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cc

Subject  
More Veg EIS comments

February 7, 2006

Bureau of Land Management  
Nevada State Office  
Attn: Brian Amme, Weed EIS Project Manager 1340 Financial Blvd.  
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Dear Brian,

1 Here are additional comments of Western Watersheds Project on the Draft PEIS Vegetation Treatment on BLM Lands in 17 Western States, the associated PER, Biological Risk assessments and other documents.

2 It is impossible to determine exactly what the EIS covers. In EIS at 1-4 "Scope of Analysis" BLM states: "the EIS does not evaluate vegetation treatment activities involving herbicides not directly related to the need to reduce hazardous fuels, or to modify the vegetation community to improve rangeland health...". But BLM also states that the EIS does not address treatments designed to increase forage production or the effects of livestock grazing on vegetation. Yet, elsewhere it sounds like it does. It is extremely difficult to get a straight answer, either from reading the EIS, or in WWP's inquiries and attendance at public meetings, to get a straight answer on what herbicide use and treatments are, or are not, covered by this EIS. No criteria are established to allow treatments for various purposes to be differentiated.

3 BLM's project Manager Amme has stated that: "this is not a timber management or a cow chow EIS, it is strictly a hazardous fuels, weed eradication, habitat improvement EIS ... It looks at the

ecological and human health effects, and effects on endangered species”. And also: “this [EIS] is not for Oil and Gas, timber, grazing, but is for Hazardous Fuels and invasive species”.

- 4 How can a reader differentiate between treatments, and acres to be treated, for wildlife habitat vs. hazardous fuels vs. livestock forage treatments? It is impossible. Typical BLM EAs/activity plans and more site specific documents covering treatments and other activity plans often claim that a treatment project or herbicide use is conducted to both benefit or increase forage production and wildlife habitat improvement. Often, agency EAs, will claim both these and many other things would be benefits. Nowhere is any protocol or decisionmaking framework applied to determine precisely what actions will or will not be covered by the EIS. One Field Office of BLM could arbitrarily claim a particular action claimed to benefit wildlife and livestock forage was covered by the EIS, while a neighboring office with a similar project could claim it was not.
- 5 The EIS analysis is to be used so that at the NEPA document level, “they [BLM] don’t have to do another 30,000 to 60,000 dollar risk assessment”. So when it comes time to do the project, BLM plans to do NEPA but apply BMPs laid out in the PEIS. Yet, PEIS BMPs are woefully deficient, and there is no requirement to conduct NEPA at a level of at least an EA or EIS that will allow full public participation.
- 6 BLM’s scoping Notice stated that BLM would evaluate the impacts of treatments – and not only herbicide use. This has not occurred, and no range of alternatives has been developed, and no “hard look” has been taken.
- 7 The EIS also states that it does not examine the Effectiveness of actions/treatments. BLM’s Amme has said that the EIS covers the Risks of use of all herbicides, but does not look at their effectiveness, and that the language in the DEIS "Scope of Analysis" was largely a holdover from Scoping.
- 8 Nowhere, in any scientific, systematic, baseline or comprehensive way, is effectiveness ever examined in the DEIS/PER or associated documents. When I inquired of the EIS preparers (Amme) where effectiveness is examined, the response was: “in the scientific literature, and by the Weed control districts and other levels”, and suggested I go to state weed meetings. These state weed meetings do not scientifically or systematically examine the effectiveness of treatment projects conducted across public lands. I have attended them. Small papers and reports, at times funded by chemical companies, are all they entail. If BLM is aware of current and accurate information compiled by any of these parties, it should have been presented in the DEIS, and has not been. Tremendous risk and uncertainty surrounds any BLM action under which BLM would claim that “effectiveness” was somehow examined at state weed meetings, and this information somehow magically incorporated into treatment of millions of acres of public lands.
- 9 Without necessary scientific information on effectiveness of any treatments, no complete environmental analysis, assessment of ecological risks, or any understanding of the proposed actions can be conducted.
- 10 While BLM superficially examines a few risks of herbicides, nowhere are the risks of treatments, or combined treatment AND herbicide use examined.
- 11 Risks of herbicide use and any treatments are related to effectiveness. If a chemical is not effective – or livestock, OHVs, etc. continue to disturb sites and/or transport weed seeds, or adversely affect outcomes of treatments, or an incorrect chemical is used because the agency improperly failed to consider causes of weed infestations, then the effectiveness is less. So, more or additional chemicals

or treatments may be used, and the ecological/environmental risk becomes much greater. To effectively deal with infestations, it is essential:

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· To determine the cause of weed infestation to know which herbicide or which treatment to use, and to determine how best to rehab sites or control future disturbance to limit additional weed problems;

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· To know the effectiveness of chemical or other treatment applied in real world wild land settings (and in past BLM “treatments”) to evaluate risk. If a particular chemical has been less effective, and has to be used repeatedly to achieve results, environmental risks would be greater.

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Although BLM entitles the EIS “Vegetation Treatments on BLM lands in 17 western states”, it fails to assess the environmental impacts of vegetation treatments and take a hard look at a reasonable range of alternatives related to the massive array of treatments proposed.

