest dispersion to reduce predation (Holloran and Anderson, 2005¹⁰).

⁸ Doherty, K. E., Naugle, D. E. and Walker, B. L. 2010. Greater Sage-Grouse Nesting Habitat: The Importance of Managing at Multiple Scales. *Journal of Wildlife Management*, 74(7): 1544-1553.

⁹ Dinkins, J. B., Conover, M. R., Kirol, C. P. and Beck, J. L. 2012. Greater Sage-Grouse (*Centrocercus urophasianus*) Select Nest Sites and Brood Sites Away from Avian Predators. *The Auk*, 129(4): 600-610. doi: 10.1525/auk.2012.12009

¹⁰ Holloran, M. J. and Anderson S. H. 2005. Spatial distribution of greater sage-grouse nests in relatively contiguous sagebrush habitats. *The Condor*, 107: 742-752.

- Removal of juniper may expose many miles of fence and increase risks of sage-grouse collisions. This will contribute to the cumulative effects of the existing fences and livestock grazing on greater sage-grouse. Will the Field Office be removing any of these exposed fences?
- Long term follow up studies have found that neither mowing nor prescribed burning promoted statistically significant increases in sage-grouse nesting or early brood-rearing habitat attributes such as perennial grass canopy cover or height, nutritional quality of food forbs, or counts of ants, beetles, or grasshoppers compared with reference sites (Hess and Beck, 2014¹¹).
- Arkle *et al.*, 2014 found that restoration actions did not increase the probability of burned areas of sage-steppe meeting most guideline criteria. Of 313 plots seeded after fire, none met all sagebrush guidelines for breeding habitats. Less than 2% of treated plots met winter habitat guidelines. They concluded that sage-grouse are relatively unlikely to use many burned areas within 20 years of fire, regardless of treatment, and that reestablishing sagebrush cover will require more than 20 years using past restoration methods (Arkle *et al.*, 2014 p. 16-17). Their findings reiterate the importance of reducing threats to sage-grouse in their remaining occupied habitats.
- Sagebrush plays an important role in reducing invasions by exotic plants and maintaining native plant communities (Prevéy *et al.*, 2010¹²).
- Reduced shrub cover may impact nesting success. Habitat that exceeds the minimum 40% total shrub canopy cover in sage-grouse nesting areas that has been shown to be key to improved reproductive success (Lockyer *et al.*, 2015¹³).

Impacts to Birds Protected Under the Migratory Bird Treaty Act.

The project area provides habitat for birds protected under the Migratory Bird Treaty Act (“MBTA”). The MBTA protects individual migratory birds and their nests, not populations. The U.S. Fish & Wildlife Service maintains a list of birds protected under the MBTA on its website.¹⁴

Accordingly, the NEPA analysis should take a hard look at impacts of the proposed project to migratory birds such as Townsend’s solitaire which over-winters in juniper-sage-steppe habitat (Reinkensmeyer *et al.*, 2008¹⁵). Other significant protected birds that nest in and

¹¹ Hess, J. E. and Beck, J. L. 2014. Forb, Insect, and Soil Response to Burning and Mowing Wyoming Big Sagebrush in Greater Sage-Grouse Breeding Habitat. Environ. Management. DOI 10.1007/s00267-014-0246-6.

¹² Prévéy, J. S., Germino, M. J., Huntly, N. J. and Inouye, R. S. 2010. Exotic plants increase and native plants decrease with loss of foundation species in sagebrush steppe. Plant Ecol. DOI 10.1007/s11258-009-9652-x

¹³ Lockyer, Z. B., Coates, P. S., Casazza, M. L., Espinosa, S. and Delehanty, D. J. 2015. Nest-site selection and reproductive success of greater sage-grouse in a fire-affected habitat of northwestern Nevada. The Journal of Wildlife Management, 79(5): 785-797.

¹⁴ <http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/mbtandx.html> – accessed January 3, 2013.

¹⁵ Reinkensmeyer, D. P., Miller, R. F. Anthony, R. G., Marr, V. E. and Duncan, C. M. 2008. Winter and Early Spring Bird Communities in Grasslands, Shrubsteppe, and Juniper Woodlands in Central Oregon. Western North American Naturalist, 68(1): 25-35.

use juniper woodlands in the project area include the loggerhead shrike, *Lanius ludovicianus*¹⁶; and, the gray flycatcher, *Empidonax wrightii*¹⁷.

Special Status Wildlife.

The NEPA analysis must consider the direct, indirect and cumulative effects of the proposed action and alternatives on all special status species found in the project area.

Juniper provides important habitat for at-risk birds such as the pinyon jay, *Gymnorhinus cyanocephalus*, as well as for juniper obligates such as Townsend's solitaire, *Myadestes townsendi*.

The project area also provides important habitat for pronghorn, mule deer and bighorn sheep. Big game hunting is a popular, dispersed recreational activity that provides economic returns to the region and promotes economic diversity in areas overly dependent on livestock grazing. There is no evidence that these species benefit from sage-brush vegetation treatments (Beck *et al.*, 2012¹⁸). On the contrary, the treatments may result in changes in livestock distribution in the project area resulting in impacts to pronghorn, mule deer and bighorn sheep from forage competition (Garrison *et al.*, 2016¹⁹), displacement (Brown *et al.*, 2010²⁰), and the potential for disease transmission (Wolfe *et al.*, 2010²¹; Drew *et al.*, 2014²²).

Special Status Plants.

There are many rare and special status plant species that occur within the vast project boundary. Field surveys should be conducted at all proposed sites following established plant survey protocols. A full floral inventory of all species encountered needs to be documented, so new occurrences or range extensions for plant species are also documented. Vegetation mapping needs to occur at a large enough scale to be useful for evaluating the impacts. Vegetation mapping should be at such a scale to provide an accurate accounting of meadow and other unique areas and adjacent habitat types that will be directly or indirectly affected by the proposed activities.

¹⁶ <http://nmpartnersinflight.org/loggerheadshrike.html>

¹⁷ http://www.gbbo.org/pdf/bcp/60_Gray_Flycatcher.pdf

¹⁸ Beck, J. L., Connelly, J. W. and Wambolt, C. L. 2012. Consequences of Treating Wyoming Big Sagebrush to Enhance Wildlife Habitats. *Rangeland Ecology & Management*, 65(5): 444-455.

¹⁹ Garrison, K. R., Cain, J. W., Rominger, E. M., & Goldstein, E. J. 2016. Sympatric cattle grazing and desert bighorn sheep foraging. *The Journal of Wildlife Management*, in press.

²⁰ Brown, N. A., Ruckstuhl, K. E., Donelon, S. and Corbett, C. 2010. Changes in vigilance, grazing behaviour and spatial distribution of bighorn sheep due to cattle presence in Sheep River Provincial Park, Alberta. *Agriculture, Ecosystems & Environment*. 135(3): 226-231.

²¹ Wolfe, L. L., Diamond, B., Spraker, T. R., Sirochman, M. A., Walsh, D. P., Machin, C. M., Bade, D. J. and Miller, M. W. 2010. A bighorn sheep die-off in southern Colorado involving a *Pasteurellaceae* strain that may have originated from syntopic cattle. *J. Wildlife Diseases*, 46(4): 1262-8.

²² Drew, M. L., Rudolph, K. M., Ward, A. C. S. and Weiser, G. C. 2014. Health Status and Microbial (*Pasteurellaceae*) Flora of Free-Ranging Bighorn Sheep Following Contact with Domestic Ruminants. *Wildlife Society Bulletin*; DOI: 10.1002/wsb.393.

Adequate surveys must be implemented, not just a single season of surveys, in order to evaluate the existing on-site conditions. Due to unpredictable precipitation, arid-adapted organisms have evolved to survive in these harsh conditions and if surveys are performed at inappropriate times or year or in particularly dry years many plants (including annual and herbaceous perennial plants) that are in fact on-site may not be apparent during single season surveys.

The NEPA analysis should also consider the effects of the project on key pollinator species such as bumble bees many of which are ground nesting or nest in shrubs and thus vulnerable to trampling and consumption by livestock as well as loss of nectar sources.

Invasive Species and Fire Risks.

The NEPA documents must provide a current invasive species inventory across the project area. Because the project sites are located within grazing allotments these public lands are already at high risk for invasive species infestation. The recent, important study of Reisner *et al.*, 2013²³ concludes that livestock grazing contributes to cheatgrass domination and that mitigating cheatgrass spread would require the decrease or elimination of livestock grazing in the affected areas.

Cultural Resources.

The project area includes important archeological resources. The BLM has the responsibility of managing cultural resources on public lands pursuant to the 1966 National Historic Preservation Act, and is charged under FLPMA with managing lands to protect “the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values.” Cultural resources are non-renewable and thus authorization of any activity that may result in disturbance of cultural sites requires careful scrutiny.

The environmental review should explain how much of the project area has been surveyed for cultural resources, review the existing inventory of cultural resources, and analyze the direct, indirect, and cumulative effects of the proposed action.

Because the project area consists largely of grazing allotments and juniper removal may increase cattle use of treatment areas, the Field Office should identify the specific modifications to grazing management that may be needed to avoid and protect irreplaceable cultural resources, and should provide the specific monitoring protocols and monitoring time tables.

Current & Desired Conditions.

The NEPA documents should include descriptions of the natural vegetative community and processes at the project sites based on historical and scientific evidence; descriptions of the existing conditions and how they depart from the natural vegetative community and processes;

²³ Reisner, M. D., Grace, J. B., Pyke, D. A. and Doescher, P. S. 2013. Conditions favouring *Bromus tectorum* dominance of endangered sagebrush steppe ecosystems. *Journal of Applied Ecology*, 50(4): 1039-1049. doi: 10.1111/1365-2664.12097

evidence that the proposed treatments will bring about the desired result; and, an evaluation of the likelihood of the natural system to be self-sustaining after the treatment. Treatments should allow for natural processes to resume.

The Field Office should explain the current and desired conditions of the sage-grouse habitats in the project area. Ecological Site Descriptions (“ESDs”) are not useful to predict sage-grouse habitat use or on which to base sage-grouse management decisions (Doherty *et al.*, 2011²⁴).

One of the project goals is to “Protect and enhance historic juniper woodland habitat”. The NEPA analysis should describe the current vegetative conditions for the juniper communities, including providing an inventory of juniper stands, and how these vegetative conditions have changed (or not). This is important to the NEPA analysis because juniper invasion may be natural (e.g., due to climatic fluctuations) or human-caused (fire suppression, livestock grazing) (Miller and Rose, 1999²⁵; Miller *et al.*, 2005²⁶; Willson *et al.*, 2008²⁷). Unless the specific natural or human causes can be distinguished for a site, restoration is likely to be ineffective or possibly misdirected. “The first step in effective restoration is to identify and then modify the cause of degradation . . . If our land uses are found to be responsible for tree invasions or density increases, and if restoration is to have lasting value, it is essential to change the land uses that led to the need for restoration” (Baker and Shinneman, 2004²⁸).

Western juniper woodlands have high diversities of vertebrate species (Belsky, 1996²⁹). Because different suites of bird species use sage-steppe, juniper-sage-steppe, and old-growth juniper woodland during the nonbreeding season, a broad range of successional stages should be maintained on the landscape to provide habitat for a variety of avian species throughout the year (Reinkensmeyer *et al.*, 2008³⁰). Effective management of these juniper woodland ecosystems has been hindered by inadequate understanding of 1) the variability in ecosystem structure and ecological processes that exists among the diverse combinations of junipers, and associated shrubs, herbs, and soil organisms; 2) the prehistoric and historic disturbance regimes; and 3) the mechanisms driving changes in vegetation structure and composition during the past 150 years

²⁴ Doherty, K. E., Beck, J. L. and Naugle, D. E. 2011. Comparing Ecological Site Descriptions to Habitat Characteristics Influencing Greater Sage-Grouse Nest Site Occurrence and Success. *Rangeland Ecology & Management*, 64(4): 344-351.

²⁵ Miller, R. F. and Rose, J. A. 1999. Fire history and western juniper encroachment in sagebrush steppe. *Journal of Range Management*, 52: 550-559.

²⁶ Miller, R. F., Bates, J. D., Svejcar, T. J., Pierson, F. B. and Eddleman, L. E. 2005. Biology, ecology, and management of western juniper. Oregon State University Agricultural Experiment Station. Technical Bulletin 152. 77 pp.

²⁷ Willson, C. J., Manos, P. S. and Jackson, R. B. 2008. Hydraulic traits are influenced by phylogenetic history in the drought-resistant and invasive genus *Juniperus* (Cupressaceae). *American J. Botany*, 95: 299-314.

²⁸ Baker, W. L and Shinneman, D. J. 2004. Fire and restoration of piñon-juniper woodlands in the western United States: a review. *Forest Ecology and Management*, 189: 1-21.

²⁹ Belsky, J. A. 1996. Viewpoint: Western juniper expansion: Is it a threat to arid northwestern ecosystems? *Journal of Range Management*, 49(1): 53-59.

³⁰ Reinkensmeyer, D. P., Miller, R. F. Anthony, R. G., Marr, V. E. and Duncan, C. M. 2008. Winter and Early Spring Bird Communities in Grasslands, Shrubsteppe, and Juniper Woodlands in Central Oregon. *Western North American Naturalist*, 68(1): 25-35.

(Romme *et al.*, 2009³¹). The NEPA analysis should consider the impacts of the proposed action on the range of sage-steppe, juniper-sage-steppe and western juniper woodland communities that are present.

Maintaining richness and cover of native species should be a high management priority for sage-steppe ecosystems (Anderson and Inouye, 2001³²). Research indicates the need for adequate documentation of any proposed treatments and the conditions, including appropriate temporal and spatial scales, under which those treatments are expected to impact key species such as sage-grouse, pronghorn, and mule deer (eg. Beck *et al.*, 2012³³). Recent publications have highlighted problems associated with mowing sage-brush habitats and cautioned against mowing in these habitats (Davies *et al.* 2009³⁴; Beck *et al.*, 2012³¹; Davies *et al.*, 2012³⁵; Hess and Beck, 2014³⁶).

The BLM should explain how felling juniper will reduce fuels and risks of fire. Under natural conditions, juniper and sage-brush burn only rarely, and when these vegetation types do burn, they burn under “catastrophic” conditions, i.e. “catastrophic” fire in these landscapes is the normal state. Fire regimes were not consistent across all sagebrush-dominated landscapes, in part because sagebrush taxa and fuels recover differently after fires (Bukowski and Baker, 2013³⁷).

The NEPA documents should also explain what measures will be in effect to protect any remaining junipers from being harvested for firewood and measures that will reduce any further habitat disturbance and loss of micronutrients by removal of downed junipers.

Livestock Grazing.

Livestock grazing is the single, most prevalent, discretionary activity authorized by the BLM that impacts sage-grouse and their habitat. The District must describe the entire scope of the proposed action, including any required grazing reductions in treatment areas if it is to fulfill the basic tenets of NEPA.

³¹ Romme, W. H., Allen, C. D., Bailey, J. D., Baker, W. L., Bestelmeyer, B. T., Brown, P. M., Eisenhart, K. S., Floyd-Hanna, L., Huffman, D. W., Jacobs, B. F., Miller, R. F., Muldavin, E. H., Swetnam, T. W., Tausch, R. J. and Weisberg, P. J. 2009. Historical and Modern Disturbance Regimes, Stand Structures, and Landscape Dynamics in Pinyon-Juniper Vegetation of the Western United States. *Rangeland Ecol. Manage.*, 62: 203-222.

³² Anderson, J. E. and Inouye, R. S. 2001. Landscape-scale changes in plant species abundance and biodiversity of a sagebrush steppe over 45 years. *Ecological Monographs*, 71: 531-556.

³³ Beck, J. L., Connelly, J. W. and Wambolt, C. L. 2012. Consequences of Treating Wyoming Big Sagebrush to Enhance Wildlife Habitats. *Rangeland Ecology & Management*, 65(5): 444-455.

³⁴ Davies, K. W., Bates, J. D., Johnson, D. D. and Nafus A. M. 2009. Influence of Mowing *Artemisia tridentata* ssp. *wyomingensis* on Winter Habitat for Wildlife. *Environmental Management*, 44(1): 84-92.

³⁵ Davies, K. W., Bates, J. D., Johnson, D. D. and Nafus A. M. 2012. Mowing Wyoming Big Sagebrush Communities With Degraded Herbaceous Understories: Has a Threshold Been Crossed? *Rangeland Ecology and Management*, 65(5): 498-505.

³⁶ Hess, J. E. and Beck, J. L. 2014. Forb, Insect, and Soil Response to Burning and Mowing Wyoming Big Sagebrush in Greater Sage-Grouse Breeding Habitat. *Environ. Management*. DOI 10.1007/s00267-014-0246-6.

³⁷ Bukowski, B. E. and Baker, W. L. 2013. Historical fire regimes, reconstructed from land-survey data, led to complexity and fluctuation in sagebrush landscapes. *Ecological Applications*, 23(3): 546-564.

Cattle displaced by vegetation treatments may move into occupied sage-grouse habitat and impact sage-grouse by disturbing hens leading to nest abandonment or predation by cattle on sage-grouse eggs (Coates *et al.*, 2008³⁸; USFWS, 2013³⁹; Dinkins *et al.*, 2013⁴⁰). Recorded encounters between livestock and grouse nests resulted in hens flushing from nests, which could expose the eggs to predation. Visual predators like ravens likely use hen movements to locate sage-grouse nests (Coates, 2007⁴¹). Jankowski *et al.*, 2014⁴² found higher levels of stress hormone metabolites in greater sage-grouse in cattle-grazed versus ungrazed sites and found a positive correlation of immunoreactive corticosterone metabolites in greater sage-grouse with cattle fecal pat count. Increased stress increases susceptibility to disease.

The District should consider the role that livestock and the associated infrastructure have played in any juniper expansion in the project area. Fences facilitate juniper encroachment into sage-brush habitat by providing perch sites for songbirds within sage-brush; rows of juniper seedlings can often be seen along fences where birds perch (Evans, 1988⁴³).

Cumulative Effects.

In the past, it was common practice for the BLM to remove sagebrush and juniper habitats in favor of seeding exotic grasses to benefit the livestock grazing industry. In fact this project seems to be doing exactly the same thing. Clearly, the cumulative effects of past fuel reductions, wheatgrass seedings, prescribed burns, wildfires, biomass removal or other vegetation treatments already conducted in the planning area should be considered in the NEPA analysis.

The NEPA analysis should also include the impacts of cattle grazing in the cumulative effects analysis and consider the prior and ongoing roles that livestock grazing and livestock grazing infrastructure such as fences, have played in any expansion of juniper and any changes in fire-return intervals.

The NEPA analysis must also document the relationship between this project and the ongoing Resource Management Plan revision and the project's compatibility with the recently completed greater sage-grouse ARMPA.

³⁸ Coates, P. S., Connelly, J. W. and Delehanty, D. J. 2008. Predators of Greater Sage Grouse nests identified by video monitoring. *Journal of Field Ornithology*, 79: 421-428.

³⁹ Federal Register 78 at 2520.

⁴⁰ Dinkins, J. B., Conover, M. R. and Mabray, S. T. 2013. Do artificial nests simulate nest success of greater sage-grouse? *Human-Wildlife Interactions*, 7(2): 299-312.

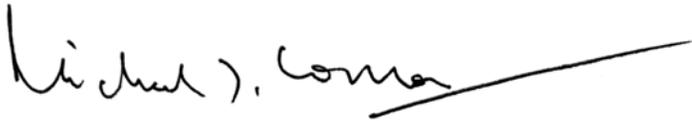
⁴¹ Coates, P. S. 2007. Greater sage-grouse (*Centrocercus urophasianus*) nest predation and incubation behavior. Ph.D., Idaho State University, Pocatello, ID.

⁴² Jankowski, M. D., Russell, R. E., Franson, J. C., Dusek, R. J., Hines, M. K., Gregg, M. and Hofmeister, E. K. 2014. Corticosterone Metabolite Concentrations in Greater sage-grouse are Positively Associated with the Presence of Cattle Grazing. *Rangeland Ecology and Management*. 67(3): 237-246. doi: <http://dx.doi.org/10.2111/REM-D-13-00137.1>

⁴³ Evans, R. A. 1988. Management of pinyon-juniper woodlands. US Department of Agriculture, Forest Service, Intermountain Research Station.