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BLM proposes to treat 932,000 acres annually, increasing herbicide use from the current 300,000 acres. BLM’s “Purpose and Need” states: “the proposed action would reduce the risk of catastrophic wildfires by reducing hazardous fuels, restoring fire-damaged lands, and improving ecosystem health by controlling weeds and invasive species ... and manipulating habitat to benefit fish and wildlife habitat, improve riparian and wetland areas, and improve water quality in priority watersheds”. BLM describes the severity and intensity of wildfires increase in recent years, to a million or more acres annually, and that changes in vegetation on public lands have resulted in increases in hazardous flammable fuels.

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BLM then attributes this to: “much of the increase in hazardous fuels can be attributed to fire exclusion policies over the past 100 years, and also describes long-term drought and “an increase in the spread of noxious weed species and invasive vegetation” – which are now the dominant

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vegetation on 35 million acres! (How has BLM defined “dominant”?). WHERE are these lands? Are they the same lands targeted by the Field offices, or are they somewhere else? HOW has BLM management of human disturbances (grazing, roading, mining, Oil/Gas) caused this condition?

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BLM ignores assessing the role of chronic livestock grazing disturbance; its own extensive past vegetation treatments (often undertaken for livestock); livestock facilities and often associated roading; and previous treatments that have been claimed to be undertaken to reduce “invading” species, “reintroducing fire” or other disturbance, and wildlife and habitat improvement and the hazardous fuels funding has been used --- in fostering spread of hazardous fuels such as cheatgrass.

#### BLM Forsakes Current Science

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Best available science shows that livestock grazing removes and reduces understory fuels and contributes to exclusion of fire (Belsky and Blumenthal 1997).

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Best available science shows that drastic ecological changes – related to human disturbance - have occurred to arid western landscapes. Soils, vegetation, species composition, nutrient cycling, microbiotic crusts, watersheds, riparian areas and important species habitats have often been irreversibly altered (see CEQ Report 1981, Fleischner 1994). Imposition of a starry-eyed HRV fire or disturbance regime based on the past environmental setting which no longer exists, is proposed as a basis for treatment actions in the EIS, without any reality check on the consequences of imposition of new treatment disturbance.

21 BLM ignores the fact that livestock grazing disturbance of salt desert shrub, sagebrush, pinyon-juniper, forests and other arid wild lands contributes greatly to increases in hazardous fuels, and that fundamental changes in land uses such as grazing must be undertaken if any “treatment” is to be effective, and not result in even greater ecological problems and habitat losses. Grazing has dramatically altered the composition of plant understories. It has result in plant communities crossing thresholds from which recovery (especially with continuing disturbance of livestock grazing) may not be possible.

22 BLM’s neglect of addressing changes in livestock use and livestock as a causal factor is particularly glaring, as much of the land area of the primary areas where treatments are proposed, such as the sagebrush biome of Nevada, Idaho, Oregon and increasingly Wyoming, is infested with cheatgrass, medusahead and other invasives, or at great risk of infestation with continued or increased disturbance. Instead of excluding fire, these weeds cause more frequent fire, and cause rapid spread of fires across the landscape, often leading to large catastrophic fires (as the 200,000 acre Jarbidge BLM Clover fire of 2005).

#### BLM Must Learn From The Past

23 BLM must use best available science and provide a basis for the claimed purpose and need. BLM must provide baseline information on the numbers of acres treated/manipulated in the past, the environmental effects of these treatments, and the current condition of these treated lands. The proposed vegetation treatments and herbicides have been purposefully employed by BLM and the Forest Service for a significant period of time. They have caused harmful, often irreversible changes to habitats for species such as sage grouse and pygmy rabbit (MDFW 1995, Braun 1998, Connelly et al. 2000, Connelly et al. 2004). The very treatments described in the PER have led to large-scale habitat declines.

24 BLM has conducted no effectiveness monitoring, and provides no science-based analysis that its drastic increase in just such activity as has harmed these habitats in the past, will result in positive or beneficial changes for natural communities. BLM has refused to address the causes of any “need” for treatments.

25 Monitoring information and analysis of past treatments is essential to understand the environmental effects of treatments (including herbicide use), as nearly all the treatments proposed by the EIS were previously inflicted on vast acreages of public lands as vegetation treatments or manipulations in the period from 1950s to the 1970s, as many millions of acres were manipulated --- and wildlife habitat fragmented - to produce livestock forage. “Rehab” of depleted ranges was conducted by treatments replacing native vegetation communities with exotic soil-depleting species of limited value to native wildlife (such as crested wheatgrass, see Lesica and Deluca 1998), intermediate wheatgrass, smooth brome, or other species. These persistent exotics irreversibly alter sites and are very difficult, if not impossible, to remove in wild land settings. Use of these harmful exotics has continued up to the present in many areas.

26 Past treatments on BLM lands included prescribed fire, chaining, plowing, cutting, aerial herbicide application, etc. and often combinations of treatments. These were often followed by seedings with exotics. More recently, some large-sized cultivars that are not native ecotypes are at times used as substitutes for natives.