Western Watersheds Project thanks you for this opportunity to provide input into this large-scale vegetation treatment project. Please feel free to contact me at (818) 345-0425 or by email at <mjconnor@westernwatersheds.org> if you have any questions or need additional information. Please include Western Watersheds Project's California Office on the interested public list for this and related projects.

Sincerely,

A handwritten signature in black ink that reads "Michael J. Connor". The signature is written in a cursive style and is underlined with a single horizontal line.

Michael J. Connor, Ph.D.
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Dear Carson City BLM,

WildLands Defense and Deep Green Resistance Great Basin are providing these initial comments on Carson City BLM's Virginia Range Vegetation Treatment Project Scoping proposal. Thank you for considering them.

BLM's Press Release states:

The Planning Area for the Virginia Mountains Vegetation Treatments Project is approximately 193,213 acres. The Proposed Action is to implement vegetation treatments on approximately 30,387 acres (Project Area) using a landscape-level approach to identify and prioritize treatments to increase the resistance and resilience of plant communities to disturbance. The Project would be implemented over a 10-year period to increase the resistance and resilience of plant communities to disturbance. Implementation of the project would not be anticipated to occur until 2017.

This Project would use a landscape-level approach to identify and prioritize treatments to restore the balance of perennial grasses, shrubs, and trees. The goals of this Project include reducing the risk of severe wildfires, maintaining sagebrush habitat, protecting and enhancing historic juniper woodland habitat, and providing woodland products to the public, tribes, and commercial entities. Specific treatments are proposed for strategically located treatment units based on vegetation condition and objectives. Proposed treatments include mechanical mastication, mechanical removal, hand cutting, chemical treatments, chaining, and seeding. A large focus of this project would be to improve and protect greater sage-grouse habitat, and treatments would be designed to

wildlandsdefense.org

WildLands Defense is a 501(c)3 nonprofit corporation dedicated to protecting and improving the ecological and aesthetic qualities of wildlands and wildlife communities in the Western United States

address threats to greater sage-grouse from invasive annual grasses, wildfire, and conifer expansion.

BLM appears to be preparing a programmatic NEPA document for an immense land area. This describes a sprawling and wide-ranging project involving high risk of failure. The Virginia Mountains are very arid. This region has undergone much degradation and desertification. Drought is common. The area is increasingly stressed by climate change effects. The project will also be very expensive. It takes place over a prolonged period of time, and uses highly controversial and ecologically damaging methods in an uncertain and ill-defined manner.

There is much scientific controversy and there are competing points of view over what the “balance” of native vegetation communities actually is here.

An EIS is required, as the project is certain to have very significant direct, indirect and cumulative environmental effects.

A Landscape-Level Approach Requires a Candid Hard Look at Ecological Stresses in this Landscape

The Carson City BLM Virginia Mountain Project occurs in a landscape that is highly sensitive to human disturbance. The region has already undergone immense human disturbance over the past 160 years. There was widespread regional deforestation with the Comstock lode mining to the south and other settlement effects – as these lands are relatively close to larger areas of early white settlement. It has suffered chronic intensive degradation and disturbance from livestock grazing, which exerts great stress on arid plant communities. Mack and Thompson (1982), Fleischner 1994, Belsky and Gelbard 2000, Beschta et al. 2012, 2014.

Across the region, there was large-scale deforestation associated with settlement. Lanner *The Pinon Pine* 1981, Young and Svejcar 1999, Lanner and Frazier 2012. This deforestation was accompanied by serious erosion, watershed degradation, perennial water flow loss and often calamitous effects to the habitats and populations of many wildlife species. Grazing impacts and deforestation acted synergistically.

BLM must honestly assess what is “conifer expansion” and what is conifer re-occupation – taking the full historical record into account. Please carefully consider the historical record.

<http://oregonstate.edu/dept/eoarc/sites/default/files/publication/443.pdf>

Young and Svejcar (1999) ‘Harvesting Energy from Great Basin woodlands’ describes 1800s era impacts to the lands to the south in the similarly named Virginia Range, and

across the region including the Virginia Mountains. This paper also describes the widespread practice of promiscuous burning by cattle and sheepmen.

Early explorer journals, Interior's own General Land Office records and other historical accounts verify the accuracy of these sources. The settlement of the region ran on wood. Since that era, trees in some sites have managed to re-occupy sites where they were wiped out, starting in the 1860s, for charcoal, fuelwood, fence posts, railroads and other uses, or other sites where forests were burned in fires set by stockmen trying to increase grass on ever more depleted ranges.

A new later era of deforestation and manipulation took place in the 1950s-1970s. In this era, the federal government destroyed vast areas of trees and sagebrush to try to eke out more forage for domestic livestock on depleted lands. (Lanner *The Pinon Pine*, Connelly et al. 2004, Sage-grouse Conservation assessment). This led to large-scale declines in sage-grouse.

In some sites, trees are very likely re-occupying sites that BLM itself had previously destroyed in treatments.

Based on the limited references and terminology used in the scoping information, BLM appears to be largely ignoring the historical record of extensive past deforestation. The proposal is based on incorrect ecological assumptions. BLM seeks to radically alter crucial areas of the remaining arid forest and other woody vegetation communities in this very important area of public lands.

As the combined result of all of these past stresses, and ubiquitous chronic domestic livestock grazing stress plus wild and human-caused fire, the Virginia Range is undergoing rapid expansion of cheatgrass, medusahead and other invasive flammable weeds. Intensive and damaging livestock grazing and linked facilities and roading (water developments, fences, pipelines, salt/supplement sites) all serve to further aggravate the situation. So do past agency sagebrush and pinyon-juniper treatments, and wildfire fanned by flammable weeds infesting grazed and disturbed sites, and other threats.

These lands are also increasingly used as public open space. The project area is close to expanding population centers. Sprawl is also eating into the Mountains from numerous parcels of private land.

There are no easy solutions to the downward ecological trajectory.

An EIS must address in a substantial way the serious impacts of all these stresses and threats on the public lands, and a an effective plan for preserving native species must be developed.

Unfortunately, the scoping documents show that Carson City BLM is preparing yet another near-boiler plate massive treatment EA, just like the agency has been doing across Nevada. This proposal overwhelmingly focuses on inflicting severe new disturbance and forsakes passive recovery. BLM ignores the benefits of passive restoration or small, surgical treatments - as an alternative to laying waste to the remaining forested areas across the Mountain and opening them up to even greater desertification, weed invasion and habitat loss.

BLM Must Learn From Its Past Mistakes

If we understand the scoping information correctly, BLM is, in part, treating some of its own past treatments/rehabs that have failed, and have been overrun by annual grasses. What has been done here in the past? What was the cause of the previous rehab/restoration failures?

Lack of recovery from past treatments and wildfire has been caused in significant part by BLM failure to adequately rest lands from grazing disturbance for sufficient time periods so that lands could heal. In the past, BLM failed to sufficiently curtail livestock grazing disturbance so the treated, burned, seeded, and drought and climate-stressed lands could heal.

BLM must take into account the all the direct, indirect, cumulative and synergistic effects of the treatment proposal aggressive disturbance – the use of clearcutting, heavy equipment, chemicals, likely new barbed wire fencing and other methods. It appears to us that instead of making lands more resilient, many of the sites, and this landscape in general, will instead become less resilient. An honest risk assessment must be conducted to determine if the actions BLM seeks to employ in this latest battery of projects will in reality make lands LESS resilient and LESS resistant in the face of grazing, climate change, exotic invasive annual grasses, and other threats.

BLM must conduct a valid, science-based risk assessment to understand the magnitude of stresses, the full impacts of the disturbances that it seeks to impose, and to chart a protection-based path forward. BLM cannot repeat the same old killing of native vegetation for livestock forage and/or efforts to rehab past rehabs based on trying to eke out more livestock forage through seeding exotics and aggressive over-sized cultivars. Yet these same failed actions appear to be a major part of this 2015 project.

We are very concerned that sage-grouse are being used as cover, (and sage-grouse funds diverted) for yet another of the BLM's long-failed livestock forage "rehab" treatment schemes. See Aro 1969 for example. This uses many of the very same forage production schemes as the 2015 Scoping proposal projects. So how is the 2015 proposal any different, really, than the forage schemes from 1969? These projects certainly did not prevent large-scale fires. In fact, many of these millions of acres of 1960s era "converted" sites across the West are the very areas that have experienced frequent and repeated fires.

Where Are Trees and Sagebrush Naturally the Climax Vegetation?

First, BLM must establish where trees and sage are supposed to be growing, based on historical documentation, precipitation and elevation zones, and evidence of old stumps, burned wood, etc.

Unless it does this, BLM will once again spend huge sums on projects that are likely to in fact make matters WORSE for native biota of all types - sage-grouse, gray flycatcher, black-throated gray warbler, and a broad range of other native biota. In that regard, the project is itself “redundant” - another “r” word that agencies like to use in regards to sage-grouse. That is because this same pattern of wreaking large-scale treatment disturbance on public lands has taken place so many times in the past, and has been a failure for the land and the birds.

BLM appears to be using the same flawed models (the NRCS Ecosites, FRCC models, etc) that have not worked to rehab or restore lands in the past. These typically rely on inaccurate and out-dated range info, convoluted models, and self-serving reasoning. They are used to justify the massive and often irreversible ecological and wildlife habitat destruction that the aggressive disturbance and treatment methods BLM is proposing to use cause.

What is the Basis for Fire Regime Classes Used in Scoping Mapping?

The BLM provides a map that uses three levels of “Fire Regime Classes”. Please provide all scientific sources used in determining these Classes. What are all assumptions made regarding fire return intervals/years between fires/fire frequency, HRV (historical range of variability), and likelihood of various plant communities to burn under different scenarios? How does the presence of cheatgrass affect these condition classes? Are mature and old growth sage and forested communities possible under the disturbance intervals and models being used? If so, how much of the land area would these communities occupy? How does BLM define mature communities? Old growth communities? What role do natural plant successional processes play in BLM’s models and Fire Regime Condition Classes?

BLM must also fully describe what the agency considers to be “restoration”, as well as other terms used to support the manipulation scheme.

Full Assessment of Sage-Grouse Status, Occupation, Usable Areas of Landscape, Population, Stresses/Threats, and Viability Must Be Provided

The sage-grouse population is very small. How has it changed over time? How have lek locations and activity changed over time? The status and trajectory of the sage-grouse population in the Virginia Mountains, PahRah Range and surrounding lands must be fully

assessed. Please provide detailed mapping and analysis of all active, inactive, historical and unknown or other lek category leks for all periods of time that records have been kept.

How many birds occupied this area in decades past, based on long-term NDOW records?

We have reviewed the following from an early 2000s NDOW plan laying out PMU areas: http://www.ndow.org/uploadedFiles/ndoworg/Content/Nevada_Wildlife/Sage_Grouse/Pah-Rah-Virginia-PMU-Plan.pdf

Lek counts provide the best index to breeding populations. However, only one active strutting ground is known to exist in this unit. This lek which is located in the northern portion of the Virginia Mountain Range has declined in numbers from 75 birds in the early 1990's to 20 birds in 2001. A large wildfire, which occurred in 1999 and removed most of the nesting habitat associated with this lek, may be the primary cause of this decline. Aerial lek surveys were conducted in the Pah Rah's in the spring of 2001. No birds were observed actively strutting on a lek however, six males were observed flying as if they had just been flushed from a strutting ground. This area has the look and feel of a lek site however, urban development is fast overtaking what is left of the wild lands in this area. If a lek is located in this general area it will be lost to housing development within the next five years. Given the number of sage grouse known to exist in the Pah Rah Range it is the recommendation of the subgroup that NDOW continue to search for lek sites in this mountain range.

Then after intensive lek searches were undertaken, a few leks were found.

http://www.ndow.org/uploadedFiles/ndoworg/Content/public_documents/Nevada_Wildlife/WGA%20WVC%20Sage%20Grouse%20Report.pdf

The smallest PMU in the planning area is the Virginia/Pah Rah PMU at 355,000 acres collectively. These two PMUs, combined as one, are positioned in proximity to the Reno-Sparks and North Valleys areas of southern Washoe County and are subject to suburban development, infrastructure (transmission lines), dispersed recreation, increased frequency of human caused wildfire and potential renewable energy development. Cumulatively, these factors have diminished suitable sage-grouse habitats and sage-grouse population size. Eleven lek visits were made to 4 leks of which 3 were active during the 2010 spring breeding season. A total of 83 males were observed on these 3 leks resulting in an average of 27.7 males per active lek.

http://www.werc.usgs.gov/ProjectSubWebPage.aspx?SubWebPageID=1&ProjectID=215&List=SubWebPages&Web=Project_215&Title=The%20Virginia%20Range%20Of%20Northwestern%20Nevada

*The Nevada Department of Wildlife (NDOW), U. S. Geological Survey (USGS), and Idaho State University (ISU) collaborated on an intensive effort to monitor a population of Greater Sage-Grouse (*Centrocercus urophasianus*; hereafter sage-grouse) in the Virginia Mountains of northwestern Nevada. A portion of the study area is scheduled for development of wind energy and associated transmission infrastructure. Sage-grouse within this area may experience substantial alterations in habitat and predator communities following development of wind turbines, transmission lines, facilities, and roads. Regulatory agencies consider potential alterations as threats to sage-grouse population persistence ... have initiated a before after control impact (BACI) study design to investigate these threats. The purpose of this study is to collect and interpret empirical data before and after construction of energy infrastructure to understand and mitigate any threats to sage-grouse and other sagebrush endemic vertebrates. This report documents a summary data and preliminary findings of 2009 and 2010, which represent the pre-construction years of the ongoing study.*

What is taking place with the proposed wind development? Has this proposal been abandoned? What about potential wind or other development on private land? Or new transmission lines or other development on BLM land? And what is the extent of suburban sprawl and housing development expansion?

Also, has there been any translocation of birds – for example, new releases into the PMUs?

What are the current numbers of birds and extent of leks in the area? How have development and/or fires in surrounding lands affected lek attendance? The map of grouse habitat does not show where the leks in this region are located. It also does not show important seasonal habitats. But it does show the fragmented and broken up nature of the habitat categories used in the BLM RMP amendment mapping of occupied habitats.

With agencies having found so few leks and birds even after very extensive searches, the WERC report provides a firm foundation for the removal of livestock disturbance from the habitats of the Virginia Range as the first step towards reducing disturbance to the very small population. This is a primary step towards allowing passive restoration of the naturally “resilient” higher elevation communities so that they can heal. This will allow natural recovery of the areas most used by the birds at present, and better buffer the lands against climate change effects.

Passive restoration will best provide for the structurally diverse cover required by nesting birds, and the diverse native forbs and protective understory screening cover required by broods for survival. The NDOW 2010 Report describes:

- *Successful nests had greater measurements of vegetation cover (52.5% 2.7) than those of unsuccessful nests (41.0% 2.3).*

- *Shrub over sage-grouse nests: mean maximum height = 76.1 cm ± 4.4, mean greatest width of nests = 117.5 cm ± 5.8, mean perpendicular width = 88.1 cm ± 5.1, mean litter depth of nests = 2.3 cm ± 0.2.*
- *Twenty-five percent of nests were found underneath sagebrush, and of the 75% non-sagebrush coverage, 20% were found under rabbitbrush (*Chrysothamnus* spp.).*
- *Nest placement by sage-grouse depends on available and desirable habitat of the area and in this study area, our preliminary results suggest sage-grouse do not select for sagebrush cover in the vicinity of the nest but frequently choose sagebrush for nest placement.*

Preliminary findings suggest females select perennial grass when choosing nest sites, while avoiding annual cheatgrass at proximities of ≤ 10 meters from the nest.

How Does the RMP Amendment Affect This Area?

The new RMP amendment segregates much of the project area into habitat with a low status. See Scoping Mapping.

If BLM really aimed to restore viable populations here, a much larger area would be considered the highest priority habitat, and occupied would not be broken up.

BLM should consider an alternative to restore connectivity with other larger sage-grouse populations to the north or west, rather than deforestation of the limited trees that remain in the Mountains.

How Does BLM Define Resilient?

Grouse declines, habitat loss and fragmentation and population extirpation will be worse if BLM kills and thins everything in sight, and attempts to create an artificial bio-engineered landscape through ignoring natural plant successional processes.

BLM's description of what seeding may entail is alarming. BLM plans large-scale use of invasive exotic livestock forage grasses and other alien plants. BLM must use only local native species ecotypes in any seeding that is done.

We are concerned about the serious long-lasting consequences of BLM using exotic aggressive invasive species like cwg and/or forage kochia. In this project, the agency will seed exotic coarse grasses and over-sized "cultivars" (many of the latter cultivars are not even native to the Great Basin and that may aggressively out-compete the native forbs and native grasses/local native ecotypes).

Species that BLM typically proposes to seed (many of them ecologically deleterious and weedy) have been developed primarily for their livestock food values and toughness so as to keep large-scale grazing disturbance continuing unaltered. If these are used, the sage-grouse (and other wildlife) will face even greater threats. Once weeds like crested

wheatgrass and forage kochia are seeded, they are nearly impossible to remove without a tremendous new input of funds, and large-scale disturbance. Plus range staff base livestock use on the seeded plants, guaranteeing the further demise of native vegetation components.

No matter what the treatment may be, BLM must remove livestock grazing to protect the very significant public investment in this project. Flammable weeds respond to both treatment and chronic grazing disturbance. They choke out the fragile native plants, especially the vegetation components like forbs that grouse require. With continued grazing stress, cheatgrass/medusahead inevitably expands in the interspaces no matter how much herbicide BLM attempts to apply. The habitat becomes further irreversibly altered.

All of these threats to native biota, including to the full range of species from sage-grouse to loggerhead shrike to ferruginous hawk, are not mentioned in the scoping analysis that describes “expanding” and flammable trees and woody plants. This ignores that the trees are very often the LEAST flammable vegetation present, and the most reluctant to burn except in extreme fire events when there is really no way effectively “control” wildfire.

The project area is severely altered by grazing stress, failed past treatments, failed past fire rehabs, and general mis-management. An honest assessment of the fire return intervals in pinyon-juniper communities, and assessment of how readily and frequently annual weed areas burn, and/or shrubs with understories of continuous flammable weeds burn, would reveal that the project would very likely make many areas of the lands MORE fire prone, not less. Treatment based on false and inaccurate fire return and disturbance intervals, and without honestly addressing relative fire risk of native woody vegetation vs. exotic seedings, will result in decisions that threaten and may doom native biota. Bukowski and Baker 2013.

Status of Many Important and Sensitive Wildlife Species Must be Carefully Assessed

BLM provides almost no information on native biota inhabiting the Virginia Mountains and surroundings.

http://www.blm.gov/style/medialib/blm/nv/field_offices/carson_city_field/fire_management/2002_esr_ea0.Par.80893.File.dat/Final%20EA.pdf

This describes:

Mule deer are found throughout the Field Office. Up to 18,000 deer reside on public lands at some time during the year. There are three interstate herds which winter on BLM in Nevada and summer on U.S. Forest Service and private land the rest of the year. The key vegetative species on winter ranges is antelope bitterbrush, a species which does

not recover easily after any fires except ones that burn very cool. Winter areas include Petersen, Dogskin, Seven Lakes, Pine Nut, and Virginia mountains ...

Antelope are scattered throughout the district in small numbers, except in winter, when they herd up. Important areas include ... the Pah Rah Mountains east of Sparks.

Mountain sheep: California bighorn sheep are found on the Virginia Range [Mountains?] north of Reno and as far west as the California border.

Won't the aggressive disturbance methods use in this project kill native shrubs in treated areas? Aren't the trees providing a vital function by providing screening and thermal cover for deer? And helping protect animals from poaching and human disturbance in this intensively used area?

BLM Provides only Meager Conservation Protection for Virginia Range Grouse in Its RMP Amendment

BLM failed to designate ACECs in the RMP Amendments. So now in this current proposal, we request that BLM consider designating an Area of Critical Environmental Concern to protect the “relevant” and “important” values here – including both sage-grouse and forest dependent species habitats and populations – from irreparable harm or undue degradation. Please let us know if BLM will work with us on this proposal. This will aid in providing a balancing of uses under FLPMA – use by forest dependent species, and use by sage species.