27 It is WWP’s observation that these past “treatments” have led not to improved ecological conditions, but instead to continued depletion of remaining understory vegetation, and often

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cont.

dramatic increases and/or complete domination of lands by cheatgrass and other weeds. Example: the Vale Project, Ely, Elko, Owyhee chainings, burns and mechanical thinning. Before BLM can understand the impacts of its proposed treatments, including use of herbicides and risks associated with either use of these substances separately or in combination with other treatment techniques, it must conduct baseline studies and present information on the current condition of these lands, and the effectiveness of any treatments that it has conducted.

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If these previous treatments are now in poor condition, are infested with weeds, etc. it is critical to use this information in this EIS. This is especially the case as the EIS page after page makes sweeping and unsubstantiated assertions that disturbance or treatment actions under its Preferred or other alternatives would result in beneficial outcomes, and improvements in soils, watersheds, all components of the environment.

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The Vale Project in eastern Oregon provides an example of the failures of precisely the same undertakings now being proposed under the umbrella of this EIS. Areas of rougher or more irregular topography may not have been seeded, but sagebrush or other vegetation was removed. Failed pinyon-juniper chainings pepper the Great Basin --- the very same lands where BLM proposes massive new "treatments".

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BLM fails to reveal how its own management failures in regulating/managing disturbance or treatment activities on public lands have contributed to the dramatic increase in weed problems and hazardous fuels. BLM knows where a great many previous treatment projects (chainings, prescribed burns, herbiciding) have been conducted. NEPA records exist, and WWP's review of BLM grazing allotment information and project files and BLM FOIA responses shows us that BLM has good project files that identifies lands where BLM has conducted past treatments. Example: Jarbidge BLM response to WWP FOIAs.

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Instead of presenting any data or analysis of current conditions on these lands where it has conducted past treatment projects, BLM has used "existing environmental analyses in analyzing impacts of the proposed action and alternatives". None of these "existing" documents ever examines the condition of the treated lands, or the effectiveness of treatments.

Sweeping Claims of EIS/PER/ERA are Often Unsubstantiated by Current Science  
- Data or Scientific Support is Not Provided

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The EIS constantly makes sweeping claims of environmental benefits predicted to stem from treatment disturbance, herbicide use, or other actions, yet fails to provide scientific evidence to support these claims. Few references to any material either in support of or in opposition to BLM's conclusions are provided in the EIS, PER and associated documents. This is especially the case in analysis of short, mid and long-term ecological impacts of actions to air, soils, microbiotic crusts, water, watersheds, vegetation (native and invasive), wildlife, native biota, riparian areas, aquatic species, TES species, recreational uses, cultural values, and important public wild land areas such as ACECs, WSAs or Wilderness. When they are provided, BLM's obscure, out-dated or biased references present only one narrow view and are used to make sweeping statements.

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An example of data deficiencies, omissions or other problems permeating the EIS and all associated documents is shown in PER Table 3-5, "Estimated Acres of Weed Infestations on Public Land in 2000". Here, BLM failed to:

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- Compile current data (through 2005) on weeds and invasive species, including a much broader range of invasive species (all noxious

weeds in project area, and all major invasive species in project area). The 2000 data is already 5 or more years old.

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· Define what, exactly, constitutes an “infestation”, as used in this Table. Is it the presence of a few plants, a percentage of ground cover, what? Throughout, BLM fails to define terms used, or when it does, concocts a definition (as the EIS definition of invasive species) that is at odds with scientific uses.

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· Provide any information for lands critical to the actions in the EIS and PER. The Table presents “0”/Zero acres of weed infestations of Bromus or halogeton in Nevada, despite millions of acres containing significant infestations of these invasive species (likely 10-20 million acres), Fite, recent field observations over extensive areas of northern and central Nevada. As the public lands of Nevada are slated for large-scale treatment under the EIS and PER, such gross omissions are unforgiveable and render an analysis scientifically untenable. Thus, no basis for any legitimate analysis is provided.

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· Scientific papers for decades have documented widespread cheatgrass in Nevada., Pellant and Hall (1994) provided coarse maps of cheatgrass infestation. Extensive cheatgrass mapping using modern imagery was conducted in Nevada since 2000. BLM is well aware of large-scale infestations of cheatgrass in this state. Examples: Elko BLM, Squaw Valley IBLA hearing maps and testimony, Battle Mountain BLM Carico Lake Rangeland Health assessment). Idaho contains no data on halogeton, despite large-scale occurrence in many livestock-degraded lands of southeastern Idaho. Current GIS technology and databases provide a ready source of reasonable data.

Current and comprehensive information is essential for valid analysis of impacts. This is lacking throughout these documents.

Science Was Not Used to Determine Acreages of Treatment/Disturbance, Current Condition of Lands, Etc.

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BLM provides no evidence of a systematic analysis or study methodology employed to develop the basis for its massive “treatment”, including herbicide treatment, and state-by-state breakdown of proposed treatments in the DEIS or PER. How, exactly, did BLM decide it needed to treat huge acreages in Nevada? How could it have decided this with incomplete, or no data at all on acreages on infestation (see PER Table 3.5, for example)?