Why did BLM not care enough about sage-grouse enough in the Virginia Mountains to propose the lands for the RMP amendment Mineral withdrawal? Given the very low numbers of birds, the significant stresses - BLM should apply all possible levels of protection – and use this process to designate an ACEC. BLM's forsaking of the Mountains is evident here: See:

<http://blm-egis.maps.arcgis.com/apps/webappviewer/index.html?id=45b2d7896c36467aac3990b739d75a26>

It seems that the primary areas where BLM is proposing withdrawals is sites where there is a low threat of mineral development.

See documents at:

http://www.blm.gov/wo/st/en/prog/more/sagegrouse/documents_and_resources.html

Review of mapping at BLM's GRSG Webpage, shows BLM recognizes only limited habitat as being of any importance to the birds. How do the projects overlap and relate to those habitats?

http://www.blm.gov/style/medialib/blm/nv/wildlife___fishes/sage_grouse.Par.17552.File.dat/15-05-27GRSG%20Proposed%20Plan%20Habitatmap.pdf

<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=31103>

BSUs:

https://eplanning.blm.gov/epl-front-office/projects/lup/21152/63819/69162/Map_Figure_2-2_NVCA_GRSG_BSUs_and_PHMA.pdf

Can a viable population be maintained in such a minimal area?

https://eplanning.blm.gov/epl-front-office/projects/lup/21152/58742/63818/2.05_GSGH_ProposedPlan.pdf

BLM Must Consider Alternative Methods - Purpose and Need Shows EIS Is Required

The Purpose and need is described as:

The purpose and need of the proposed Project is to restore the balance of perennial greases, shrubs, and trees in the Virginia Mountains area to:

Reduce the potential of large-scale high severity wildland fire; Provide for public and firefighter safety and protection of property and infrastructure; Maintain sagebrush habitat, riparian plant communities, wet meadows, and springs; Protect and enhance historic juniper woodland habitat; and Provide woodland products to the public, tribes, and commercial entities.

Which of the specific projects addresses each of these claimed needs? BLM cannot merely provide a laundry list of justifications/claimed need for treatments. How might these projects increase the potential for large-scale high severity fires? For frequent fires? What areas does BLM consider to be historic juniper habitat? The information necessary for the public to make informed scoping comments simply has not been provided.

We are concerned that this Project is derived from flawed models, blindness to historical data and denial of basic ecological processes like plant community successional processes.

Examples of information that must be carefully examined: Historical vegetation communities occupying sites, natural disturbance intervals, relative fire risk and cheatgrass/medusahead/invasive species risk of expansion and site dominance information, effects of roads and vegetation clearing on increasing human fire risks, etc.

The scoping information fails to discuss the potential for weeds to explode across the landscape after: Aggressive deforestation, and significant disturbances of soils and microbial crusts from heavy equipment crosscountry travel. This includes violently uprooting trees through chaining, dragging/skidding trees, masticator operation, pile burning trees, hauling of wood chips for possible polluting “biomass”, and whatever else the agency may unleash on the remaining native vegetation woody communities of this very important area.

Expensive large-scale deforestation and treatment schemes like the Virginia Mountains Treatment project serve to distract public attention from the continued deterioration of sage-grouse habitats due to chronic poorly controlled domestic cattle and sheep grazing disturbance. They distract public attention from the pressing need for healing rest for lands not yet dominated by weeds - so that they can recover and be less vulnerable to the often permanent and irreversible effects of flammable invasive species, which dramatically alter natural fire cycles to a much greater degree than do forests, where trees are often growing into, and occupying/re-occupying, areas of historical and pre-settlement occurrence.

Please carefully review the following article: Connelly (2013) *Getting Nowhere Fast*. The paper discusses that it does not matter how many trees agencies kill, it is crucial to take better care of the existing sagebrush habitats. THAT is what this “restoration” project does not do. We note that mapping shows every acre of BLM land appears to be in a grazing allotment - PahRah, Hardscrabble, Paiute, Antelope, Winnemucca Ranch, Contantia, Flanigan, Big Canyon. This proposal does just the opposite – in proposing sprawling treatments based on questionable models.

Please also review current sage-grouse literature. Knick and Connelly 2009/2011 Garton et al. Chapter population analysis, 2015 PEW Garton et al. analysis. *Greater Sage-Grouse Population Dynamics and Probability of Persistence*. <http://www.pewtrusts.org/~media/assets/2015/04/garton-et-al-2015-greater-sagegrouse-population-dynamics-and-persistence-31815.pdf> Crist et al. 2015 highlight the perils of the fragmentation of occupied habitats, yet the aggressive treatment projects may increase fragmentation through collateral damage and other loss of sagebrush.

Mapping with the project does not provide a solid baseline of the existing on the ground vegetation communities, the condition of these communities (including exotic grass species presence, bare soil areas, health of microbiotic crusts) and other vital data. It also does not place the projects in context so the relative degree of loss of woody vegetation in the landscape can be understood. This is necessary so the relative scarcity of threatened values can be assessed and project harms minimized and mitigated, as required under FLPMA. Where will BLM's treatments eliminate the primary forested areas that remain in a landscape increasingly choked by weeds, and greatly altered by human disturbances – such as past deforestation, treatments and fires?

The project would radically disturb vast areas - log, chop, chip, drag, violently uproot trees - and the sage and bitterbrush too as collateral damage. No baseline is adequately provided of the characteristics of the existing vegetation, percent cheatgrass in understory, percent shrubs, age of trees, density/canopy cover of trees on sites. It may also coat the ground with wood chips, and certainly will drive heavy equipment crosscountry destroying understory shrubs, microbiotic crusts, and grasses and displacing soils and exposing them to wind and water erosion.

There is no candid analysis and review of how livestock grazing occurs here, whether allotments are failing to meet land health standards, how severe annual use is, amount of actual use, carrying capacity, stocking rates, etc. There is no candid analysis of how the project will effectively deal with the livestock disturbance stress on this landscape.

We are concerned that treated areas will have will have a woefully deficient and minimal time period of rest from livestock grazing, and that use will be intensified in untreated areas during minimal rest of treatments.

The RMP amendment fails to provide necessary prolonged healing time required for resilience and resistance. Native woody vegetation - shrubs and trees - anchor the plant community. They must be fully established and providing significant structure and shade to trap moisture on the site and provide safe sites from grazing impacts. See Prevey et al. 2009 describe how vital woody cover is for anchoring arid plant communities.

The proposal does not ensure that healing recovery of understories and sagebrush sufficient to resist invasive species and provide for sage-grouse habitat needs will take place following treatments. BLM must describe how long sufficient recovery to ensure “resilience” will take. Understories and any trees and/or sage - including plants amid, under or near trees and other vegetation - will be crushed, smashed, uprooted/chained, burned from pile burns, seedlings destroyed or smothered in wood chips.

This is especially the case since there is the uncertainty of overlapping treatments, effective “rehab” measures and protective recovery criteria. The BLM scoping document lacks sufficient clarity, site-specific baseline information, mitigation and analysis.

Many Questions Must Be Answered in An EIS

The Scoping Info is heavily slanted towards a one-sided portrayal of trees:

The current trends in vegetation would continue. Juniper trees would continue to increase in density and expand into sagebrush communities and the health of shrub and understory plants would continue to decline. Conifers would continue to invade riparian areas and cause them to decline in health. Hazardous fuel conditions would continue to accumulate beyond levels representative of the natural (historic) fire regime and threaten to damage the sagebrush, woodland, and riparian habitats through the high risk of intense wildfires difficult to control.

BLM claims junipers are increasing in density. How dense are natural juniper forests? Aren't dense juniper forests less likely to burn under most fire scenarios? Is it possible to stop climate-driven fires – with high winds on very hot days – through removal of trees? How bared would lands need to be to stop large-scale wind-driven fires?

Outcome Appears to Be Fore-ordained

BLM states:

Specific treatment units have been evaluated to determine the most appropriate treatment method and resource protection measures based on slope, aspect, terrain, soil, vegetation composition, vegetation condition, amount of fuel/biomass needed to be removed, overall access on site, visual disturbance, and proximity to major roads.

It appears the outcome of this process is fore-ordained, and BLM is merely going through the motions of NEPA. The proposed limited consideration of alternatives also confirms this. If the preceding statement is correct, then where is all of this data and analysis? We cannot find it in the minimal scoping information provided to date. The scoping just tells us what BLM is planning on doing, and does not provide information sufficient for informed public comment based on the available (apparently to BLM only) data and analysis.

We are very concerned that this appears to be another rubberstamp process, just like the Ely BLM's Cave Lake EA and many others conducted by Nevada BLM.

Project List Concerns and Questions

Winnemucca Ranch. Won't mastication choke the ground with chips? Disturb soils with heavy equipment? Promote cheatgrass by making a hotter, drier windier site and a longer fire season?

Dry Valley South. Is BLM proposing to widen the road? By clearing vegetation near roads, BLM will make it much more likely that human-caused fires will be ignited. This includes vehicle catalytic converter fires, target shooting fires, etc. These fires appear to be much more serious threats to the sage-grouse habitats than the much less frequent large-scale climate-driven fires that BLM will not be able to stop. What is meant by “improve access”? Can’t BLM already access this area just fine with its fire equipment? Why isn’t BLM considering road closures instead of massive deforestation to limit human-caused fire starts?

This treatment area is also much too large an area for a “fuelbreak”. Mastication will increase weed infestation and spread. Deforestation will make the site hotter, drier, windier and result in a longer fire season. BLM must consider a greatly reduced area, based on the concept of defensible space.

Dry Valley North. This appears to be failed a past BLM fire rehab. Any treatment in the Mountains should focus on restoring native vegetation to the site. Not planting aggressive harmful exotics like crested wheat, forage kochia or other weedy species. WHY did the past treatment/rehab fail? WHAT has been seeded across the landscape in the past? How long were lands rested from grazing following the fire? BLM must provide candid analysis of failed past rehabs, fuelbreaks, etc. in Carson City and across arid Nevada lands. See Arkle et al. 2013 describing the resounding failure of BLM rehab efforts to sustain sage-grouse and other values of the public lands. Across Nevada, we have observed cheatgrass-infested BLM “fuelbreaks” that are very significant fire hazards.

Dry Valley South. Won't this project just result in increased cheatgrass dominance once BLM disturbs and deforests the site?

Dogskin. Since the area contains forested values, a clear alternative is to let the area alone, and allow the forest to develop and mature unmanipulated by human inreference, treatment, woodcutting, motorized vehicle use disturbance, etc. From the description of this and other projects, it seems that a primary problem in the area is too many roads. Alternative restoration actions include significant closure of roads – to limit human-caused fires, provide habitat security and freedom from disturbance for wildlife – sage-grouse, mule deer, antelope, etc. This should be coupled with removal of livestock grazing.

Are any shrubs present? If so, how will they be protected from mowing? Herbicide use is not a solution to deep-seated ecological problems – such as the grazing and trampling disturbance from livestock grazing.

Clearcutting Many Areas

BLM proposes massive clear-cutting in what the agency claims are Phase I forest sites. The scoping lists the following acreages:

5. *Pah Rah (173 acres)*
6. *Little Valley (3,453 acres)*
7. *Big Canyon (3,156 acres)*
8. *Winnemucca Valley South (3,018 acres)*
9. *Vinegar (1,289 acres)*
10. *North Dry Valley (833 acres)*
11. *South Dry Valley (1,379 acres)*
12. *Hardscrabble (326 acres)*

This seems to be massive overkill. Instead of using a surgical approach, BLM appears to be wiping out nearly all the trees in the landscape. The agency has failed to identify the location of leks and other elements of the habitats including seasonal use areas occupied and habitually used by sage-grouse in this region. Where are the leks? How many of the trees to be killed are in rocky areas? On slopes too steep for much grouse use. What percentage slopes will be treated in all areas? What areas in the landscape are not likely to be used to grouse to any appreciable extent – no matter how much deforestation BLM conducts?

We are very concerned with the use of artificial “Phase” categories. These lump all age classes of trees together based on canopy “closure”. Use of the Phase scheme will result in clear cutting and other treatment destruction of mature and old growth trees. Before BLM can develop any “restoration” treatment, the agency must first determine where forested vegetation is the naturally occurring vegetation community - given elevation, precipitation, and taking into account past deforestation and burning. Only after it does that can the agency develop a sound plan for real restoration, and a suitable alternatives range. If BLM were to do that, the range of alternatives is very likely to be much different. Instead of there being a “need” for scorched clear-cutting, chaining, mastication, etc, BLM might find that in fact there is a “need” to allow relatively fire-resistant forested vegetation communities to develop on many sites, or to plant trees to make up for a long-term deforestation deficit. It might find that the best option for sage-grouse is to remove livestock from the riparian and upland areas in lands currently occupied to a significant extent with only very limited and small acreage conifer “treatments” if these are even necessary at all.

In and surrounding many of these areas slated for tree removal, there is a paucity of forested vegetation in sites that should be occupied by trees. This is plainly evident from the aerial satellite images available on-line, including on BLM’s own Geocommunicator site. Please overlay this and determine just what percentage of forested and other vegetation will remain following these treatments.

After all these projects have been conducted, just how many trees will remain in and surrounding the project area and Mountain range? Where? Isn't this a very arid site, surrounded by other very arid sites, where recovery of native vegetation takes a very long time under the best of circumstances? How much drier is this treatment likely to make the Mountain Range? How will drought amplify these effects? Or climate change?

How long does it take for a fully developed forest to mature in the Virginia Mountains? Where are all mature forests in and surrounding the Mountains? Where is the old growth referenced in the Purpose and Need, and how does BLM define old growth? Wouldn't development take hundreds of years?

Many elements of this project will not restore the area, but instead will cause new extensive disturbance to soils, vegetation, crusts, native shrubs and of course trees – and will lead to further ecological collapse. The end result will be a hotter, drier, windier more fire prone Mountain Range and landscape where fire season starts several weeks earlier than if native forested (and shrub) vegetation was present. Trees trap wind-driven snow. They shade the ground, reducing rapid site drying following precipitation events. Yes, they intercept precip. and they, like all plants, transpire. But so do all forested communities across the globe. If the agency is interested in reducing site drying, or reducing hazardous flammable fine fuels that cause fire to flash across the landscape, it would eliminate the grazing disturbance to the soils, crusts, and understory vegetation. The range mindset that these massive treatments are based on ignores the severe negative effects of clearing of woody vegetation in grazed arid lands. See Steinfeld et al. *Livestock's Long Shadow*.

Deforestation may also result in less precipitation falling – as there is increasing evidence of complex interactions between forested vegetation and rainfall. It will also reduce the ability of the land to absorb carbon dioxide through removal of trees.

Is the sage-grouse element of this massive deforestation scheme based on the abstruse models of USGS's Coates – which claim, essentially, that all trees within several miles of leks should be removed –or sage-grouse will not use the area. These models are false. Please review Bukowski and Baker (2013) review of GLO records showing the natural and often complex dispersion and intermingling of trees in historical sagebrush communities. If the Coates modeling is correct, then sage-grouse pretty much could not have inhabited very much of Nevada pre-settlement, as the early historical records show expansive forested vegetation communities across much of the Basin and Range region.

The models also do not appear to accurately factor in slope, rocky outcroppings and other elements of terrain and dispersion of communities.

We are very concerned that abstruse models of all types are being used to justify killing woody vegetation for livestock forage and/or so BLM can create an illusion of doing

something to “conserve” sage-grouse while at the same time the agency allows serious grazing, roading, spring water and wet meadow depletion and other activities to continue little-changed. These projects are identical to those that BLM has been doing for the past 60 years for livestock forage. See Aro 1969, Lanner *The Pinon Pine* 1981, Connelly et al. 2004. These types of aggressive sprawling projects are what has led to many precipitous declines in sage-grouse populations in the past.

Winnemucca Valley North –BLM proposes large-scale deforestation, and claims there is a need for wildlife corridors. This is puzzling, since the area receives considerable human use and disturbance, and the existing forested vegetation is providing essential screening and hiding cover to shield wildlife from human disturbance.

Many of the concerns we raise for a specific project apply to other projects as well.

Several Projects Are Not ESR, But Instead Appear to Be Livestock Forage Schemes

It is unclear just what is going on with the ESR projects. BLM refers to ESR projects, i.e. Emergency Stabilization. How recently did the fire occur that BLM is claiming constitutes an emergency in “stabilizing” the aftermath of?

BLM states:

... units are identified for emergency stabilization and restoration (ESR) treatments. The areas should be pre-cleared with a class III survey to allow for prompt ESR activities.

If there is some kind of emergency here for the birds or other values, then BLM must certainly use this process to designate an ACEC.

In describing Bedell Flat, BLM proposes use of the aggressive invasive exotic crested wheatgrass (see for example Grant et al. 2012, Stoller INL Shrub-steppe long-term inventories 2013). Under no circumstances should this or other exotic plants be seeded. The notice fails to adequately describe the full range of past disturbance and conditions on these sites.

Planting aggressive weedy exotics will largely eliminate native forb establishment and hamper sage establishment. Mixing cwg in with Sandberg bluegrass is likely to doom the effective establishment and/or persistence of the Sandberg bluegrass. If herbicides are used, the seeded species are very likely to not become established. Aggressive drill seeding will uproot and injure any native local ecotype Sandberg bluegrass and other native understory plants that are already present.

Where are microbiotic crusts present and what is their cover (here and across all the project areas and affected watersheds)? How will any areas of developing/recovering

crusts be protected from drill seeding damage and loss? How would recovery of crusts reduce flammable cheatgrass? See Deines et al. 2007, Ponzetti et al. 2007, Serpe et al. 2007. Please provide studies and mapping of crust cover and potential.

How much woody vegetation is present? Where? How will it be altered by the “ESR” activity that does not appear to be directly associated with the immediate aftermath of a recent fire? Will this involve extensive use of herbicide? If so, how will native vegetation that is present be protected – including native seedlings? What elevation are these areas? Is there the potential for understories to recover if livestock grazing disturbance and stress is removed, i.e. for use of passive restoration?

This section is particularly strange, because it attempts to use ESR (and ESR funds???) in an area that has not very recently burned, but has very likely has been significantly “cow-burned”, preventing native recovery and promoting cheatgrass domination.

WildCat Spring Chaining and Overall Project Impacts Wrongly Ignored by BLM

BLM claims the area is “heavily encroached with juniper”. Is it instead occupied/re-occupied? What are the ages of all tress on the site? Chaining is highly non-selective, and lays waste to the land as bulldozers rip cross country uprooting trees, destroying wildlife habitat, killing small mammals, and damaging potential cultural sites.

The description is also confusing, since it appears there are standing dead trees that will also be chained, as well. What killed them? Isn’t there great value in standing dead trees as wildlife habitat, and for the shade and blocking of wind that burned tree structure provides?

It is absurd to claim that this will be some kind of a boon to the sagebrush –as chaining lays waste to all the woody vegetation – sage included. It causes large-scale damage to soils and watersheds. It will also significantly damage the understory grasses that BLM claims are present.

What is the value of the trees that will be destroyed in all parts of this massive treatment scheme? How much does chaining and all parts of this project cost? What are the sources of funds for this and all other elements of this land, watershed and habitat ravaging Virginia Mountains treatment proposal?

BLM Must Ensure Compliance with the RMP

The Carson City RMP is quite old, and often does not effectively balance uses in a modern day sense. BLM cites the following parts of the RMP as a basis for the project.

□ *FIR-2.1 Restore fire as an integral part of the ecosystem, improve the diversity of vegetation and to reduce fire hazard fuels;*

- *FOR-1.1 Forest and woodland management will be based on the principles of multiple use, sustained yield, and ecosystem management;*
- *LSG-1.1: Maintain or improve the condition of the public rangelands to enhance productivity for all rangeland and watershed values;*
- *RIP-2.1 Protect and maintain existing and potential fisheries and riparian areas in good or better condition (proper functioning condition);*
- *WLD-2.4 Maintain and improve wildlife habitat, including riparian/stream habitats, and reduce habitat conflicts while providing for other appropriate uses; and*
- *WLD-6.4 Wildlife habitat improvement projects will be guided, in the most part, by provisions in activity level plans such as habitat management plans, or interdisciplinary activity plans. These plans will be developed through consultation with interested parties and will be coordinated with livestock, wild horse, and wilderness plans. These plans will be focused on rehabilitation and improvement of wildlife habitat through protective fencing, water developments, grazing management, and vegetation treatments.*

In order to live up to the RMP, BLM must understand the proper historical role of fire. Many of the projects proposed in scoping are not compatible with sustained yield. BLM must consider a much broader range of alternatives to comply with the RMP.