39

BLM refers to improvement in land conditions, based on its own BLM 2005 report. This report and its methodology, should have been made available as part of the EIS effort. We have searched in vain for it on BLM’s Website. WWP believes this is “cooked”, biased, self-serving analysis ---

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based on our extensive review and involvement in BLM public lands planning and rangeland health processes across much of the West. The rosy claims of good and improved conditions lands in the EIS and PER are not supported by our observations, or the agencies own documents, in relation to the public lands in Nevada, Idaho, Utah, Wyoming and California, nor are they supported by our reviews of hundreds of current BLM documents including many FRH assessments from Nevada, Idaho, Wyoming and other western states.

41 In order to understand the “improved” conditions, a reader must be told if all BLM land is lumped in that summary, and if previous summaries to which this may be compared include such areas as Alaska. Note: the EIS states Alaska lands are largely pristine, so how heavily weighted any analysis is with Alaska lands data must be fully revealed.

42 In addition, BLM itself has presented no current assessment of the condition of public lands in many areas where treatment would be most likely to occur. Example, 12 million acres of Ely BLM lands encompass large areas of the ‘Subtropical Steppe Ecoregion’, yet Ely BLM has refused since circa 1997 when the FRH were adopted to conduct current FRH assessments on nearly all of its lands. Thus, there is no current data on land health in this District, and no basis whatsoever for predicting or determining proposed treatment acreages.

43 In order to understand either the causes of weed, hazardous fuels, or other ecological problems on public lands, or to understand the implications of its proposed treatments, BLM must compile information on existing grazing impacts to lands proposed for treatment.

#### Hazy Definitions and Shifting Terminology

44 BLM’s terminology (1-2) and other terms and definitions used in this process are not supported by science, and no basis is provided for its aberrant definitions of terms such as “selective” - BLM absurdly claims that chemicals that kill or weaken nearly all broadleaf plants are “selective”; BLM defines “weeds” as plants that interfere with management objectives.

45 BLM mixes two different types of organisms under the rubric of “biological control” – placing UNSPECIFIC cattle and sheep grazing in with biological control insects that target specific weed species. We believe it is inappropriate to lump highly selective insects that target specific plants (appropriately termed “biological control”) in with broad spectrum grazers and browsers such as domestic cattle that are often responsible for causing the damage to native vegetation lands such that weeds invade and “treatment” is deemed necessary. We fear BLM may be using this terminology to open the door to use fire funds to pay ranchers for grazing livestock (biological control by BLM’s definition) on public lands. Just how many acres does BLM plan to “treat” with cattle or sheep? Where? What will the ecological impacts be? What will be the cumulative impacts of “treating” and grazing on watersheds, important, special status and T&E species, recreational uses, etc?

46 It has not been scientifically demonstrated that cattle and sheep grazing results in beneficial “control”, as the livestock grazed will cause new disturbance, and impose new soil and vegetation disturbance. Public lands grazing is tremendously subsidized, and additional “payments” (either from fire funds, or from allowing additional near-free grazing) on already grazing damaged lands should not be authorized. This EIS, and many of the actions that it covers, represent yet another subsidy to public lands ranchers, as weeds and hazardous fuels are very often caused by grazing and agency actions (such as livestock facilities or associated roading or vegetation treatments) undertaken to support domestic livestock grazing, especially on increasingly depleted public lands.

47 Nowhere is this unspecific, loose and ever-shifting and self-serving use of words more apparent than in the BLM’s varying use of “treatment”. While grazing “treatment” is placed by BLM under biological control, changes in chronic grazing disturbance treatments are not addressed in the EIS, and an alternative array of grazing treatment actions are not assessed.

48 | At the same time that BLM describes grazing as a biological treatment, it refuses to deal with changes in grazing regimes as treatments that reduce causal factors of weed, hazardous fuels, or other ecological problems.

49 | Example of vague definitions: The definition provided for “hazardous fuels” is so loose and broad that it is essentially meaningless. What is meant by “a special threat of ignition and resistance to control”? How is this better described, and quantified? How does non-hazardous fuel compare to hazardous fuel? What are ‘normal’ fuel loadings or fuel characteristics for vegetation types and ecosystems covered by this EIS?

#### Uncertainty Shrouds Selection of Treatment Acreages

50 | The PER at 1-6 describes selection of treatment acreages: BLM asked each Field Office to estimate and summarize proposed vegetation treatments likely to occur in the next 10 years. For each project, the field office provided an estimate of the number of acres proposed for treatment, the general vegetation types proposed for treatment, and the vegetation treatment methods proposed to be used. Why are the specific details of this process and specific responses not provided as an appendix in the EIS? This is what is driving the massive increase in treatments and increased herbicide use.

51 | BLM has provided no evidence that consistency, or consistent methodology, was applied in determination of any parameter or treatment type, acreage, etc. that were used by the Field Offices. The EIS, PER, etc. fail to provide any information on the baseline data, studies and analysis that was used by each BLM office in coming up with treatment acreages. Such information is essential to understanding the foundation of the EIS, PER and associated documents, and must be fully revealed to the public in a Supplemental EIS.

52 | If any assessment of the need and land conditions related to treatments that are underlying/driving this EIS process have been derived from a scientific methodology, this must be provided to the public. Were specific land areas identified by BLM Field Offices? If so, where is the map of these areas? It is essential to understand just where the FOs identified treatment acres to determine the validity of the claims of the EIS that many of the treatments would be conducted in the Wildland Urban Interface, and to determine the degree of impact to ACECs, WSAs, T&E habitats, etc.

53 | As most of the treatments are slated for Nevada, Idaho, Wyoming and Oregon, the number and “risk” of hazardous fuels at any WUIs must be assessed. What is BLM using as its WUIs? Each individual ranch? Abandoned habitations in the middle of nowhere? Many arid land ranches are embedded in irrigated ag., and are already severely overgrazed with no hazardous fuels in proximity to dwellings. Understanding how BLM defines interfacing lands, and the characteristics of WUIs and land areas to be treated is critical to understanding the environmental effects of treatments. It is also essential for a reader of the EIS to understand the necessity of treatment.

#### Old EISs Are Insufficient to Understand Current Setting or Disturbances/Treatments Proposed

54 | BLM claims that its old EISs evaluated use of herbicides in addition to other treatments on approx. 500,000 acres a year (ES-1). There is a large difference between treating that acreage each year, and now claiming that the old EISs’ cover the greatly expanded treatments that this EIS is associated with. Much greater impacts to populations of special status species, big game winter ranges, water quality in watersheds, etc. would occur if treatments had been staggered over the past 20 years – in contrast to the massive number acreage of treatments BLM is now proposing.



56 Plus the environmental baseline and agency perceptions of problems have changed dramatically since the old and stale data of the previous EISs was collected. BLM knows this –example, EIS 1 described the “emerging weed problems associated with public lands, such as downy brome (cheatgrass) and invasive aquatic species”. Downy brome has been recognized as a serious problem for half a century or more – yet only since the 1990s has BLM really become concerned, and such concerns are not reflected in the old documents that BLM refers to.

ES-1 states two objectives:

57 One: Determine which active herbicide ingredients are available for use on public lands. This is reckless. BLM cannot limit itself to just the “active” ingredients, as carriers, breakdown products, etc. may have serious environmental effects.

58 BLM must provide data and studies of the effects and effectiveness of its past use of the chemicals currently being used and carried forward in this EIS in real-world, wild land settings, to understand the environmental and other effects of their use. BLM has not done this in the DEIS.

59 Two: Develop a state-of-the-art human health and ecological risk assessment methodology.

In order to adequately assess ecological risk, BLM must provide essential information on the conditions of the lands where treatments could occur, and the full range of species, including habitat specialists, that inhabit them. It must also assess the whole range of risks – from use of multiple chemicals on the same land to the impacts of breakdown products/degradates.

60 Until it has done so, it can not have a state-of-the-art anything. BLM must conduct analysis and provide data that shows: What is the current ecological condition of lands subject to past treatments, or proposed for treatment under the DEIS? How might chemical, carrier, breakdown product impacts be magnified in degraded environments of bare disturbed soils, devegetated wild land springs, etc.?

61 What is the condition of the sage grouse habitats where treatments occurred? Have these treatments been effective in achieving the outcomes predicted or claimed? This is critical to understanding the effects of both herbicides and the treatments on wild lands.

62 BLM claims “the use of the other non-herbicide techniques in an integrated pest management approach has been affirmed in all previous EIS, and the BLM is not proposing to make any decisions relative to the use of non-herbicide vegetation treatment methods” (ES-2). Here BLM admits it has been using many of these techniques all along, yet refuses to examine their effectiveness, or ecological consequences, or to develop a decisionmaking framework to determine which treatments to use or how it will decide when to spray vs. when to mow, for example.

63 The current situation on public lands with the various Fire policies and the healthy forests Initiative is very different. There is funding and pressure to treat many more acres ANNUALLY (HFI/fire funds), the “emergence” (BLM’s term) of cheatgrass and other invasives as an ever more pressing threat, The acreage proposed for treatment disturbance is greatly expanded! The “alarming” spread of weeds, and the vast land areas now dominated by invasives, has changed the baseline situation. This should also show BLM that it’s past herbicide use and ongoing land management practices have been ecologically disastrous, and may have only increased invasive species problems.

64 BLM’s old EISs were not based on current science – such as ecological science, and understanding of impacts of habitat fragmentation/degradation (see Freilich et al. 2003, Knick et al. 2003,

Connelly et al 2004, Dobkin and Sauder 2004). The very treatments BLM proposes may drastically fragment remaining habitats for important, special status and T&E species, and those effects were not addressed.

65 | The current documented declines or endangerment of many species were not considered. Outcomes of treatments may wipe out/locally extirpate rare or declining species. See Dobkin and Sauder 2004, discussion of small mammals existing in highly fragmented habitats. In a context of species existing in small, highly fragmented pockets of suitable habitat, BLMs treatments that may disturb native habitats or herbicide drift, may have much greater impacts.