We note that the RMP contains many actions now known to be quite harmful to wildlife – such as extensive use of fencing.

BLM right now is in the process of developing a new RMP. Jumping ahead with this large-scale Virginia Mountains projects may foreclose options in that RMP process.

What Is the Condition of Springs, Seeps, and Drainages Across the Area?

What types of springs are present? What aquifer are they connected to? Is the area undergoing aquifer declines – and if so what are the causes? What studies have been done? What has been the impacts of “development” of springs for livestock? Why isn’t BLM considering removal of livestock water developments (stock ponds, water troughs, pipelines, spring developments) in order to restore springs and watershed processes? For example, stock ponds are often gouged into springs and moist intermittent drainage areas, disrupting watershed processes, destroying sage-grouse brood habitat, and causing loss of non-flammable green vegetation along drainages. Alternatives should include this type restoration and other reductions. Removal of livestock facilities must be fully considered, including removal of injurious and lethal fencing.

Won't deforestation and aggressive use of heavy equipment and other methods reduce shade, reduce trapping of water on site, and adversely impact riparian/mesic habitats and the wildlife that rely on the waters, as well as harm aquatic biota that are dependent on these waters? See Sada et al. BLM Tech, Bull on springs and seeps, Sada and Keir spring assessment protocols, Beksly et al 1999, "Survey of Livestock influences on Stream and Riparian ecosystems in the western United States".

Dry Valley Creek

What has been the cause of the fires? We oppose use of crested wheat, forage kochia and herbicide. This appears to be a livestock forage project and not a "restoration" project. Just how bad do conditions have to get before BLM eliminates grazing stress?

BLM's Treatment Descriptions Don't Reveal the Severity of Disturbance Inflicted

BLM's descriptions of treatment methods underplay the magnitude of environmental harm and the risk that is involved.

BLM's description of mastication shows the agency is planning on causing significant damage to the sage, bitterbrush and other shrubs:

Juniper trees and/or shrubs (brush) would be removed from ecological sites by a mastication process which grinds up woody plant material. Due to mechanical limitations of the equipment, mastication treatments are limited to areas with less than a 30 percent slope. In these areas, hand cutting and/or pile burning would be used to meet treatment objectives.

The last part of this seems to be saying that in under 30% slopes, heavy mastication equipment will be used. On top of this, in areas of greater slope - more rugged terrain - hand cutting and dragging of trees (including with heavy equipment) will take place. Do sage-grouse really use these steeper slopes? Won't they erode? Is BLM targeting the slopes of erosion-susceptible watersheds? The trees stabilize, shade and protect these sites. This and other treatment methods descriptions shows there is large-scale uncertainty with the treatment scheme.

Trees/brush would be ground with an attachment mounted on machinery such as front-end loaders, tractors, excavators, skidders etc., the machine may have rubber tires, rubber tracks or metal tracks. Trees could be thinned or all cut depending on objectives. Stump height would be less than six inches and the products of grinding would generally not exceed two feet in length.

This also describes apparently severe planned disturbance at "staging areas".

Hand cutting will remove trees from vast areas, instead of carefully targeting specific sites. BLM states:

Hand Cutting: Hand cutting juniper trees would occur on ecological sites where trees are encroaching into landscapes once dominated by shrubs and herbaceous vegetation and into riparian areas. These sites range from open sagebrush sites with scattered young juniper trees to sagebrush sites where young juniper woodlands are threatening to deplete desirable understory vegetation to riparian sites with juniper trees encroaching into riparian vegetation.

How has BLM separated depletion from livestock grazing vs. “depletion” from the trees? How is the latter defined? How has BLM determined that the trees are not just naturally occurring on sites? And/or are re-occupying areas where past human disturbance or fire removed them? Why aren’t the models BLM is using to make these claims, and a detailed explanation of the assumptions on which they are based, been provided to the public for review in this scoping process?

BLM also states:

Cut trees may be removed by non-mechanical methods, chipped with a mechanical chipper working on an existing road, lopped and scattered and/or piled and burned, based on site evaluation and objectives.

Again here, BLM fails to provide site specific information on just what manner and degree of disturbance will take place on all areas of the land.

How many trees, of what ages, will be left in all area targeted for treatment after this battery of disturbance takes place?

Pile Burning. What is the purpose of the pile burning – other than to clear vegetation so livestock can more readily access forage? Burning scalds soils, results in ideal sites for flammable weed infestation and spread, and releases carbon dioxide. Dragging vegetation kills and damages shrubs, small trees, understory plants and microbiotic crusts. Removal of cut woody vegetation will result in a hotter, drier site and even more depauperate wildlife habitat. This, just like BLM proposing to apparently thin burned trees and all other aspects of this proposal is highly unnatural and will further simplify the structure of the site, and promote weeds, and decrease the natural resilience of the public lands.

Mechanical Removal. BLM states:

Mechanical Removal: Mechanical removal of juniper trees would occur on ecological sites that range from little desired understory vegetation to remnant desirable understory

vegetation that is at risk of being depleted. Mechanical removal would only occur in units designated for the treatment and may not occur on entire units designated for treatment.

WHAT are all the factors causing “depletion”? How has this been studied on this site? What other alternatives are there to turning the tide on “depletion? The last sentence here is also very confusing.

Is this mechanical removal section of the scoping document so confusingly and obliquely worded in order to conceal a potential subsidized biomass scheme? Just what does “processing” entail? If there is any possibility of a biomass project this must be clearly described and identified as part of the necessary EIS for this project.

Herbicide Use

We are greatly concerned that BLM is relying on its out-dated and deficient 17 States Vegetation Treatment EIS. That EIS relies on old and outdated information. Its accompanying PER report never underwent any NEPA analysis despite proposing millions of acres of “treatment”. Now in 2015 there is significant new information on the adverse effects of the biocides the Weed EIS authorizes on the environment, as well as their carriers, adjuvants, breakdown products, degradates, etc. The Weed EIS was not really an integrated plan for dealing with weeds – it was based on a Spray and Walk Away approach. It did not effectively deal with disturbance that was CAUSING weeds in the first place.

Just how much herbicide will be sprayed in every area? What herbicide will be used? How will these chemicals be applied? What will be the consequences of drift in wind or water, or unintentional contamination of soil, vegetation and exposure of the wildlife, aquatic biota and other animals that inhabit this area? How will these chemicals impact rare plants and their pollinators? Or rare insects? What will the direct, indirect and cumulative effects be?

Portions of the project area are near housing development, so chemically sensitive people may be exposed to harmful substances. The BLM Weed EIS provides only few and inadequate “protections” for all biota –the animals that inhabit the land and the public. What will the effects be on non-target vegetation, waters and soils? Will herbicide potentially drift into Pyramid Lake? Isn't Pyramid Lake downwind? Will aerial herbicide application take place?

BLM has had disastrous impacts with drift from its use of herbicides in wild land settings in the past – for example, the Oust debacle in Idaho where herbicide on wind-blown soils blew off-site and killed crop plants in agricultural fields.

Imazapic (plateau) can persist in the soil preventing germination for multiple years. The fall or spring application would maximize drift in wind and water. These effects will be heightened in the bleak, deforested, bulldozed, logged landscape. This chemical kills native plant seeds that are attempting to germinate, including those in the soil seedbank. It will also prevent the seed that BLM is planting from growing.

What other herbicide use has taken place here in the past? What is the current condition of those herbicided areas? Will BLM be placing these areas on a perpetual very expensive “diet” of Imazapic? What would this cost, and what will the effects be?

Again, pile burning is unnecessary, damaging, and completely unnecessary and will result in even more herbicide use.

Exotic Seedings

The scoping document also shows that once BLM destroys the native vegetation with its treatments, the agency may go in at anytime and further “convert” the landscape to exotic species. BLM states:

Seeding: The seeding of native and non-native species may be conducted as a follow up for any treatment unit(s) where existing herbaceous understory has been compromised and is not sufficient for natural establishment.

Given the aggressive methods and failure to apply passive restoration and heal the land – this means every acre that BLM treats could be seeded to weedy, exotic and often fire-prone species over time.

Also in this methods section, BLM’s description of “chaining” runs counter to its previous admission of impacts at the Wildcat site.

As the dozers pass all vegetative material including burned trees and shrubs are disturbed, uprooted, and crushed.

Indeed!

Limited Literature Ignores a Broad Body of Competing Scientific and Historical Information and Data

This project treatment paradigm is based on outdated, incorrect assumptions about the consequence of disturbance in arid communities. BLM uses old studies to justify blindly ignoring the historical record, and the serious adverse consequences of inflicting these treatments in arid landscapes. The limited references are based largely on the assumptions of Robin Tausch, Rick Miller and others. These range researchers have been

wrong time and time again – for example, Miller’s early 2000s claims about sage community fire return intervals. Projects based on their assumptions have already devastated vast areas of Nevada and the Great Basin.

Scoping Tables

Table 2 Summary reveals the scope of the Herbicide and exotic seeding. Table 2 “Summary by treatment method” shows BLM plans to blanket vast areas with herbicide – admitting to 16,070 acres of herbicide use, and the same acreage of “seeding” foreseeably with very large amounts of aggressive, exotic weedy species.

BLM refers to a programmatic Carson City Treatment document - is it even finalized?

The Category I and II Tables show a very broad range of impacts that BLM admits to (and many more that are not spelled out, or where very important information is omitted – as with climate change). BLM must also address the local climate change that accompanies large-scale deforestation, as well as the loss of forested vegetation to absorb Carbon dioxide and other adverse effects.

Of course this project will disturb “paleontological resources” (not to mention cultural materials for which there may be no visible surface evidence). Have the scoping document preparers never witnessed a mastication project, pile burning, extensive crosscountry travel by heavy equipment, or a chaining? Every time one of the huge pieces of heavy equipment BLM uses in these project assaults changes its direction, the machinery displaces significant amounts of soil, even overturning large rocks and boulders. Soil displacement is worse depending on soil moisture, even small slopes, angle of turns, etc. These Tables demonstrate that an EIS is essential.

Please provide detailed mapping of the Incandescent Rocks ACEC, the LWC, and other important areas.

BLM’s table attempts to minimize the impacts by focusing on the treated areas. Nowhere is information provided on the relative extent and significance of the veg communities – such as mature trees, or any forested vegetation - on the areas targeted for treatment and across the landscape.

Microbiotic Crusts Will Be Extensively Damaged By These Aggressive Treatments and Exotic Plant Seeding

Living soil crusts are a frontline defense against invasive species. Belnap et al. 2001, BLM microbiotic crust Tech. Bull., Serpe et al 2007, Ponzetti et al. 2007, Deines et al. 2007 They also fix carbon dioxide and help to buffer lands from climate change effects. Wohlfahrt 2008. The flawed NRCS Ecosite models that BLM uses to justify its large-

scale treatments ignore and/or downplay the key role microbiotic crusts play in arid ecosystems.

Shinneman and Baker (2005) describe characteristics of sites invaded by cheatgrass:

Negative relationships with pre-fire biological soil crust cover and native species richness suggest livestock-degraded areas are more susceptible to post-fire invasion. Proactive strategies for combating cheatgrass should include finding effective native competitors and restoring livestock-degraded areas.

Collateral Damage

In all treatments – how much collateral damage to sagebrush and other non-target vegetation will occur? This includes injury and loss due to aggressive deforestation and treatment techniques being used, herbicide drift, increased human access with motorized vehicles and intensified use by livestock to understories and sage previously protected by trees. Instead of selecting methods that would minimize protection of sage, BLM proposes aggressive soil disturbing and sage/shrub killing chaining, operation of immense mastication machinery, and dragging trees to piles to be burned and scalded.

Biomass?

There appears to be the spectre of potential subsidized “biomass” exploitation looming over this project – based on the methods being employed, the area’s extensive roading which the project will make worse and cement into place, and the wording of the scoping notice itself (repeated use of term “biomass”).

BLM must clearly spell out WHAT is meant by biomass, and whether commercial or other use of biomass will take place or is foreseeable, and if so, BLM must assess the direct indirect and cumulative effects of this action on the environment.

After All This Treatment Is Done – How many Mature and Old Growth Trees Will Remain? Where? What will The Acreage extent of the Forest Be?

BLM must provide detailed mapping and analysis of the acreage , extent and location of all mature and old growth trees it has identified in the landscape.

Grazing Disturbance Must Be Curtailed To Achieve Effective Restoration

BLM must:

- Close all treated areas to livestock use permanently to protect the public investment in yet another vegetation treatment, and maximize recovery of native vegetation.
- Conduct a site specific assessment of the magnitude of grazing and other stresses to watersheds and sensitive species in this landscape so that it can determine what areas, if any may be suitable for continued grazing. Full FRH (Rangeland Health) assessments must be conducted.
- Reduce AUMs in pastures/allotments so that use will not be shifted and intensified into other areas if grazing is removed from the pastures and/or allotments where treatments take place. A site-specific and detailed analysis of actual use, grazing monitoring data, seasons of use, etc. must be presented. Please provide this data for all upland and riparian sites. Please discuss the degree and severity of grazing or other disturbances that these lands suffer from grazing stress. How does this manner and level of use conflict with sage-grouse and other sensitive and important species habitat needs?
- Adequately consider adverse impacts of climate change, desertification, erosion, loss of sustainable perennial water flows, drought, etc. – all of which are exacerbated by grazing disturbance, and treatments, that result in hotter-drier, more weed-prone sites. See Beschta et al. 2012, 2014.

Adequately consider other vegetation treatments and/or developments that the agency has undertaken and/or that are proposed that will denude, deforest, and otherwise alter the habitats for numerous TES species and migratory birds. What is a proper cumulative effects area?

The projects' large-scale aggressive treatments, potential road expansion/de facto route creation from clearing vegetation, and opening more country up to difficult to control OHV use - will make these lands highly susceptible to cheatgrass and other weed invasions, and more fires, especially with continued livestock grazing disturbance being imposed. What role are livestock facilities currently playing in causing loss, impairment and fragmentation of habitats?

Please conduct detailed baseline analysis, consider a broad range of conservation alternatives, and provide effective mitigation (including mitigation by avoidance) for sensitive and important species and their habitats and populations.

In order to fulfill promises of “restoration” and explain just how this project will be “saving” sage-grouse and other species, the agency must provide crucial information on habitat conditions across the PMUs and population as a whole, and the effects of its own management in hindering population recovery.

How is the agency defining restoration? What will the effect of the projects be on actually restoring the vegetation communities that are naturally occurring on/native to the site?

Please assess population viability for the PMUs – and just how substantial agency actions would need to be to in fact save the populations from extinction. Full assessment of what constitutes a viable population, or how livestock grazing and facilities or other activities and human disturbance in this area have resulted in diminished viability and severely altered, degraded and destroyed habitats must be provided.

Miscellaneous Other Concerns

Are the Carson wandering skipper or other ESA-listed biota present? What surveys have been conducted, and what consultation has taken place? How will this affect rare aquatic species in Pyramid Lake?

WHAT other planned or foreseeable projects are BLM or other agencies contemplating on Carson City lands? Adjacent eastern California? Or Forest Service lands in the region? How much foreseeable new habitat loss will result for forest-dependent species? Sage-dependent species? How much has already taken place? What projects may NRCS or others be involved with on private lands?

This project will greatly simplify the composition, function and structure of many of the targeted communities. At the same time, grazing simplifies the composition, function and structure of the same areas. Fleischner 1994. What will be the cumulative and synergistic effects?

Also, what are the cumulative effects of multiple projects in the same landscape and/or watershed, as well as across the region?

Throughout, BLM relies on the artificial “ecological site” models of NRCS. These are fraught with error and bias towards removal of woody vegetation in order to generate lush livestock forage. The models have incorrect disturbance interval inputs, and nearly always are based on the absence of any denser woody vegetation. Yet Interior’s own GLO records show this is not the “natural” ecological condition. Example: Bukowksi and Baker (2013).

Summary

This project will impact significant values of the public lands. BLM must ensure full compliance with multiple laws and regulations including the National Environmental Policy Act (“NEPA”), the Federal Land Policy Management Act (“FLPMA”), the National Historic Preservation Act (“NHPA”), the Clean Water Act and the Migratory Bird Treaty Act.

BLM must adequately examine impacts of treatments, grazing and other habitat disturbance on: native vegetation communities and fairly consider how unresilient these lands are; sustainable perennial water flows and trends including aquifer declines; forage production including loss of perennial forage as cheatgrass and other weeds expand; soil degradation, loss and erosion rates in wind and water; microbiotic crust extent and condition (intact crusts help prevent flammable annual grass invasions and site dominance); current extent and potential expansion of cheatgrass and other invasive flammable weeds that dramatically alter fire cycles; past and foreseeable declines and irreversible losses in sage-grouse and other rare species habitats; cumulative effects on all of the preceding. Weeds are exacerbated by aggressive treatment disturbance of soils, microbiotic crusts and shading and protective native vegetation such as pinyon and juniper, grazing disturbance impacts, and a reckless herbicide program and “spray and walk away” methods often practiced by BLM - which has failed to prevent cheatgrass expansion in arid treated and grazed lands and has led to large-scale failures of rehab efforts

Biological and other Comprehensive Baseline Inventories Are Essential

Proper sensitive species, migratory bird and big game baseline inventories must be conducted during all appropriate seasons of the year, including winter to detect wintering migratory birds that might rely on juniper berries for winter survival, or other values that may be destroyed in these treatments. This includes:

Comprehensive surveys for all potentially impacted native biota for 2 to 3 years prior to project development across the treated sites and surrounding areas that will potentially be disturbed, degraded, suffer weed spread and herbicide drift or other adverse impacts due to the proposal.

In solid baseline surveys for sensitive species, migratory and resident birds of concern, rare plants, aquatic species, and all other important and rare biota habitat and populations, BLM must identify all important seasonal use and/or year-round residency areas for these species. BLM must lay out a clear and effective environmental analysis and mitigation strategy to protect habitats and population viability, as well as conserve, restore and enhance species in decline. It must identify areas of unoccupied habitat, and determine what the problem is/threats really are. See USFWS WBP Finding, Dobkin and Sauder 2004, Manier et al. 2013, Knick and Connelly 2009/2011 *Studies in Avian Biology*, for example.

BLM cannot rely on old stale databases, but instead must conduct comprehensive on the ground surveys. Often in typical NV databases, species are only recorded if a mine or other entity has wanted to develop the area. Where are all data gaps, and what must be done to correct them as part of this project?

Solid baseline data must include biological, ecological, watershed, cultural and other surveys - to result in data for proper alternatives development, analysis and mitigation under NEPA. This is also necessary to protect lands from undue treatment degradation and irreparable harm.

Historical Vegetation must be properly identified, assessed, delineated and mapped. This includes the historical record and historical documents – including BLM’s General Land Office (GLO) Survey Records. See for example Baker and Bukowski 2013, Lanner and Frazier 2012, agency and/or university forestry publications and surveys.

Historical Disturbance Intervals, and Current Best Available Science

BLM must accurately delineate complex native vegetation communities that are present, areas of persistent PJ communities within the elevation, precip, soil zones where these naturally occur and are the historical climax native vegetation, to understand the actual HRV and natural fire return intervals that are used in complex FRCC and other models, and also to identify and understand weedier areas and species use and occupancy of existing disturbed/treated sites in PMU and SG habitats.. Scientific information relevant to this proposal includes:

Baker, W. L. and Shinneman, D. J. 2004. Fire and restoration of pinon-juniper woodlands in the western United States: a review. *Forest Ecology and Management*, 189: 1-21.

Bauer, J. M. and Weisberg, P. J. 2009. Fire history of a central Nevada pinyon-juniper woodland. *Canadian Journal of Forest Research*, 39: 1589-1599. 10.1139/X09-078

Beck, J. L., Connelly, J. W. and Wambolt, C. L. 2012. Consequences of Treating Wyoming Big Sagebrush to Enhance Wildlife Habitats. *Rangeland Ecology & Management*, 65(5): 444-455.

Bukowski, B. E. and Baker, W. L. 2013. Historical fire regimes, reconstructed from land-survey data, led to complexity and fluctuation in sagebrush landscapes. *Ecological Applications*, 23(3): 546-564.