66 | There are many new special status and T&E species and other species of concern that were not even on the radar screen, or that had more robust populations, in the days of the old EISs va. Present day. Understanding of species habitat needs has increased, especially as such things as the harms caused by fire to sage grouse habitats (Connelly et al. 2004), the harms caused thinning sagebrush to pygmy rabbit habitat, the effects of structural alteration of shrubs to migratory birds, etc.

#### Alternatives

67 | BLM failed to evaluate ANY alternatives related to the greatly increased treatment acreages (as discussed in the PER). BLM never evaluates a reasonable range of alternatives or alternative acreages for non-herbicide treatments.

68 | BLM never addresses an array of passive treatments in its PER, let alone under a range of alternatives in the EIS, and the dramatically increased acreages.

69 | BLM failed to evaluate a reasonable range of alternatives. BLM never examined an alternative, or range of alternatives including alternative treatment acres that focused on passive restoration.

70 | BLM can not argue that it is beyond the scope of the EIS to address causes and passive treatments – as it pays lip service to these so in its discussion of Alt. 5.

71 | BLM has not assessed a reasonable range of alternative related to chemical use. It has primarily eliminated from consideration some chemicals that it has not used much (EIS at ES-2). BLM has failed to analyze a range of alternatives that do not use chemicals such as Oust that are known to have caused great economic ham, instead only eliminating this use under one alternative. BLM has not presented a reasoned analysis why it chose to add diquat and other chemicals under several Alternatives.

72 | There is no clear comparison of components of some alternatives, as any passive treatments that may be occurring to some degree on some BLM lands are not assessed under the No Action alternative.

#### Human Risks Not Addressed

73 | BLM claims (ES-2) that old EISs serve as basis for assuming that risks to humans are not significant – based on evaluations done for old EISs. Yet, not only was the data for the chemicals used in that time insufficient, so was the data for the treatments under these old EISs.

74 | Many of the herbicide/treatment evaluations:  
- were self-serving industry-conducted research  
- were not conducted in wild land settings

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cont.

- were not conducted in relation to interactions, breakdown, effects of carriers or breakdown products of chemicals
- were not conducted with current pesticide uses (active, breakdown, combination)
- were not based on proposals to do a lot of treatment close to inhabited lands/at the UI. Since the days of the old EIS, there has been a large increase in lawn chemical use, new ag and lawn chemicals and info, heightened awareness of chemical sensitivities, new species of concern, etc. and the use of chemicals in close proximity to higher density and human use areas where more and new chemicals may be used has not been analyzed.

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The environmental baseline and setting, and scientific understanding – especially related to disturbance processes in arid Western lands and the rate and parameters of invasive species spread and consequences and risks of disturbance of native vegetation and soils and habitats - has changed significantly since the data for these old NEPA documents was assembled. Unfortunately, the EIS is peppered with limited, outdated, and obscure references – many harkening back to the old EISs – to support the action proposed today.

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BLM's old Veg. Treatment documents that underwent NEPA review, and included a range of alternative actions, and chemicals and acres treated. Now, BLM attempts to somehow authorize a drastic increase in treatments NEVER contemplated in the old EISs - and sneak these in through the PER - without conducting current NEPA on the scope or scale of the non-herbicide treatments it proposes. BLM also cites several policies, none of which have undergone NEPA review.

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Wildland fire Management's focus on "hazardous fuels" is new, and a significant change since the days of the old EISs. For example, (21) describes treatments tremendously increased since 1998.

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BLM has failed to evaluate a reasonable range of alternatives, and take a hard look (best done through comparisons of relative impacts under various alternatives), of the large-scale vegetation manipulation and treatment that it proposes.

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EIS at 1-3 states that PER discloses the general impacts of using non-herbicide treatments to the environment, and the PEIS provides an updated herbicide analysis. Yet, nowhere is a NEPA analysis of a wide range of alternatives of treatments (as laid out in the PER) conducted. Serious scientific deficiencies with the PER are described later. BLM PER at 1-6 describes BLM's FO estimation and summary of projects that underlie the EIS proposal. Yet, nowhere is there an analysis of an alternative range of non-herbicide "treatment" acres.

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EIS 1-7 abandons legitimate NEPA analysis of treatments and alternatives, stating: "the intent of this EIS is to comply with NEPA by assessing the program [sic] impacts of using herbicides to treat vegetation" on BLM lands. Yet, in the scoping notice, BLM stated that it would analyze the impacts of treatments. To comply with NEPA, BLM must assess a range of treatment actions as laid out in the PER.

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In Appendix C, BLM's "Frequently Asked Questions" provided to the public stated; "the BLM is proposing to treat soil and vegetation on an estimated 6 million acres annually in the western U. S. and Alaska. The purpose of these treatments would be to conserve and restore vegetation, fish and wildlife habitat and watershed function using several methods .... Mechanical, manual, chemical, biological and cultural (use of goats and other animals) treatment methods, and prescribed fire, would be used to treat vegetation ... In addition the BLM may be allowed to use several new herbicides". BLM continues, "the BLM is preparing a PEIS to evaluate impacts of treatments ...".

82 The purpose is described as “the EIS will ... provide a comprehensive analysis of BLM conservation and restoration activities ... provide a comprehensive programmatic NEPA document ...”.