Davies, K. W., Bates, J. D., Johnson, D. D. and Nafus A. M. 2009. Influence of Mowing *Artemisia tridentata* ssp. *wyomingensis* on Winter Habitat for Wildlife. *Environmental Management*. 44(1): 84-92.

Davies, K. W., Bates, J. D., Johnson, D. D. and Nafus A. M. 2012. Mowing Wyoming

Big Sagebrush Communities With Degraded Herbaceous Understories: Has a Threshold Been Crossed? *Rangeland Ecology and Management*, 65(5): 498-505.

Getz, H. L., and Baker, W. L. 2008. Initial invasion of cheatgrass (*Bromus tectorum*) into burned piñon-juniper woodlands in western Colorado. *The American Midland Naturalist*, 159(2): 489-497.

Hanson, C. T., Odion, D. C., Dellasala, D. A. and Baker, W. L. 2009. Overestimation of fire risk in the Northern spotted owl recovery plan. *Conservation Biology*, 23: 1314-1319.

Lanner, R.M. *The Pinon Pine: a Natural and Cultural History*. 1981. University of Nevada Press, Reno. 208 pages.

Lanner, R. M. and Frazier, P. 2011. The Historical Stability of Nevada's Pinyon-Juniper Forest. *Phytologia*, 93(3): 360-387.

Lesica, P., Cooper, S. V. and Kudray, G. 2007. Recovery of Big Sagebrush Following Fire in Southwest Montana. *Rangeland Ecology & Management*, 60(3): 261-269.

Matchett, J., Brooks, M., Halford, A. Johnson, D. and Smith, H. 2010. Evaluating the effects of pinyon thinning treatments at a wildland urban interface. USGS. El Portal, CA., 28 pp.

Meyer, S. E. 2011. Is Climate Change Mitigation the Best Use of Desert Shrublands? *Natural Resources and Environmental Issues*, 17, Article 2. 10 pp.

Prevéy, J. S., Germino, M. J., Huntly, N. J. and Inouye, R. S. 2010. Exotic plants increase and native plants decrease with loss of foundation species in sagebrush steppe. *Plant Ecol.* 207(1): 39-51.

Reisner, M. D., Grace, J. B., Pyke, D. A. and Doescher, P. S. 2013. Conditions favouring *Bromus tectorum* dominance of endangered sagebrush steppe ecosystems. *Journal of Applied Ecology*. doi: 10.1111/1365-2664.12097

Romme, W. H., Allen, C. D., Bailey, J. D., Baker, W. L., Bestelmeyer, B. T., Brown, P. M., Eisenhart, K. S., Floyd-Hanna, L., Huffman, D. W., Jacobs, B. F., Miller, R. F., Muldavin, E. H., Swetnam, T. W., Tausch, R. J. and Weisberg, P. J. 2009. Historical and Modern Disturbance Regimes, Stand Structures, and Landscape Dynamics in Pinyon-Juniper Vegetation of the Western United States. *Rangeland. Ecol. Manage.*, 62: 203-222.

Shinneman, D. J. and Baker W. L. 2008. Ecological restoration needs derived from reference conditions for a semi-arid landscape in western Colorado, USA. *Journal of Arid Environments*, 71: 207-227.

Shinneman, D. J., Baker, W. L. and Lyon, P. 2009. Historical fire and multidecadal drought as context for pinyonjuniper woodland restoration in western Colorado. *Ecological Applications*, 19(5): 1231-1245.

Sowell, B. F., Wambolt, C. L., Woodward, J. K. and Lane, V. R. 2011. Relationship of Wyoming Big Sagebrush Cover to Herbaceous Vegetation. *Natural Resources and Environmental Issues*, 16: Article 14.

Wilson, T. L., Howe, F. P. and Edwards, T. C. 2011. Effects of Sagebrush Treatments on Multi-Scale Resource Selection by Pygmy Rabbits. *Journal of Wildlife Management*, 75(2): 393-398.

If the agency does not use the proper historical and current sage and PJ forest ecological science (see above examples) in developing and undertaking its projects and devising a suitable range of alternatives, then it cannot understand the length of time needed for recovery of each specific sagebrush community, or for pinyon and juniper community recovery following project manipulation and/or deforestation.

Additional literature is being provided on cd.

Please feel free to contact us with for any clarifications that may be needed.

/kf
Sincerely,

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Dear Carson City BLM,

WildLands Defense and is providing these initial comments on Carson City BLM's Virginia Range Vegetation Treatment Project Scoping proposal.

BLM's Press Release states:

The Planning Area for the Virginia Mountains Vegetation Treatments Project is approximately 193,213 acres. The Proposed Action is to implement vegetation treatments on approximately 30,387 acres (Project Area) using a landscape-level approach to identify and prioritize treatments to increase the resistance and resilience of plant communities to disturbance. The Project would be implemented over a 10-year period to increase the resistance and resilience of plant communities to disturbance. Implementation of the project would not be anticipated to occur until 2017.

This Project would use a landscape-level approach to identify and prioritize treatments to restore the balance of perennial grasses, shrubs, and trees. The goals of this Project include reducing the risk of severe wildfires, maintaining sagebrush habitat, protecting and enhancing historic juniper woodland habitat, and providing woodland products to the public, tribes, and commercial entities. Specific treatments are proposed for strategically located treatment units based on vegetation condition and objectives. Proposed treatments include mechanical mastication, mechanical removal, hand cutting, chemical treatments, chaining, and seeding. A large focus of this project would be to improve and protect greater sage-grouse habitat, and treatments would be designed to address threats to greater sage-grouse from invasive annual grasses, wildfire, and conifer expansion.

BLM appears to be preparing a programmatic NEPA document for an immense land area. This describes a sprawling and wide-ranging project involving high risk of failure. The Virginia Mountains are very arid. This region has undergone much degradation and

desertification. Drought is common. The area is increasingly stressed by climate change effects. The project will also be very expensive. It takes place over a prolonged period of time, and uses highly controversial and ecologically damaging methods in an uncertain and ill-defined manner.

There is much scientific controversy and there are competing points of view over what the “balance” of native vegetation communities actually is here.

An EIS is required, as the project is certain to have very significant direct, indirect and cumulative environmental effects.

A Landscape-Level Approach Requires a Candid Hard Look at Ecological Stresses in this Landscape

The Carson City BLM Virginia Mountain Project occurs in a landscape that is highly sensitive to human disturbance. The region has already undergone immense human disturbance over the past 160 years. There was widespread regional deforestation with the Comstock lode mining to the south and other settlement effects – as these lands are relatively close to larger areas of early white settlement. It has suffered chronic intensive degradation and disturbance from livestock grazing, which exerts great stress on arid plant communities. Mack and Thompson (1982), Fleischner 1994, Belsky and Gelbard 2000, Beschta et al. 2012, 2014.

Across the region, there was large-scale deforestation associated with settlement. Lanner *The Pinon Pine* 1981, Young and Svejcar 1999, Lanner and Frazier 2012. This deforestation was accompanied by serious erosion, watershed degradation, perennial water flow loss and often calamitous effects to the habitats and populations of many wildlife species. Grazing impacts and deforestation acted synergistically.

BLM must honestly assess what is “conifer expansion” and what is conifer re-occupation – taking the full historical record into account. Please carefully consider the historical record.

<http://oregonstate.edu/dept/eoarc/sites/default/files/publication/443.pdf>

Young and Svejcar (1999) ‘Harvesting Energy from Great Basin woodlands’ describes 1800s era impacts to the lands to the south in the similarly named Virginia Range, and across the region including the Virginia Mountains. This paper also describes the widespread practice of promiscuous burning by cattle and sheepmen.

Early explorer journals, Interior’s own General Land Office records and other historical accounts verify the accuracy of these sources. The settlement of the region ran on wood. Since that era, trees in some sites have managed to re-occupy sites where they were wiped out, starting in the 1860s, for charcoal, fuelwood, fence posts, railroads and other uses, or other sites where forests were burned in fires set by stockmen trying to increase grass on ever more depleted ranges.

A new later era of deforestation and manipulation took place in the 1950s-1970s. In this era, the federal government destroyed vast areas of trees and sagebrush to try to eke out more forage for domestic livestock on depleted lands. (Lanner *The Pinon Pine*, Connelly et al. 2004, Sage-grouse Conservation assessment). This led to large-scale declines in sage-grouse.

In some sites, trees are very likely re-occupying sites that BLM itself had previously destroyed in treatments.

Based on the limited references and terminology used in the scoping information, BLM appears to be largely ignoring the historical record of extensive past deforestation. The proposal is based on incorrect ecological assumptions. BLM seeks to radically alter crucial areas of the remaining arid forest and other woody vegetation communities in this very important area of public lands.

As the combined result of all of these past stresses, and ubiquitous chronic domestic livestock grazing stress plus wild and human-caused fire, the Virginia Range is undergoing rapid expansion of cheatgrass, medusahead and other invasive flammable weeds. Intensive and damaging livestock grazing and linked facilities and roading (water developments, fences, pipelines, salt/supplement sites) all serve to further aggravate the situation. So do past agency sagebrush and pinyon-juniper treatments, and wildfire fanned by flammable weeds infesting grazed and disturbed sites, and other threats.

These lands are also increasingly used as public open space. The project area is close to expanding population centers. Sprawl is also eating into the Mountains from numerous parcels of private land.

There are no easy solutions to the downward ecological trajectory.

An EIS must address in a substantial way the serious impacts of all these stresses and threats on the public lands, and an effective plan for preserving native species must be developed.

Unfortunately, the scoping documents show that Carson City BLM is preparing yet another near-boiler plate massive treatment EA, just like the agency has been doing across Nevada. This proposal overwhelmingly focuses on inflicting severe new disturbance and forsakes passive recovery. BLM ignores the benefits of passive restoration or small, surgical treatments - as an alternative to laying waste to the remaining forested areas across the Mountain and opening them up to even greater desertification, weed invasion and habitat loss.

BLM Must Learn From Its Past Mistakes

If we understand the scoping information correctly, BLM is, in part, treating some of its own past treatments/rehabs that have failed, and have been overrun by annual grasses.

What has been done here in the past? What was the cause of the previous rehab/restoration failures?

Lack of recovery from past treatments and wildfire has been caused in significant part by BLM failure to adequately rest lands from grazing disturbance for sufficient time periods so that lands could heal. In the past, BLM failed to sufficiently curtail livestock grazing disturbance so the treated, burned, seeded, and drought and climate-stressed lands could heal.

BLM must take into account the all the direct, indirect, cumulative and synergistic effects of the treatment proposal aggressive disturbance – the use of clearcutting, heavy equipment, chemicals, likely new barbed wire fencing and other methods. It appears to us that instead of making lands more resilient, many of the sites, and this landscape in general, will instead become less resilient. An honest risk assessment must be conducted to determine if the actions BLM seeks to employ in this latest battery of projects will in reality make lands LESS resilient and LESS resistant in the face of grazing, climate change, exotic invasive annual grasses, and other threats.

BLM must conduct a valid, science-based risk assessment to understand the magnitude of stresses, the full impacts of the disturbances that it seeks to impose, and to chart a protection-based path forward. BLM cannot repeat the same old killing of native vegetation for livestock forage and/or efforts to rehab past rehabs based on trying to eke out more livestock forage through seeding exotics and aggressive over-sized cultivars. Yet these same failed actions appear to be a major part of this 2015 project.

We are very concerned that sage-grouse are being used as cover, (and sage-grouse funds diverted) for yet another of the BLM's long-failed livestock forage "rehab" treatment schemes. See Aro 1969 for example. This uses many of the very same forage production schemes as the 2015 Scoping proposal projects. So how is the 2015 proposal any different, really, than the forage schemes from 1969? These projects certainly did not prevent large-scale fires. In fact, many of these millions of acres of 1960s era "converted" sites across the West are the very areas that have experienced frequent and repeated fires.

Where Are Trees and Sagebrush Naturally the Climax Vegetation?

First, BLM must establish where trees and sage are supposed to be growing, based on historical documentation, precipitation and elevation zones, and evidence of old stumps, burned wood, etc.

Unless it does this, BLM will once again spend huge sums on projects that are likely to in fact make matters WORSE for native biota of all types - sage-grouse, gray flycatcher, black-throated gray warbler, and a broad range of other native biota. In that regard, the project is itself "redundant" - another "r" word that agencies like to use in regards to sage-grouse. That is because this same pattern of wreaking large-scale treatment disturbance on public lands has taken place so many times in the past, and has been a failure for the land and the birds.

BLM appears to be using the same flawed models (the NRCS Ecosites, FRCC models, etc) that have not worked to rehab or restore lands in the past. These typically rely on inaccurate and out-dated range info, convoluted models, and self-serving reasoning. They are used to justify the massive and often irreversible ecological and wildlife habitat destruction that the aggressive disturbance and treatment methods BLM is proposing to use cause.

What is the Basis for Fire Regime Classes Used in Scoping Mapping?

The BLM provides a map that uses three levels of “Fire Regime Classes”. Please provide all scientific sources used in determining these Classes. What are all assumptions made regarding fire return intervals/years between fires/fire frequency, HRV (historical range of variability), and likelihood of various plant communities to burn under different scenarios? How does the presence of cheatgrass affect these condition classes? Are mature and old growth sage and forested communities possible under the disturbance intervals and models being used? If so, how much of the land area would these communities occupy? How does BLM define mature communities? Old growth communities? What role do natural plant successional processes play in BLM’s models and Fire Regime Condition Classes?

BLM must also fully describe what the agency considers to be “restoration”, as well as other terms used to support the manipulation scheme.

Full Assessment of Sage-Grouse Status, Occupation, Usable Areas of Landscape, Population, Stresses/Threats, and Viability Must Be Provided

The sage-grouse population is very small. How has it changed over time? How have lek locations and activity changed over time? The status and trajectory of the sage-grouse population in the Virginia Mountains, PahRah Range and surrounding lands must be fully assessed. Please provide detailed mapping and analysis of all active, inactive, historical and unknown or other lek category leks for all periods of time that records have been kept.

How many birds occupied this area in decades past, based on long-term NDOW records?

We have reviewed the following from an early 2000s NDOW plan laying out PMU areas: http://www.ndow.org/uploadedFiles/ndoworg/Content/Nevada_Wildlife/Sage_Grouse/Pah-Rah-Virginia-PMU-Plan.pdf

Lek counts provide the best index to breeding populations. However, only one active strutting ground is known to exist in this unit. This lek which is located in the northern portion of the Virginia Mountain Range has declined in numbers from 75 birds in the early 1990’s to 20 birds in 2001. A large wildfire, which occurred in 1999 and removed most of the nesting habitat associated with this lek, may be the primary cause of this decline. Aerial lek surveys were conducted in the Pah Rah’s in the spring of 2001. No

birds were observed actively strutting on a lek however, six males were observed flying as if they had just been flushed from a strutting ground. This area has the look and feel of a lek site however, urban development is fast overtaking what is left of the wild lands in this area. If a lek is located in this general area it will be lost to housing development within the next five years. Given the number of sage grouse known to exist in the Pah Rah Range it is the recommendation of the subgroup that NDOW continue to search for lek sites in this mountain range.

Then after intensive lek searches were undertaken, a few leks were found.

http://www.ndow.org/uploadedFiles/ndoworg/Content/public_documents/Nevada_Wildlife/WGA%20WVC%20Sage%20Grouse%20Report.pdf

The smallest PMU in the planning area is the Virginia/Pah Rah PMU at 355,000 acres collectively. These two PMUs, combined as one, are positioned in proximity to the Reno-Sparks and North Valleys areas of southern Washoe County and are subject to suburban development, infrastructure (transmission lines), dispersed recreation, increased frequency of human caused wildfire and potential renewable energy development. Cumulatively, these factors have diminished suitable sage-grouse habitats and sage-grouse population size. Eleven lek visits were made to 4 leks of which 3 were active during the 2010 spring breeding season. A total of 83 males were observed on these 3 leks resulting in an average of 27.7 males per active lek.

http://www.werc.usgs.gov/ProjectSubWebPage.aspx?SubWebPageID=1&ProjectID=215&List=SubWebPages&Web=Project_215&Title=The%20Virginia%20Range%20Of%20Northwestern%20Nevada

*The Nevada Department of Wildlife (NDOW), U. S. Geological Survey (USGS), and Idaho State University (ISU) collaborated on an intensive effort to monitor a population of Greater Sage-Grouse (*Centrocercus urophasianus*; hereafter sage-grouse) in the Virginia Mountains of northwestern Nevada. A portion of the study area is scheduled for development of wind energy and associated transmission infrastructure. Sage-grouse within this area may experience substantial alterations in habitat and predator communities following development of wind turbines, transmission lines, facilities, and roads. Regulatory agencies consider potential alterations as threats to sage-grouse population persistence ... have initiated a before after control impact (BACI) study design to investigate these threats. The purpose of this study is to collect and interpret empirical data before and after construction of energy infrastructure to understand and mitigate any threats to sage-grouse and other sagebrush endemic vertebrates. This report documents a summary data and preliminary findings of 2009 and 2010, which represent the pre-construction years of the ongoing study.*

What is taking place with the proposed wind development? Has this proposal been abandoned? What about potential wind or other development on private land? Or new transmission lines or other development on BLM land? And what is the extent of suburban sprawl and housing development expansion?

Also, has there been any translocation of birds – for example, new releases into the PMUs?

What are the current numbers of birds and extent of leks in the area? How have development and/or fires in surrounding lands affected lek attendance? The map of grouse habitat does not show where the leks in this region are located. It also does not show important seasonal habitats. But it does show the fragmented and broken up nature of the habitat categories used in the BLM RMP amendment mapping of occupied habitats.

With agencies having found so few leks and birds even after very extensive searches, the WERC report provides a firm foundation for the removal of livestock disturbance from the habitats of the Virginia Range as the first step towards reducing disturbance to the very small population. This is a primary step towards allowing passive restoration of the naturally “resilient” higher elevation communities so that they can heal. This will allow natural recovery of the areas most used by the birds at present, and better buffer the lands against climate change effects.

Passive restoration will best provide for the structurally diverse cover required by nesting birds, and the diverse native forbs and protective understory screening cover required by broods for survival. The NDOW 2010 Report describes:

- *Successful nests had greater measurements of vegetation cover (52.5% 2.7) than those of unsuccessful nests (41.0% 2.3).*
- *Shrub over sage-grouse nests: mean maximum height = 76.1cm ± 4.4, mean greatest width of nests = 117.5 cm ± 5.8, mean perpendicular width = 88.1 cm ± 5.1, mean litter depth of nests = 2.3 cm ± 0.2.*
- *Twenty-five percent of nests were found underneath sagebrush, and of the 75% non-sagebrush coverage, 20% were found under rabbitbrush (*Chrysothamnus* spp.).*
- *Nest placement by sage-grouse depends on available and desirable habitat of the area and in this study area, our preliminary results suggest sage-grouse do not select for sagebrush cover in the vicinity of the nest but frequently choose sagebrush for nest placement.*

Preliminary findings suggest females select perennial grass when choosing nest sites, while avoiding annual cheatgrass at proximities of ≤10 meters from the nest.

How Does the RMP Amendment Affect This Area?

The new RMP amendment segregates much of the project area into habitat with a low status. See Scoping Mapping.

If BLM really aimed to restore viable populations here, a much larger area would be considered the highest priority habitat, and occupied would not be broken up.

BLM should consider an alternative to restore connectivity with other larger sage-grouse populations to the north or west, rather than deforestation of the limited trees that remain in the Mountains.

How Does BLM Define Resilient?

Grouse declines, habitat loss and fragmentation and population extirpation will be worse if BLM kills and thins everything in sight, and attempts to create an artificial bio-engineered landscape through ignoring natural plant successional processes.

BLM's description of what seeding may entail is alarming. BLM plans large-scale use of invasive exotic livestock forage grasses and other alien plants. BLM must use only local native species ecotypes in any seeding that is done.

We are concerned about the serious long-lasting consequences of BLM using exotic aggressive invasive species like cwg and/or forage kochia. In this project, the agency will seed exotic coarse grasses and over-sized "cultivars" (many of the latter cultivars are not even native to the Great Basin and that may aggressively out-compete the native forbs and native grasses/local native ecotypes).

Species that BLM typically proposes to seed (many of them ecologically deleterious and weedy) have been developed primarily for their livestock food values and toughness so as to keep large-scale grazing disturbance continuing unaltered. If these are used, the sage-grouse (and other wildlife) will face even greater threats. Once weeds like crested wheatgrass and forage kochia are seeded, they are nearly impossible to remove without a tremendous new input of funds, and large-scale disturbance. Plus range staff base livestock use on the seeded plants, guaranteeing the further demise of native vegetation components.

No matter what the treatment may be, BLM must remove livestock grazing to protect the very significant public investment in this project. Flammable weeds respond to both treatment and chronic grazing disturbance. They choke out the fragile native plants, especially the vegetation components like forbs that grouse require. With continued grazing stress, cheatgrass/medusahead inevitably expands in the interspaces no matter how much herbicide BLM attempts to apply. The habitat becomes further irreversibly altered.

All of these threats to native biota, including to the full range of species from sage-grouse to loggerhead shrike to ferruginous hawk, are not mentioned in the scoping analysis that describes "expanding" and flammable trees and woody plants. This ignores that the trees are very often the LEAST flammable vegetation present, and the most reluctant to burn except in extreme fire events when there is really no way effectively "control" wildfire.

The project area is severely altered by grazing stress, failed past treatments, failed past fire rehabs, and general mis-management. An honest assessment of the fire return intervals in pinyon-juniper communities, and assessment of how readily and frequently

annual weed areas burn, and/or shrubs with understories of continuous flammable weeds burn, would reveal that the project would very likely make many areas of the lands MORE fire prone, not less. Treatment based on false and inaccurate fire return and disturbance intervals, and without honestly addressing relative fire risk of native woody vegetation vs. exotic seedings, will result in decisions that threaten and may doom native biota. Bukowski and Baker 2013.

Status of Many Important and Sensitive Wildlife Species Must be Carefully Assessed

BLM provides almost no information on native biota inhabiting the Virginia Mountains and surroundings.

http://www.blm.gov/style/medialib/blm/nv/field_offices/carson_city_field/fire_management/2002_esr_ea0.Par.80893.File.dat/Final%20EA.pdf

This describes:

Mule deer are found throughout the Field Office. Up to 18,000 deer reside on public lands at some time during the year. There are three interstate herds which winter on BLM in Nevada and summer on U.S. Forest Service and private land the rest of the year. The key vegetative species on winter ranges is antelope bitterbrush, a species which does not recover easily after any fires except ones that burn very cool. Winter areas include Petersen, Dogskin, Seven Lakes, Pine Nut, and Virginia mountains ...

Antelope are scattered throughout the district in small numbers, except in winter, when they herd up. Important areas include ... the Pah Rah Mountains east of Sparks.

Mountain sheep: California bighorn sheep are found on the Virginia Range [Mountains?] north of Reno and as far west as the California border.

Won't the aggressive disturbance methods use in this project kill native shrubs in treated areas? Aren't the trees providing a vital function by providing screening and thermal cover for deer? And helping protect animals from poaching and human disturbance in this intensively used area?

BLM Provides only Meager Conservation Protection for Virginia Range Grouse in Its RMP Amendment

BLM failed to designate ACECs in the RMP Amendments. So now in this current proposal, we request that BLM consider designating an Area of Critical Environmental Concern to protect the "relevant" and "important" values here – including both sage-grouse and forest dependent species habitats and populations – from irreparable harm or undue degradation. Please let us know if BLM will work with us on this proposal. This will aid in providing a balancing of uses under FLPMA – use by forest dependent species, and use by sage species.

Why did BLM not care enough about sage-grouse in the Virginia Mountains to propose the lands for the RMP amendment Mineral withdrawal? Given the very low numbers of birds, the significant stresses - BLM should apply all possible levels of protection – and use this process to designate an ACEC. BLM's forsaking of the Mountains is evident here: See:

<http://blm-egis.maps.arcgis.com/apps/webappviewer/index.html?id=45b2d7896c36467aac3990b739d75a26>

It seems that the primary areas where BLM is proposing withdrawals is sites where there is a low threat of mineral development.

See documents at:

http://www.blm.gov/wo/st/en/prog/more/sagegrouse/documents_and_resources.html

Review of mapping at BLM's GRSG Webpage, shows BLM recognizes only limited habitat as being of any importance to the birds. How do the projects overlap and relate to those habitats?

http://www.blm.gov/style/medialib/blm/nv/wildlife___fishes/sage_grouse.Par.17552.File.dat/15-05-27GRSG%20Proposed%20Plan%20Habitatmap.pdf

<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=31103>

BSUs:

https://eplanning.blm.gov/epl-front-office/projects/lup/21152/63819/69162/Map_Figure_2-2_NVCA_GRSG_BSUs_and_PHMA.pdf

Can a viable population be maintained in such a minimal area?

https://eplanning.blm.gov/epl-front-office/projects/lup/21152/58742/63818/2.05_GSGH_ProposedPlan.pdf

BLM Must Consider Alternative Methods - Purpose and Need Shows EIS Is Required

The Purpose and need is described as:

The purpose and need of the proposed Project is to restore the balance of perennial

greases, shrubs, and trees in the Virginia Mountains area to:

Reduce the potential of large-scale high severity wildland fire; Provide for public and firefighter safety and protection of property and infrastructure; Maintain sagebrush habitat, riparian plant communities, wet meadows, and springs; Protect and enhance historic juniper woodland habitat; and Provide woodland products to the public, tribes, and commercial entities.

Which of the specific projects addresses each of these claimed needs? BLM cannot merely provide a laundry list of justifications/claimed need for treatments. How might these projects increase the potential for large-scale high severity fires? For frequent fires? What areas does BLM consider to be historic juniper habitat? The information necessary for the public to make informed scoping comments simply has not been provided.

We are concerned that this Project is derived from flawed models, blindness to historical data and denial of basic ecological processes like plant community successional processes.

Examples of information that must be carefully examined: Historical vegetation communities occupying sites, natural disturbance intervals, relative fire risk and cheatgrass/medusahead/invasive species risk of expansion and site dominance information, effects of roads and vegetation clearing on increasing human fire risks, etc.

The scoping information fails to discuss the potential for weeds to explode across the landscape after: Aggressive deforestation, and significant disturbances of soils and microbiotic crusts from heavy equipment crosscountry travel. This includes violently uprooting trees through chaining, dragging/skidding trees, masticator operation, pile burning trees, hauling of wood chips for possible polluting “biomass”, and whatever else the agency may unleash on the remaining native vegetation woody communities of this very important area.

Expensive large-scale deforestation and treatment schemes like the Virginia Mountains Treatment project serve to distract public attention from the continued deterioration of sage-grouse habitats due to chronic poorly controlled domestic cattle and sheep grazing disturbance. They distract public attention from the pressing need for healing rest for lands not yet dominated by weeds - so that they can recover and be less vulnerable to the often permanent and irreversible effects of flammable invasive species, which dramatically alter natural fire cycles to a much greater degree than do forests, where trees are often growing into, and occupying/re-occupying, areas of historical and pre-settlement occurrence.

Please carefully review the following article: Connelly (2013) *Getting Nowhere Fast*. The paper discusses that it does not matter how many trees agencies kill, it is crucial to take better care of the existing sagebrush habitats. THAT is what this “restoration” project does not do. We note that mapping shows every acre of BLM land appears to be in a grazing allotment - PahRah, Hardscrabble, Paiute, Antelope, Winnemucca Ranch,

Contantia, Flanigan, Big Canyon. This proposal does just the opposite – in proposing sprawling treatments based on questionable models.

Please also review current sage-grouse literature. Knick and Connelly 2009/2011 Garton et al. Chapter population analysis, 2015 PEW Garton et al. analysis. *Greater Sage-Grouse Population Dynamics and Probability of Persistence*.

<http://www.pewtrusts.org/~media/assets/2015/04/garton-et-al-2015-greater-sagegrouse-population-dynamics-and-persistence-31815.pdf>

Crist et al. 2015 highlight the perils of the fragmentation of occupied habitats, yet the aggressive treatment projects may increase fragmentation through collateral damage and other loss of sagebrush.

Mapping with the project does not provide a solid baseline of the existing on the ground vegetation communities, the condition of these communities (including exotic grass species presence, bare soil areas, health of microbiotic crusts) and other vital data. It also does not place the projects in context so the relative degree of loss of woody vegetation in the landscape can be understood. This is necessary so the relative scarcity of threatened values can be assessed and project harms minimized and mitigated, as required under FLPMA. Where will BLM's treatments eliminate the primary forested areas that remain in a landscape increasingly choked by weeds, and greatly altered by human disturbances – such as past deforestation, treatments and fires?

The project would radically disturb vast areas - log, chop, chip, drag, violently uproot trees - and the sage and bitterbrush too as collateral damage. No baseline is adequately provided of the characteristics of the existing vegetation, percent cheatgrass in understory, percent shrubs, age of trees, density/canopy cover of trees on sites. It may also coat the ground with wood chips, and certainly will drive heavy equipment crosscountry destroying understory shrubs, microbiotic crusts, and grasses and displacing soils and exposing them to wind and water erosion.

There is no candid analysis and review of how livestock grazing occurs here, whether allotments are failing to meet land health standards, how severe annual use is, amount of actual use, carrying capacity, stocking rates, etc. There is no candid analysis of how the project will effectively deal with the livestock disturbance stress on this landscape.

We are concerned that treated areas will have will have a woefully deficient and minimal time period of rest from livestock grazing, and that use will be intensified in untreated areas during minimal rest of treatments.

The RMP amendment fails to provide necessary prolonged healing time required for resilience and resistance. Native woody vegetation - shrubs and trees - anchor the plant community. They must be fully established and providing significant structure and shade to trap moisture on the site and provide safe sites from grazing impacts. See Prevey et al. 2009 describe how vital woody cover is for anchoring arid plant communities.

The proposal does not ensure that healing recovery of understories and sagebrush sufficient to resist invasive species and provide for sage-grouse habitat needs will take place following treatments. BLM must describe how long sufficient recovery to ensure “resilience” will take. Understories and any trees and/or sage - including plants amid, under or near trees and other vegetation - will be crushed, smashed, uprooted/chained, burned from pile burns, seedlings destroyed or smothered in wood chips.

This is especially the case since there is the uncertainty of overlapping treatments, effective “rehab” measures and protective recovery criteria. The BLM scoping document lacks sufficient clarity, site-specific baseline information, mitigation and analysis.

Many Questions Must Be Answered in An EIS

The Scoping Info is heavily slanted towards a one-sided portrayal of trees:

The current trends in vegetation would continue. Juniper trees would continue to increase in density and expand into sagebrush communities and the health of shrub and understory plants would continue to decline. Conifers would continue to invade riparian areas and cause them to decline in health. Hazardous fuel conditions would continue to accumulate beyond levels representative of the natural (historic) fire regime and threaten to damage the sagebrush, woodland, and riparian habitats through the high risk of intense wildfires difficult to control.

BLM claims junipers are increasing in density. How dense are natural juniper forests? Aren't dense juniper forests less likely to burn under most fire scenarios? Is it possible to stop climate-driven fires – with high winds on very hot days – through removal of trees? How bared would lands need to be to stop large-scale wind-driven fires?

Outcome Appears to Be Fore-ordained

BLM states:

Specific treatment units have been evaluated to determine the most appropriate treatment method and resource protection measures based on slope, aspect, terrain, soil, vegetation composition, vegetation condition, amount of fuel/biomass needed to be removed, overall access on site, visual disturbance, and proximity to major roads.

It appears the outcome of this process is fore-ordained, and BLM is merely going through the motions of NEPA. The proposed limited consideration of alternatives also confirms this. If the preceding statement is correct, then where is all of this data and analysis? We cannot find it in the minimal scoping information provided to date. The scoping just tells us what BLM is planning on doing, and does not provide information sufficient for informed public comment based on the available (apparently to BLM only) data and analysis.

We are very concerned that this appears to be another rubberstamp process, just like the Ely BLM's Cave Lake EA and many others conducted by Nevada BLM.

Project List Concerns and Questions

Winnemucca Ranch. Won't mastication choke the ground with chips? Disturb soils with heavy equipment? Promote cheatgrass by making a hotter, drier windier site and a longer fire season?

Dry Valley South. Is BLM proposing to widen the road? By clearing vegetation near roads, BLM will make it much more likely that human-caused fires will be ignited. This includes vehicle catalytic converter fires, target shooting fires, etc. These fires appear to be much more serious threats to the sage-grouse habitats than the much less frequent large-scale climate-driven fires that BLM will not be able to stop. What is meant by "improve access"? Can't BLM already access this area just fine with its fire equipment? Why isn't BLM considering road closures instead of massive deforestation to limit human-caused fire starts?

This treatment area is also much too large an area for a "fuelbreak". Mastication will increase weed infestation and spread. Deforestation will make the site hotter, drier, windier and result in a longer fire season. BLM must consider a greatly reduced area, based on the concept of defensible space.

Dry Valley North. This appears to be failed a past BLM fire rehab. Any treatment in the Mountains should focus on restoring native vegetation to the site. Not planting aggressive harmful exotics like crested wheat, forage kochia or other weedy species. WHY did the past treatment/rehab fail? WHAT has been seeded across the landscape in the past? How long were lands rested from grazing following the fire? BLM must provide candid analysis of failed past rehabs, fuelbreaks, etc. in Carson City and across arid Nevada lands. See Arkle et al. 2013 describing the resounding failure of BLM rehab efforts to sustain sage-grouse and other values of the public lands. Across Nevada, we have observed cheatgrass-infested BLM "fuelbreaks" that are very significant fire hazards.

Dry Valley South. Won't this project just result in increased cheatgrass dominance once BLM disturbs and deforests the site?

Dogskin. Since the area contains forested values, a clear alternative is to let the area alone, and allow the forest to develop and mature unmanipulated by human inreference, treatment, woodcutting, motorized vehicle use disturbance, etc. From the description of this and other projects, it seems that a primary problem in the area is too many roads. Alternative restoration actions include significant closure of roads – to limit human-caused fires, provide habitat security and freedom from disturbance for wildlife – sage-grouse, mule deer, antelope, etc. This should be coupled with removal of livestock grazing.

Are any shrubs present? If so, how will they be protected from mowing? Herbicide use is not a solution to deep-seated ecological problems – such as the grazing and trampling disturbance from livestock grazing.

Clearcutting Many Areas

BLM proposes massive clear-cutting in what the agency claims are Phase I forest sites. The scoping lists the following acreages:

5. *Pah Rah (173 acres)*
6. *Little Valley (3,453 acres)*
7. *Big Canyon (3,156 acres)*
8. *Winnemucca Valley South (3,018 acres)*
9. *Vinegar (1,289 acres)*
10. *North Dry Valley (833 acres)*
11. *South Dry Valley (1,379 acres)*
12. *Hardscrabble (326 acres)*

This seems to be massive overkill. Instead of using a surgical approach, BLM appears to be wiping out nearly all the trees in the landscape. The agency has failed to identify the location of leks and other elements of the habitats including seasonal use areas occupied and habitually used by sage-grouse in this region. Where are the leks? How many of the trees to be killed are in rocky areas? On slopes too steep for much grouse use. What percentage slopes will be treated in all areas? What areas in the landscape are not likely to be used to grouse to any appreciable extent – no matter how much deforestation BLM conducts?

We are very concerned with the use of artificial “Phase” categories. These lump all age classes of trees together based on canopy “closure”. Use of the Phase scheme will result in clear cutting and other treatment destruction of mature and old growth trees. Before BLM can develop any “restoration” treatment, the agency must first determine where forested vegetation is the naturally occurring vegetation community - given elevation, precipitation, and taking into account past deforestation and burning. Only after it does that can the agency develop a sound plan for real restoration, and a suitable alternatives range. If BLM were to do that, the range of alternatives is very likely to be much different. Instead of there being a “need” for scorched clear-cutting, chaining, mastication, etc, BLM might find that in fact there is a “need” to allow relatively fire-resistant forested vegetation communities to develop on many sites, or to plant trees to make up for a long-term deforestation deficit. It might find that the best option for sage-grouse is to remove livestock from the riparian and upland areas in lands currently occupied to a significant extent with only very limited and small acreage conifer “treatments” if these are even necessary at all.

In and surrounding many of these areas slated for tree removal, there is a paucity of forested vegetation in sites that should be occupied by trees. This is plainly evident from

the aerial satellite images available on-line, including on BLM's own Geocommunicator site. Please overlay this and determine just what percentage of forested and other vegetation will remain following these treatments.

After all these projects have been conducted, just how many trees will remain in and surrounding the project area and Mountain range? Where? Isn't this a very arid site, surrounded by other very arid sites, where recovery of native vegetation takes a very long time under the best of circumstances? How much drier is this treatment likely to make the Mountain Range? How will drought amplify these effects? Or climate change?

How long does it take for a fully developed forest to mature in the Virginia Mountains? Where are all mature forests in and surrounding the Mountains? Where is the old growth referenced in the Purpose and Need, and how does BLM define old growth? Wouldn't development take hundreds of years?

Many elements of this project will not restore the area, but instead will cause new extensive disturbance to soils, vegetation, crusts, native shrubs and of course trees – and will lead to further ecological collapse. The end result will be a hotter, drier, windier more fire prone Mountain Range and landscape where fire season starts several weeks earlier than if native forested (and shrub) vegetation was present. Trees trap wind-driven snow. They shade the ground, reducing rapid site drying following precipitation events. Yes, they intercept precip. and they, like all plants, transpire. But so do all forested communities across the globe. If the agency is interested in reducing site drying, or reducing hazardous flammable fine fuels that cause fire to flash across the landscape, it would eliminate the grazing disturbance to the soils, crusts, and understory vegetation. The range mindset that these massive treatments are based on ignores the severe negative effects of clearing of woody vegetation in grazed arid lands. See Steinfeld et al. *Livestock's Long Shadow*.

Deforestation may also result in less precipitation falling – as there is increasing evidence of complex interactions between forested vegetation and rainfall. It will also reduce the ability of the land to absorb carbon dioxide through removal of trees.

Is the sage-grouse element of this massive deforestation scheme based on the abstruse models of USGS's Coates – which claim, essentially, that all trees within several miles of leks should be removed –or sage-grouse will not use the area. These models are false. Please review Bukowski and Baker (2013) review of GLO records showing the natural and often complex dispersion and intermingling of trees in historical sagebrush communities. If the Coates modeling is correct, then sage-grouse pretty much could not have inhabited very much of Nevada pre-settlement, as the early historical records show expansive forested vegetation communities across much of the Basin and Range region.

The models also do not appear to accurately factor in slope, rocky outcroppings and other elements of terrain and dispersion of communities.

We are very concerned that abstruse models of all types are being used to justify killing woody vegetation for livestock forage and/or so BLM can create an illusion of doing something to “conserve” sage-grouse while at the same time the agency allows serious grazing, roading, spring water and wet meadow depletion and other activities to continue little-changed. These projects are identical to those that BLM has been doing for the past 60 years for livestock forage. See Aro 1969, Lanner *The Pinon Pine* 1981, Connelly et al. 2004. These types of aggressive sprawling projects are what has led to many precipitous declines in sage-grouse populations in the past.

Winnemucca Valley North –BLM proposes large-scale deforestation, and claims there is a need for wildlife corridors. This is puzzling, since the area receives considerable human use and disturbance, and the existing forested vegetation is providing essential screening and hiding cover to shield wildlife from human disturbance.

Many of the concerns we raise for a specific project apply to other projects as well.

Several Projects Are Not ESR, But Instead Appear to Be Livestock Forage Schemes

It is unclear just what is going on with the ESR projects. BLM refers to ESR projects, i.e. Emergency Stabilization. How recently did the fire occur that BLM is claiming constitutes an emergency in “stabilizing” the aftermath of?

BLM states:

... units are identified for emergency stabilization and restoration (ESR) treatments. The areas should be pre-cleared with a class III survey to allow for prompt ESR activities.

If there is some kind of emergency here for the birds or other values, then BLM must certainly use this process to designate an ACEC.

In describing Bedell Flat, BLM proposes use of the aggressive invasive exotic crested wheatgrass (see for example Grant et al. 2012, Stoller INL Shrub-steppe long-term inventories 2013). Under no circumstances should this or other exotic plants be seeded. The notice fails to adequately describe the full range of past disturbance and conditions on these sites.