83 This now-abandoned expansive analysis is also the course of action that BLM conducted consultation with Native Americans and other agencies under. See Appendix C, Tribal consultation: “BLM is preparing a programmatic EIS to evaluate the impacts of vegetative treatments on the environment and local economies. The BLM is proposing to treat vegetation on approximately six million acres annually ...”, and described half the acres to be treated (3 million) to restore historic fire regimes, 1.5 million acres as ESR, and the “BLM would manage the rest of the acreage under several programs, including the control of noxious weeds, invasive plants, and the restoration of damaged lands”.

84 BLM in the DEIS abandoned any analysis of alternative courses of treatment action beyond herbicide use, without any reasoned and valid demonstration of its reasons for doing so.

85 1-7 states again wrongly claims that the PEIS provides a comprehensive background source of information ... and provides Bureau-wide decisions on other available tools for vegetation management”. It also contains to conduct a broad cumulative impacts analysis.

#### Land Use Plans Are Grossly Deficient or Vague

86 BLM punts to its Land Use Plans for uses and allocations. Many BLM Land Use Plans are based on tremendously outdated information, and allow a broad array of very damaging activities – facts that BLM has not analyzed and assessed in the PEIS. These include gross over-allocation of AUMs (especially since unreliable and unsustainable cheatgrass and other weed production now envelops so many grazing allotments), and lands completely Open to motorized uses or plans on paper, but no Travel Plans that allow control of roading. As reduction or cessation of livestock use on lands is a passive treatment, it must be addressed in the EIS.

87 BLM claims that this analysis at the local scale will be used to buttress provides project-level analysis. Yet, agencies are increasingly shirking public involvement and EA or EIS-level review of projects. This increases the risks of large-scale or irreversible error and harm to public land values.

#### Risk of Treatments are Amplified in UIs

88 BLM claims: many treatments will occur in Urban Interfaces. Most of BLM land UIs in the West are at lower or middle elevations, which are lands highly susceptible to weed invasion post-treatment.

89 These are also the areas where most of the pesticide spraying related to grasshopper, Mormon cricket and other pest control occurs. So, the same lands are more likely to be subjected to multiple classes and types of pesticides – and their carriers, contaminants and breakdown products. Congress recently allocated funds for a large-scale increase in insect spraying on the same lands where this EIS contemplates massive increases in herbiciding and disturbance treatments. Plus, these are the lands closest to areas where private land owners may be applying a vast array of chemicals – for everything from weeds to insect infestations to fungicides – both terrestrially or aerially, so impacts of drift or off-site transport - either from BLM to private lands, or vice versa, and multiple chemical and breakdown and carrier exposure is most likely to happen. In arid lands subject to brief periods of favorable plant growth, many of the herbicide/pesticide treatments may be compressed into a short time frame occurring on

both BLM and private lands at the same time. Thus, risks of overlapping chemical exposure, including from degradates, must be assessed.

90

Most of the middle to lower elevation areas on BLM lands are the most degraded and desertified (closer to human habitation, used by livestock, OHVs, etc. a greater proportion of the year. Thus, these areas are the LEAST resilient to recovery following treatment disturbance or herbicide use – due to low precipitation and the presence of many aggressive invasive species. They are also areas with largest infestations of invasives such as cheatgrass and medusahead. Risks of treatment disturbance are greater here.

91

Risks associated in applying chemicals to these lands that are typically more degraded will be greater. Reduced perennial vegetation results in greater risk of drift, and water and wind-caused erosion, and greater chance of weed infestation post-treatment – especially as EIS does not address causes or control of causes along with treatment.

92

At these warmer lower elevation BLM lands, there is greater likelihood of wind erosion post-fire (wild or prescribed fire treatment). Blackened burn surfaces essentially generate their own weather. Large funnel clouds result in large-scale soil erosion processes following fires at lower elevations. Following fires (and in the precise environment where herbicides or other treatments may be used), significant erosion that greatly weakens surviving native vegetation may occur – for example, soil erosion losses of several inches of soils have been documented in Jarbidge BLM lands following fires such as Middle Butte - due primarily to wind erosion. Surviving native grasses or forbs may be greatly weakened by both fire and wind erosion and have greater susceptibility to harms or death from chemical use. Thus, application of Oust may increase stress on surviving non-target native plants - and cause their death. WWP has observed this in the Jarbidge Middle Butte fire area.

93

The fate of chemicals, and their control effectiveness, likelihood of drift or off-site transport, and heightened risk to humans, wildlife, waters, aquatic biota, non-target vegetation depends on the environmental setting of any application.

94

Chemicals applied in burned or otherwise disturbed environments or environments where soils have been disturbed or altered by grazing are much more likely to erode in wind or water, and end up killing non-target organisms, polluting wildlife water sources, infiltrating domestic water supplies, etc. Thus, any Risk Assessment can not be conducted using “normal” situations as a baseline. It must consider the significant environmental disturbance that will result from treatments, or in the case of ESR, in the post-fire environment, occurring on top of ongoing chronic disturbances of livestock grazing, OHV activity, or other human-caused abuses.