Planting aggressive weedy exotics will largely eliminate native forb establishment and hamper sage establishment. Mixing cwg in with Sandberg bluegrass is likely to doom the effective establishment and/or persistence of the Sandberg bluegrass. If herbicides are used, the seeded species are very likely to not become established. Aggressive drill seeding will uproot and injure any native local ecotype Sandberg bluegrass and other native understory plants that are already present.

Where are microbiotic crusts present and what is their cover (here and across all the project areas and affected watersheds)? How will any areas of developing/recovering crusts be protected from drill seeding damage and loss? How would recovery of crusts

reduce flammable cheatgrass? See Deines et al. 2007, Ponzetti et al. 2007, Serpe et al. 2007. Please provide studies and mapping of crust cover and potential.

How much woody vegetation is present? Where? How will it be altered by the “ESR” activity that does not appear to be directly associated with the immediate aftermath of a recent fire? Will this involve extensive use of herbicide? If so, how will native vegetation that is present be protected – including native seedlings? What elevation are these areas? Is there the potential for understories to recover if livestock grazing disturbance and stress is removed, i.e. for use of passive restoration?

This section is particularly strange, because it attempts to use ESR (and ESR funds???) in an area that has not very recently burned, but has very likely has been significantly “cow-burned”, preventing native recovery and promoting cheatgrass domination.

WildCat Spring Chaining and Overall Project Impacts Wrongly Ignored by BLM

BLM claims the area is “heavily encroached with juniper”. Is it instead occupied/re-occupied? What are the ages of all trees on the site? Chaining is highly non-selective, and lays waste to the land as bulldozers rip cross country uprooting trees, destroying wildlife habitat, killing small mammals, and damaging potential cultural sites.

The description is also confusing, since it appears there are standing dead trees that will also be chained, as well. What killed them? Isn't there great value in standing dead trees as wildlife habitat, and for the shade and blocking of wind that burned tree structure provides?

It is absurd to claim that this will be some kind of a boon to the sagebrush –as chaining lays waste to all the woody vegetation – sage included. It causes large-scale damage to soils and watersheds. It will also significantly damage the understory grasses that BLM claims are present.

What is the value of the trees that will be destroyed in all parts of this massive treatment scheme? How much does chaining and all parts of this project cost? What are the sources of funds for this and all other elements of this land, watershed and habitat ravaging Virginia Mountains treatment proposal?

BLM Must Ensure Compliance with the RMP

The Carson City RMP is quite old, and often does not effectively balance uses in a modern day sense. BLM cites the following parts of the RMP as a basis for the project.

- *FIR-2.1 Restore fire as an integral part of the ecosystem, improve the diversity of vegetation and to reduce fire hazard fuels;*
- □ *FOR-1.1 Forest and woodland management will be based on the principles of multiple use, sustained yield, and ecosystem management;*

- *LSG-1.1: Maintain or improve the condition of the public rangelands to enhance productivity for all rangeland and watershed values;*
- *RIP-2.1 Protect and maintain existing and potential fisheries and riparian areas in good or better condition (proper functioning condition);*
- *WLD-2.4 Maintain and improve wildlife habitat, including riparian/stream habitats, and reduce habitat conflicts while providing for other appropriate uses; and*
- *WLD-6.4 Wildlife habitat improvement projects will be guided, in the most part, by provisions in activity level plans such as habitat management plans, or interdisciplinary activity plans. These plans will be developed through consultation with interested parties and will be coordinated with livestock, wild horse, and wilderness plans. These plans will be focused on rehabilitation and improvement of wildlife habitat through protective fencing, water developments, grazing management, and vegetation treatments.*

In order to live up to the RMP, BLM must understand the proper historical role of fire. Many of the projects proposed in scoping are not compatible with sustained yield. BLM must consider a much broader range of alternatives to comply with the RMP.

We note that the RMP contains many actions now known to be quite harmful to wildlife – such as extensive use of fencing.

BLM right now is in the process of developing a new RMP. Jumping ahead with this large-scale Virginia Mountains projects may foreclose options in that RMP process.

What Is the Condition of Springs, Seeps, and Drainages Across the Area?

What types of springs are present? What aquifer are they connected to? Is the area undergoing aquifer declines – and if so what are the causes? What studies have been done? What has been the impacts of “development” of springs for livestock? Why isn’t BLM considering removal of livestock water developments (stock ponds, water troughs, pipelines, spring developments) in order to restore springs and watershed processes? For example, stock ponds are often gouged into springs and moist intermittent drainage areas, disrupting watershed processes, destroying sage-grouse brood habitat, and causing loss of non-flammable green vegetation along drainages. Alternatives should include this type restoration and other reductions. Removal of livestock facilities must be fully considered, including removal of injurious and lethal fencing.

Won’t deforestation and aggressive use of heavy equipment and other methods reduce shade, reduce trapping of water on site, and adversely impact riparian/mesic habitats and the wildlife that rely on the waters, as well as harm aquatic biota that are dependent on these waters? See Sada et al. BLM Tech, Bull on springs and seeps, Sada and Keir spring

assessment protocols, Beksly et al 1999, “Survey of Livestock influences on Stream and Riparian ecosystems in the western United States”.

Dry Valley Creek

What has been the cause of the fires? We oppose use of crested wheat, forage kochia and herbicide. This appears to be a livestock forage project and not a “restoration” project. Just how bad do conditions have to get before BLM eliminates grazing stress?

BLM’s Treatment Descriptions Don’t Reveal the Severity of Disturbance Inflicted

BLM’s descriptions of treatment methods underplay the magnitude of environmental harm and the risk that is involved.

BLM’s description of mastication shows the agency is planning on causing significant damage to the sage, bitterbrush and other shrubs:

Juniper trees and/or shrubs (brush) would be removed from ecological sites by a mastication process which grinds up woody plant material. Due to mechanical limitations of the equipment, mastication treatments are limited to areas with less than a 30 percent slope. In these areas, hand cutting and/or pile burning would be used to meet treatment objectives.

The last part of this seems to be saying that in under 30% slopes, heavy mastication equipment will be used. On top of this, in areas of greater slope - more rugged terrain – hand cutting and dragging of trees (including with heavy equipment) will take place. Do sage-grouse really use these steeper slopes? Won’t they erode? Is BLM targeting the slopes of erosion-susceptible watersheds? The trees stabilize, shade and protect these sites. This and other treatment methods descriptions shows there is large-scale uncertainty with the treatment scheme.

Trees/brush would be ground with an attachment mounted on machinery such as front-end loaders, tractors, excavators, skidders etc., the machine may have rubber tires, rubber tracks or metal tracks. Trees could be thinned or all cut depending on objectives. Stump height would be less than six inches and the products of grinding would generally not exceed two feet in length.

This also describes apparently severe planned disturbance at “staging areas”.

Hand cutting will remove trees from vast areas, instead of carefully targeting specific sites. BLM states:

Hand Cutting: Hand cutting juniper trees would occur on ecological sites where trees are encroaching into landscapes once dominated by shrubs and herbaceous vegetation and into riparian areas. These sites range from open sagebrush sites with scattered young juniper trees to sagebrush sites where young juniper woodlands are threatening to

deplete desirable understory vegetation to riparian sites with juniper trees encroaching into riparian vegetation.

How has BLM separated depletion from livestock grazing vs. “depletion” from the trees? How is the latter defined? How has BLM determined that the trees are not just naturally occurring on sites? And/or are re-occupying areas where past human disturbance or fire removed them? Why aren't the models BLM is using to make these claims, and a detailed explanation of the assumptions on which they are based, been provided to the public for review in this scoping process?

BLM also states:

Cut trees may be removed by non-mechanical methods, chipped with a mechanical chipper working on an existing road, lopped and scattered and/or piled and burned, based on site evaluation and objectives.

Again here, BLM fails to provide site specific information on just what manner and degree of disturbance will take place on all areas of the land.

How many trees, of what ages, will be left in all area targeted for treatment after this battery of disturbance takes place?

Pile Burning. What is the purpose of the pile burning – other than to clear vegetation so livestock can more readily access forage? Burning scalds soils, results in ideal sites for flammable weed infestation and spread, and releases carbon dioxide. Dragging vegetation kills and damages shrubs, small trees, understory plants and microbiotic crusts. Removal of cut woody vegetation will result in a hotter, drier site and even more depauperate wildlife habitat. This, just like BLM proposing to apparently thin burned trees and all other aspects of this proposal is highly unnatural and will further simplify the structure of the site, and promote weeds, and decrease the natural resilience of the public lands.

Mechanical Removal. BLM states:

Mechanical Removal: Mechanical removal of juniper trees would occur on ecological sites that range from little desired understory vegetation to remnant desirable understory vegetation that is at risk of being depleted. Mechanical removal would only occur in units designated for the treatment and may not occur on entire units designated for treatment.

WHAT are all the factors causing “depletion”? How has this been studied on this site? What other alternatives are there to turning the tide on “depletion? The last sentence here is also very confusing.

Is this mechanical removal section of the scoping document so confusingly and obliquely worded in order to conceal a potential subsidized biomass scheme? Just what does “processing” entail? If there is any possibility of a biomass project this must be clearly described and identified as part of the necessary EIS for this project.

Herbicide Use

We are greatly concerned that BLM is relying on its out-dated and deficient 17 States Vegetation Treatment EIS. That EIS relies on old and outdated information. Its accompanying PER report never underwent any NEPA analysis despite proposing millions of acres of “treatment”. Now in 2015 there is significant new information on the adverse effects of the biocides the Weed EIS authorizes on the environment, as well as their carriers, adjuvants, breakdown products, degradates, etc. The Weed EIS was not really an integrated plan for dealing with weeds – it was based on a Spray and Walk Away approach. It did not effectively deal with disturbance that was CAUSING weeds in the first place.

Just how much herbicide will be sprayed in every area? What herbicide will be used? How will these chemicals be applied? What will be the consequences of drift in wind or water, or unintentional contamination of soil, vegetation and exposure of the wildlife, aquatic biota and other animals that inhabit this area? How will these chemicals impact rare plants and their pollinators? Or rare insects? What will the direct, indirect and cumulative effects be?

Portions of the project area are near housing development, so chemically sensitive people may be exposed to harmful substances. The BLM Weed EIS provides only few and inadequate “protections” for all biota –the animals that inhabit the land and the public. What will the effects be on non-target vegetation, waters and soils? Will herbicide potentially drift into Pyramid Lake? Isn't Pyramid Lake downwind? Will aerial herbicide application take place?

BLM has had disastrous impacts with drift from its use of herbicides in wild land settings in the past – for example, the Oust debacle in Idaho where herbicide on wind-blown soils blew off-site and killed crop plants in agricultural fields.

Imazapic (plateau) can persist in the soil preventing germination for multiple years. The fall or spring application would maximize drift in wind and water. These effects will be heightened in the bleak, deforested, bulldozed, logged landscape. This chemical kills native plant seeds that are attempting to germinate, including those in the soil seedbank. It will also prevent the seed that BLM is planting from growing.

What other herbicide use has taken place here in the past? What is the current condition of those herbicided areas? Will BLM be placing these areas on a perpetual very expensive “diet” of Imazapic? What would this cost, and what will the effects be?

Again, pile burning is unnecessary, damaging, and completely unnecessary and will result in even more herbicide use.

Exotic Seedings

The scoping document also shows that once BLM destroys the native vegetation with its treatments, the agency may go in at anytime and further “convert” the landscape to exotic species. BLM states:

Seeding: The seeding of native and non-native species may be conducted as a follow up for any treatment unit(s) where existing herbaceous understory has been compromised and is not sufficient for natural establishment.

Given the aggressive methods and failure to apply passive restoration and heal the land – this means every acre that BLM treats could be seeded to weedy, exotic and often fire-prone species over time.

Also in this methods section, BLM’s description of “chaining” runs counter to its previous admission of impacts at the Wildcat site.

As the dozers pass all vegetative material including burned trees and shrubs are disturbed, uprooted, and crushed.

Indeed!

Limited Literature Ignores a Broad Body of Competing Scientific and Historical Information and Data

This project treatment paradigm is based on outdated, incorrect assumptions about the consequence of disturbance in arid communities. BLM uses old studies to justify blindly ignoring the historical record, and the serious adverse consequences of inflicting these treatments in arid landscapes. The limited references are based largely on the assumptions of Robin Tausch, Rick Miller and others. These range researchers have been wrong time and time again – for example, Miller’s early 2000s claims about sage community fire return intervals. Projects based on their assumptions have already devastated vast areas of Nevada and the Great Basin.

Scoping Tables

Table 2 Summary reveals the scope of the Herbicide and exotic seeding. Table 2 “Summary by treatment method” shows BLM plans to blanket vast areas with herbicide – admitting to 16,070 acres of herbicide use, and the same acreage of “seeding” foreseeably with very large amounts of aggressive, exotic weedy species.

BLM refers to a programmatic Carson City Treatment document - is it even finalized?

The Category I and II Tables show a very broad range of impacts that BLM admits to (and many more that are not spelled out, or where very important information is omitted – as with climate change). BLM must also address the local climate change that accompanies large-scale deforestation, as well as the loss of forested vegetation to absorb Carbon dioxide and other adverse effects.

Of course this project will disturb “paleontological resources” (not to mention cultural materials for which there may be no visible surface evidence). Have the scoping document preparers never witnessed a mastication project, pile burning, extensive crosscountry travel by heavy equipment, or a chaining? Every time one of the huge pieces of heavy equipment BLM uses in these project assaults changes its direction, the machinery displaces significant amounts of soil, even overturning large rocks and boulders. Soil displacement is worse depending on soil moisture, even small slopes, angle of turns, etc. These Tables demonstrate that an EIS is essential.

Please provide detailed mapping of the Incandescent Rocks ACEC, the LWC, and other important areas.

BLM’s table attempts to minimize the impacts by focusing on the treated areas. Nowhere is information provided on the relative extent and significance of the veg communities – such as mature trees, or any forested vegetation - on the areas targeted for treatment and across the landscape.

Microbiotic Crusts Will Be Extensively Damaged By These Aggressive Treatments and Exotic Plant Seeding

Living soil crusts are a frontline defense against invasive species. Belnap et al. 2001, BLM microbiotic crust Tech. Bull., Serpe et al 2007, Ponzetti et al. 2007, Deines et al. 2007 They also fix carbon dioxide and help to buffer lands from climate change effects. Wohlfahrt 2008. The flawed NRCS Ecosite models that BLM uses to justify its large-scale treatments ignore and/or downplay the key role microbiotic crusts play in arid ecosystems.

Shinneman and Baker (2005) describe characteristics of sites invaded by cheatgrass:

Negative relationships with pre-fire biological soil crust cover and native species richness suggest livestock-degraded areas are more susceptible to post-fire invasion. Proactive strategies for combating cheatgrass should include finding effective native competitors and restoring livestock-degraded areas.

Collateral Damage

In all treatments – how much collateral damage to sagebrush and other non-target vegetation will occur? This includes injury and loss due to aggressive deforestation and treatment techniques being used, herbicide drift, increased human access with motorized vehicles and intensified use by livestock to understories and sage previously protected by trees. Instead of selecting methods that would minimize protection of sage, BLM proposes aggressive soil disturbing and sage/shrub killing chaining, operation of immense mastication machinery, and dragging trees to piles to be burned and scalded.

Biomass?

There appears to be the spectre of potential subsidized “biomass” exploitation looming over this project – based on the methods being employed, the area’s extensive roading which the project will make worse and cement into place, and the wording of the scoping notice itself (repeated use of term “biomass”).

BLM must clearly spell out WHAT is meant by biomass, and whether commercial or other use of biomass will take place or is foreseeable, and if so, BLM must assess the direct indirect and cumulative effects of this action on the environment.

After All This Treatment Is Done – How many Mature and Old Growth Trees Will Remain? Where? What will The Acreage extent of the Forest Be?

BLM must provide detailed mapping and analysis of the acreage , extent and location of all mature and old growth trees it has identified in the landscape.

Grazing Disturbance Must Be Curtailed To Achieve Effective Restoration

BLM must:

- Close all treated areas to livestock use permanently to protect the public investment in yet another vegetation treatment, and maximize recovery of native vegetation.
- Conduct a site specific assessment of the magnitude of grazing and other stresses to watersheds and sensitive species in this landscape so that it can determine what areas, if any may be suitable for continued grazing. Full FRH (Rangeland Health) assessments must be conducted.
- Reduce AUMs in pastures/allotments so that use will not be shifted and intensified into other areas if grazing is removed from the pastures and/or allotments where treatments take place. A site-specific and detailed analysis of actual use, grazing monitoring data, seasons of use, etc. must be presented. Please provide this data for all upland and riparian sites. Please discuss the degree and severity of grazing or other disturbances that these lands suffer from grazing stress. How does this manner and level of use conflict with sage-grouse and other sensitive and important species habitat needs?
- Adequately consider adverse impacts of climate change, desertification, erosion, loss of sustainable perennial water flows, drought, etc. – all of which are exacerbated by grazing disturbance, and treatments, that result in hotter-drier, more weed-prone sites. See Beschta et al. 2012, 2014.

Adequately consider other vegetation treatments and/or developments that the agency has undertaken and/or that are proposed that will denude, deforest, and otherwise alter the habitats for numerous TES species and migratory birds. What is a proper cumulative effects area?

The projects' large-scale aggressive treatments, potential road expansion/de facto route creation from clearing vegetation, and opening more country up to difficult to control OHV use - will make these lands highly susceptible to cheatgrass and other weed invasions, and more fires, especially with continued livestock grazing disturbance being imposed. What role are livestock facilities currently playing in causing loss, impairment and fragmentation of habitats?

Please conduct detailed baseline analysis, consider a broad range of conservation alternatives, and provide effective mitigation (including mitigation by avoidance) for sensitive and important species and their habitats and populations.

In order to fulfill promises of "restoration" and explain just how this project will be "saving" sage-grouse and other species, the agency must provide crucial information on habitat conditions across the PMUs and population as a whole, and the effects of its own management in hindering population recovery.

How is the agency defining restoration? What will the effect of the projects be on actually restoring the vegetation communities that are naturally occurring on/native to the site?

Please assess population viability for the PMUs – and just how substantial agency actions would need to be to in fact save the populations from extinction. Full assessment of what constitutes a viable population, or how livestock grazing and facilities or other activities and human disturbance in this area have resulted in diminished viability and severely altered, degraded and destroyed habitats must be provided.

Miscellaneous Other Concerns

Are the Carson wandering skipper or other ESA-listed biota present? What surveys have been conducted, and what consultation has taken place? How will this affect rare aquatic species in Pyramid Lake?

WHAT other planned or foreseeable projects are BLM or other agencies contemplating on Carson City lands? Adjacent eastern California? Or Forest Service lands in the region? How much foreseeable new habitat loss will result for forest-dependent species? Sage-dependent species? How much has already taken place? What projects may NRCS or others be involved with on private lands?

This project will greatly simplify the composition, function and structure of many of the targeted communities. At the same time, grazing simplifies the composition, function and structure of the same areas. Fleischner 1994. What will be the cumulative and synergistic effects?

Also, what are the cumulative effects of multiple projects in the same landscape and/or watershed, as well as across the region?

Throughout, BLM relies on the artificial “ecological site” models of NRCS. These are fraught with error and bias towards removal of woody vegetation in order to generate lush livestock forage. The models have incorrect disturbance interval inputs, and nearly always are based on the absence of any denser woody vegetation. Yet Interior’s own GLO records show this is not the “natural” ecological condition. Example: Bukowksi and Baker (2013).

Summary

This project will impact significant values of the public lands. BLM must ensure full compliance with multiple laws and regulations including the National Environmental Policy Act (“NEPA”), the Federal Land Policy Management Act (“FLPMA”), the National Historic Preservation Act (“NHPA”), the Clean Water Act and the Migratory Bird Treaty Act.

BLM must adequately examine impacts of treatments, grazing and other habitat disturbance on: native vegetation communities and fairly consider how unresilient these lands are; sustainable perennial water flows and trends including aquifer declines; forage production including loss of perennial forage as cheatgrass and other weeds expand; soil degradation, loss and erosion rates in wind and water; microbiotic crust extent and condition (intact crusts help prevent flammable annual grass invasions and site dominance); current extent and potential expansion of cheatgrass and other invasive flammable weeds that dramatically alter fire cycles; past and foreseeable declines and irreversible losses in sage-grouse and other rare species habitats; cumulative effects on all of the preceding. Weeds are exacerbated by aggressive treatment disturbance of soils, microbiotic crusts and shading and protective native vegetation such as pinyon and juniper, grazing disturbance impacts, and a reckless herbicide program and “spray and walk away” methods often practiced by BLM - which has failed to prevent cheatgrass expansion in arid treated and grazed lands and has led to large-scale failures of rehab efforts

Biological and other Comprehensive Baseline Inventories Are Essential

Proper sensitive species, migratory bird and big game baseline inventories must be conducted during all appropriate seasons of the year, including winter to detect wintering migratory birds that might rely on juniper berries for winter survival, or other values that may be destroyed in these treatments. This includes:

Comprehensive surveys for all potentially impacted native biota for 2 to 3 years prior to project development across the treated sites and surrounding areas that will potentially be disturbed, degraded, suffer weed spread and herbicide drift or other adverse impacts due to the proposal.

In solid baseline surveys for sensitive species, migratory and resident birds of concern, rare plants, aquatic species, and all other important and rare biota habitat and populations, BLM must identify all important seasonal use and/or year-round residency areas for these species. BLM must lay out a clear and effective environmental analysis and mitigation strategy to protect habitats and population viability, as well as conserve, restore and enhance species in decline. It must identify areas of unoccupied habitat, and determine what the problem is/threats really are. See USFWS WBP Finding, Dobkin and Sauder 2004, Manier et al. 2013, Knick and Connelly 2009/2011 *Studies in Avian Biology*, for example.

BLM cannot rely on old stale databases, but instead must conduct comprehensive on the ground surveys. Often in typical NV databases, species are only recorded if a mine or other entity has wanted to develop the area. Where are all data gaps, and what must be done to correct them as part of this project?

Solid baseline data must include biological, ecological, watershed, cultural and other surveys - to result in data for proper alternatives development, analysis and mitigation under NEPA. This is also necessary to protect lands from undue treatment degradation and irreparable harm.

Historical Vegetation must be properly identified, assessed, delineated and mapped. This includes the historical record and historical documents – including BLM’s General Land Office (GLO) Survey Records. See for example Baker and Bukowski 2013, Lanner and Frazier 2012, agency and/or university forestry publications and surveys.

Historical Disturbance Intervals, and Current Best Available Science

BLM must accurately delineate complex native vegetation communities that are present, areas of persistent PJ communities within the elevation, precip, soil zones where these naturally occur and are the historical climax native vegetation, to understand the actual HRV and natural fire return intervals that are used in complex FRCC and other models, and also to identify and understand weedier areas and species use and occupancy of existing disturbed/treated sites in PMU and SG habitats.. Scientific information relevant to this proposal includes:

Baker, W. L. and Shinneman, D. J. 2004. Fire and restoration of pinon-juniper woodlands in the western United States: a review. *Forest Ecology and Management*, 189: 1-21.

Bauer, J. M. and Weisberg, P. J. 2009. Fire history of a central Nevada pinyon-juniper woodland. *Canadian Journal of Forest Research*, 39: 1589-1599. 10.1139/X09-078

Beck, J. L., Connelly, J. W. and Wambolt, C. L. 2012. Consequences of Treating Wyoming Big Sagebrush to Enhance Wildlife Habitats. *Rangeland Ecology & Management*, 65(5): 444-455.

Bukowski, B. E. and Baker, W. L. 2013. Historical fire regimes, reconstructed from land-

survey data, led to complexity and fluctuation in sagebrush landscapes. *Ecological Applications*, 23(3): 546-564.

Davies, K. W., Bates, J. D., Johnson, D. D. and Nafus A. M. 2009. Influence of Mowing *Artemisia tridentata* ssp. *wyomingensis* on Winter Habitat for Wildlife. *Environmental Management*. 44(1): 84-92.

Davies, K. W., Bates, J. D., Johnson, D. D. and Nafus A. M. 2012. Mowing Wyoming Big Sagebrush Communities With Degraded Herbaceous Understories: Has a Threshold Been Crossed? *Rangeland Ecology and Management*, 65(5): 498-505.

Getz, H. L., and Baker, W. L. 2008. Initial invasion of cheatgrass (*Bromus tectorum*) into burned piñon-juniper woodlands in western Colorado. *The American Midland Naturalist*, 159(2): 489-497.

Hanson, C. T., Odion, D. C., Dellasala, D. A. and Baker, W. L. 2009. Overestimation of fire risk in the Northern spotted owl recovery plan. *Conservation Biology*, 23: 1314-1319.

Lanner, R.M. *The Pinon Pine: a Natural and Cultural History*. 1981. University of Nevada Press, Reno. 208 pages.

Lanner, R. M. and Frazier, P. 2011. The Historical Stability of Nevada's Pinyon-Juniper Forest. *Phytologia*, 93(3): 360-387.

Lesica, P., Cooper, S. V. and Kudray, G. 2007. Recovery of Big Sagebrush Following Fire in Southwest Montana. *Rangeland Ecology & Management*, 60(3): 261-269.

Matchett, J., Brooks, M., Halford, A. Johnson, D. and Smith, H. 2010. Evaluating the effects of pinyon thinning treatments at a wildland urban interface. USGS. El Portal, CA., 28 pp.

Meyer, S. E. 2011. Is Climate Change Mitigation the Best Use of Desert Shrublands? *Natural Resources and Environmental Issues*, 17, Article 2. 10 pp.

Prevéy, J. S., Germino, M. J., Huntly, N. J. and Inouye, R. S. 2010. Exotic plants increase and native plants decrease with loss of foundation species in sagebrush steppe. *Plant Ecol*. 207(1): 39-51.

Reisner, M. D., Grace, J. B., Pyke, D. A. and Doescher, P. S. 2013. Conditions favouring *Bromus tectorum* dominance of endangered sagebrush steppe ecosystems. *Journal of Applied Ecology*. doi: 10.1111/1365-2664.12097

Romme, W. H., Allen, C. D., Bailey, J. D., Baker, W. L., Bestelmeyer, B. T., Brown, P. M., Eisenhart, K. S., Floyd-Hanna, L., Huffman, D. W., Jacobs, B. F., Miller, R. F., Muldavin, E. H., Swetnam, T. W., Tausch, R. J. and Weisberg, P. J. 2009. Historical and Modern Disturbance Regimes, Stand Structures, and Landscape Dynamics in Pinyon-Juniper Vegetation of the Western United States. *Rangeland. Ecol. Manage.*, 62: 203-222.

Shinneman, D. J. and Baker W. L. 2008. Ecological restoration needs derived from reference conditions for a semi-arid landscape in western Colorado, USA. *Journal of Arid Environments*, 71: 207-227.

Shinneman, D. J., Baker, W. L. and Lyon, P. 2009. Historical fire and multidecadal drought as context for pinyonjuniper woodland restoration in western Colorado. *Ecological Applications*, 19(5): 1231-1245.

Sowell, B. F., Wambolt, C. L., Woodward, J. K. and Lane, V. R. 2011. Relationship of Wyoming Big Sagebrush Cover to Herbaceous Vegetation. *Natural Resources and Environmental Issues*, 16: Article 14.

Wilson, T. L., Howe, F. P. and Edwards, T. C. 2011. Effects of Sagebrush Treatments on Multi-Scale Resource Selection by Pygmy Rabbits. *Journal of Wildlife Management*, 75(2): 393-398.

If the agency does not use the proper historical and current sage and PJ forest ecological science (see above examples) in developing and undertaking its projects and devising a suitable range of alternatives, then it cannot understand the length of time needed for recovery of each specific sagebrush community, or for pinyon and juniper community recovery following project manipulation and/or deforestation.

Additional literature is being provided on cd.

Please feel free to contact us with for any clarifications that may be needed.

/kf

Katie Fite

WildLands Defense

PO Box 125

Boise, ID 83701

208-871-5738

Skip Canfield

From: Julie Ernstein
Sent: Wednesday, November 25, 2015 1:53 PM
To: Skip Canfield
Subject: RE: Nevada State Clearinghouse Notice E2016-037 (Scoping - Virginia Mountains Vegetation Treatments Project)

Dear Skip,

Thanks so much for distributing the Bureau of Land Management's (BLM) *Virginia Mountains Vegetation Treatments Project: Public Scoping* (DOI-BLM-NV-C020-2015-0034-EA) document through the Nevada State Clearinghouse.

This document, prepared by the BLM's Carson City District Office/Sierra Front Field Office outlines the purpose and need for the proposed Virginia Mountains Vegetation Treatment Plan, defines the 193,000+ acre planning area for the project, and defines how the development of a Draft Environmental Assessment (EA) for the project will unfold.

From the outset, the BLM notes that the presence of cross-cutting legal authorities for the proposed Draft EA, defines 16 treatment units within the planning area as well as seven treatment methods to be employed. Tables presented toward the end of the document identify methods best suited to particular management units. As noted in the Public Scoping document, at a minimum, the proposed Draft EA will outline a Proposed Action and a No Action Alternative. The section identified as "Resources Considered for Analysis" notes that there are cultural resources present and likely to be affected by a Vegetation Treatment Plan. These resources and potential project effects will be analyzed in the proposed Draft EA.

In terms of timeframes, the BLM anticipates that the Draft EA will likely be available for public comment in the Summer of 2016 with proposed work under the Vegetation Treatment Plan to commence sometime in 2017 and likely to require a 10-year implementation period. To date, the BLM has initiated public and Tribal consultation, and it is conducting its NEPA and NHPA consultation in tandem. The Nevada State Historic Preservation Office (SHPO) has no cultural resources/ historic preservation concerns, and looks forward to seeing the Draft EA.

As always, thank you for the opportunity to review the Public Scoping document. Should you have any questions regarding these comments, please do not hesitate to contact me directly.

Best,

Julie

P.S. Happy Thanksgiving!

Julie H. Ernstein, Ph.D., RPA
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State Historic Preservation Office
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From: scanfield@lands.nv.gov [mailto:scanfield@lands.nv.gov]

Sent: Tuesday, September 29, 2015 1:54 PM

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Subject: Nevada State Clearinghouse Notice E2016-037 (Scoping - Virginia Mountains Vegetation Treatments Project)



NEVADA STATE CLEARINGHOUSE

Department of Conservation and Natural Resources, Division of State Lands
901 S. Stewart St., Ste. 5003, Carson City, Nevada 89701-5246
(775) 684-2723 Fax (775) 684-2721

TRANSMISSION DATE: 09/29/2015

U.S. Bureau of Land Management

Nevada State Clearinghouse Notice E2016-037

Project: Scoping - Virginia Mountains Vegetation Treatments Project

Follow the link below to find information concerning the above-mentioned project for your review and comment.

[E2016-037 - http://clearinghouse.nv.gov/public/Notice/2016/E2016-037.pdf](http://clearinghouse.nv.gov/public/Notice/2016/E2016-037.pdf)

- **Please evaluate this project's effects on your agency's plans and programs and any other issues that you are aware of that might be pertinent to applicable laws and regulations.**
- **Please reply directly from this e-mail and attach your comments.**
- **Please submit your comments no later than Friday November 27th, 2015.**

[Clearinghouse project archive](#)

Questions? Skip Canfield, Program Manager, (775) 684-2723 or nevadaclearinghouse@lands.nv.gov

____ No comment on this project ____ Proposal supported as written

AGENCY COMMENTS:

Signature:

Date:

Requested By:

Distribution:

- 99ABW Nellis
- Division of Emergency Management
- Intermountain Range
- Adele M. Basham - NDEP
- Alan Jenne - Department of Wildlife, Elko
- Alisanne Maffei - Department of Administration
- Alysa Keller - Legislative Counsel Bureau
- Anna Higgins - Nevada Division of Forestry
- Bette Hartnett - State Energy Office
- Bob Roper - Nevada Division of Forestry
- Bob Turner - Nellis AFB
- Brenda Hunt - CWSD
- Cayenne Engel - Nevada Division of Forestry
- Chris Anderson - Washoe County Health Department
- Chuck King - Hawthorne Army Depot
- Claudia Vecchio - Nevada Commission on Tourism
- Cory Lytle - Lincoln County
- Craig Mortimore - Wild Nevada
- D. Bradford Hardenbrook - Department of Wildlife, Las Vegas
- Dagny Stapleton - NACO
- Dave Marlow -

David Mouat - Desert Research Institute
Ed Ryan - Smith and Mason Valleys Conservation District
Ed Rybold - NAS Fallon
Eddy Quaglieri - Division of Water Resources
Elizabeth A. Harrison - Tahoe Resource Team - Division of State Lands
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J Crandell - Colorado River Commission of Nevada
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Jane Freeman - US Forest Service
Jennifer Newmark - NDOW - Wildlife Diversity
Jered McDonald - Legislative Counsel Bureau
Jim Balderson - NDEP
Jim English - Washoe County
Jim Olson - Lander County
Jim Souba - City of Fallon Public Works
John Christopherson - Nevada Division of Forestry
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Julie Ernstein - State Historic Preservation Office
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Larry Cruz - Hawthorne Army Depot
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Linda Cohn - National Nuclear Security Administration
Lindsey Lesmeister - NDOW
Lori M. Story - Attorney General
Lowell Price - Commission on Minerals
Major Doug McEldowney - Nevada National Guard
Mark Enders - NDOW
Mark Freese - Department of Wildlife
Mark Harris, PE - Public Utilities Commission
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Tina Mudd - Dept of Agriculture
Tod Oppenborn - Nellis Air Force Base

Tracy Kipke - NDOW
Valerie King - NDEP
Warren Turkett - Colorado River Commission of Nevada
Wayne Howle - Attorney General
Wes Henderson - Nevada League of Cities
Zip Upham - NAS Fallon



CCDO_VMP_EA, BLM_NV <blm_nv_ccdo_vmp_ea@blm.gov>

State Agency Comments E2016-037 Scoping - Virginia Mountains Vegetation Treatments Project

1 message

Skip Canfield <scanfield@lands.nv.gov>

Tue, Dec 1, 2015 at 9:16 AM

To: "Buttazoni, Brian" <bbuttazoni@blm.gov>, "Iross@blm.gov" <lross@blm.gov>, "VirginiaMtns@blm.gov" <VirginiaMtns@blm.gov>

Cc: Skip Canfield <scanfield@lands.nv.gov>

Brian:

The Nevada State Clearinghouse received the attached comments on this scoping notice;

<http://clearinghouse.nv.gov/public/Notice/2016/E2016-037.pdf>

Speaking for the State Land Use Planning Agency, I support your efforts on the Virginia Mountains Vegetation Treatments Project.

Skip Canfield

Nevada State Clearinghouse

State Land Use Planning Agency

Nevada Division of State Lands

Department of Conservation and Natural Resources

901 South Stewart Street, Suite 5003

Carson City, NV 89701

775-684-2723

<http://clearinghouse.nv.gov>

2 attachments

 **E2016-037 NDWR (Scoping - Virginia Mountains Vegetation Treatments Project).pdf**
93K

 **E2016-037 SHPO (Scoping - Virginia Mountains Vegetation Treatments Project).pdf**
160K



Barker, Keith <kdbarker@blm.gov>

Fwd: Virginia Mountains Vegetation Treatments Project (DOI-BLM-NV-C020-2015-0034-EA)

CCDOWebmail, BLM_NV <blm_nv_ccdowebmail@blm.gov>
To: Keith Barker <kdbarker@blm.gov>

Tue, Oct 13, 2015 at 12:22 PM

Hi Keith,

Please see email below.

Thanks, Lisa

On Thu, Oct 8, 2015 at 8:02 AM, Lynch, Erika <elynch@schiffhardin.com> wrote:

Good morning,

Could I be added to the interested parties list for any further updates for the Virginia Mountains Vegetation Treatment Project as referenced above? Please let me know if there is someone else I should contact. Thank you!

Erika Lynch
Paralegal



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CCDO_VMP_EA, BLM_NV <blm_nv_ccdo_vmp_ea@blm.gov>

Virginia Mountains vegetation treatments

2 messages

Thu, Nov 12, 2015 at 2:18 PM

To: VirginiaMtns@blm.gov

Hi BLM: Would you kindly send me the EIS for this project. Many thanks,

CCDO_VMP_EA, BLM_NV <blm_nv_ccdo_vmp_ea@blm.gov>

Fri, Nov 13, 2015 at 7:35 AM

To:

There is no EIS for this project. Can you provide me the source that you read there is an EIS for this project?

The description of the project, including maps, is located at the website below:

<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=52595&dctmId=0b0003e8808c5310>

Our office anticipates that the draft environmental assessment will be out for public comment early summer 2016.

Brian

[Quoted text hidden]



CCDO_VMP_EA, BLM_NV <blm_nv_ccdo_vmp_ea@blm.gov>

Fwd: request a hard copy of virginia range veg treatment EA and initial comment

1 message

Buttazoni, Brian <bbuttazoni@blm.gov>

Fri, Oct 30, 2015 at 6:06 PM

To: BLM_NV CCDO_VMP_EA <virginiamtns@blm.gov>

Cc: "Barker, Keith D" <kdbarker@blm.gov>, Pilar Ziegler <pziegler@blm.gov>

----- Forwarded message -----

From: **Katie Fite** <katie@wildlandsdefense.org>

Date: Fri, Oct 30, 2015 at 10:42 AM

Subject: request a hard copy of virginia range veg treatment EA and initial comment

To: bbuttazoni@blm.gov, adrose@blm.gov

Cc: Brian Ertz <brian@wildlandsdefense.org>

Hi,

I request a hard copy of the Virginia Range Vegetation Treatment EA and associated mapping and other documents.

When are we going to see BLM prepare an EA that adequately controls the very significant livestock grazing footprint in this area?

WildLands Defense requests that BLM prepare an EIS. This project covers a very large weed-prone landscape, and inflicts significant mechanized, chemical, de facto roading and other serious disturbance on it.

BLM is proposing the very actions that have been such failures in the past at sustaining sage-grouse. Instead, projects similar to what is proposed here have spurred site dominance of cheat and medusahead, destroyed magnificent mature, old growth and re-occupying arid forests that cool and moderate site climate, and generally created an ugly, scarred, dried up weedy landscape with diminished wildlife populations.

Thank you,

Katie Fite
Wildlands Defense
PO Box 125
Boise, ID 83701

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Brian L. Buttazoni

Planning and Environmental Coordinator

Sierra Front Field Office

(775) 885-6004

(775) 885-6174 (fax)



BRIAN SANDOVAL
Governor

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TONY WASLEY
Director

JACK ROBB
Deputy Director

LIZ O'BRIEN
Deputy Director

December 4, 2015

Keith Barker
Bureau of Land Management
5665 Morgan Mill Road
Carson City, NV 89701

Subject: Virginia Mountains Vegetation Treatments Project

Mr. Barker:

The Nevada Department of Wildlife (NDOW) appreciates the opportunity to comment on the Bureau of Land Management (BLM) Virginia Mountains Vegetation Treatments Project. We support the BLM's efforts to restore the balance of vegetation and improve wildlife habitat within the Virginia Mountains project area. We offer the following recommendations in support of this project.

We support this landscape-scale project approach that attempts a variety of treatments (e.g. hand thinning, mechanical treatment, pile burning, seeding, weed treatments) across the landscape. Implementing these treatments across a large scale and through time breaks-up the landscape into heterogeneous patches with differing vegetation states. These heterogeneous mosaics can improve wildlife habitat quality and quantity as well as improve fuel load conditions to prevent catastrophic wildfires from occurring.

We commend the BLM for incorporating seedling planting into the project as it can enhance wildlife habitat values. We recommend allowing greater flexibility with regard to seed mixes. For example, on page 6 under items 14 and 16, we recommend not limiting the seed mix to only those species listed. Rather, we recommend rewording to state, "A mixed native/non-native seed mixture of but not limited to..." so to allow additional species in the seed-mix base upon site specific conditions. Also, on page 6 item 15, we recommend allowing non-native seed as there maybe site specific conditions that warrant its use.

Lastly, we recommend including spring protection/enhancement projects within this EA. Opportunities exist within the project area to enhance riparian vegetation communities. Fencing (including pipe-rail), head-cut repair, and other spring/riparian enhancement actions would expand and augment the benefits received by wildlife from the proposed projects.

We support Virginia Mountains Vegetation Treatments Project that will improve habitat for sage-grouse and other wildlife. Please let us know how we can help and if you have any questions or need additional information.

Sincerely,



Mark Freese
Supervisory Habitat Biologist