95

Forest Service risk assessments and analyses of pesticides may be of limited applicability to BLM Lands due to alkalinity of much of the Great Basin and a variety of different salts, higher temperatures, widely varying day vs. night time temps, etc. may cause more rapid or unexpected alteration/recombination of chemicals into more harmful substances. Also, as BLM lands in the West are typically at lower elevations – waters may be more polluted, warmer, more full of runoff-borne contaminants such as sediment, other chemicals, etc. and so may have heavy contaminant loads containing substances that interact with herbicide chemicals in unexpected chemical interactions. This is especially the case if private ag lands, or mining activity, is nearby or upstream from BLM lands. In addition, large acreages of BLM lands have already suffered from vegetation “treatments” on top of the chronic annual disturbance treatment of livestock grazing and as a result are in such poor condition that risks are magnified.

96 Mining, oil and gas, and other activities conducted on public lands de-stabilize soils and alter vegetation in wild lands. These activities involve the use of harmful substances that may pollute lands and waters, as well as disturb underlying rocks or aquifers and may bring harmful substances to the surface or bring these substances into contact with ground or surface waters. These impacts on top of herbicide or treatment disturbance have not been assessed.

97 BLM lands and waters near or adjacent to ag. lands, golf courses, etc. may suffer drift, or contamination with chemical and other pollutants, from ag. lands.

98 Livestock release copious amounts of water-polluting wastes to public lands. Plus, livestock are often implanted with hormones, and the hormones may enter waters, or be deposited on lands, and act in unexpected ways with chemicals BLM seeks to apply.

99 Lands in proximity to UIs or with weed problems (where EIS claims many activities are to occur) typically have more roading and OHV use, more livestock use, and typically, in more disturbed lands related to livestock projects or other human activities, and thus are in the poorest condition and subject to accelerated erosional or runoff events. This is more likely to deliver pollutants into ground and surface waters as soils and vegetation are disturbed. Throughout this process, BLM must conduct analyses and risk assessments based on worst-case rugged wild land scenarios.

100 Maps presented at public sessions on the DEIS show just how far from population centers nearly all of Nevada and much of Wyoming, Idaho and Oregon BLM land really is. Yet, the same materials claim that many of the treatments will occur in urban interfaces. We believe that BLM may be misrepresenting areas in UIs and/or in any need of treatment to protect human habitation, in order to be able to maximize funding to conduct the large-scale wild land alteration this EIS would enable. The data and scientific basis for such maps and claims must be provided to the public.

101 ES at 4 states herbicides pose risks to terrestrial and aquatic systems, and that “most aquatic herbicides and several terrestrial herbicides are non-selective and could adversely impact non-target vegetation”; that many “pose risks to fish and aquatic wildlife”. These risks are much worse, as BLM’s definition of “selective” reveals that the effects and analyses are based on a definition of “selective” that is just not valid – terming chemicals that kill all forbs and shrubs “selective”.

102 BLM claims that TES species may be at “slightly greater risk” from herbicides than non-TES species. This is not valid --- they may often be at much GREATER risk. Habitats for many TES species are already greatly fragmented (cause of perilous low levels of populations) or limited. See, for example, Dobkin and Sauder 2004 assessment of current status of bird and mammal species in the arid Intermountain west. Any increased disturbance or alteration of non-target vegetation or other mishap such as drift that harms remaining intact habitats may have far greater impacts on population and species viability. Such analysis, and the woefully limited, substanceless and deficient Biological Assessment do not employ Best Available Science.

103 The EIS claims buffers would be used between treatment and non-treatment areas. Unfortunately, the extent of the land area needed to buffer impacts may be significantly greater on low elevation degraded BLM lands than on non-degraded lands, as often especially in arid climates, there is little standing vegetation to buffer or prevent drift/contamination (in contrast to dense higher elevation forests, or croplands with dense growth at ground level. Topography such as steep canyons may result in need for far greater buffers than are normally applied. Weather such as wind shifts, canyon winds, movement of air with diurnal heating and cooling, will all affect size and configuration of any wild land buffer.

104 ES-5 mentions Diquat in relation to wild horses, and wrongly concludes they are “unlikely” to be exposed to it. Wild horses may seek out limited desert water sources, and they eat water cress and other aquatic plants (K. Schultsmeier, per comm. to Fite). If the ONLY water source for wild horses is sprayed, exposure would be certain. Here, as throughout the EIS and PER, BLM ignores the realities of wild arid landscapes.

105 ES-5 claims treatments “over the long term” would make landscapes “more appealing” as native vegetation was restored. Yet, there is no evidence provided that native vegetation would be restored, as BLM fails to address root causes of weed problems/treatment needs. This claim is typical of analysis throughout the EIS. As the EIS does not address causes of weeds, it can not assume that post-treatment restoration of native vegetation will occur – especially over the long term, as the same land management practices (grazing, roading, oil and gas, etc.) that have resulted in the proliferation of cheatgrass and other weeds will harm or preclude the recovery of native vegetation. As another example, under Cumulative Impacts

106 (ES-6) BLM claims that treatments that slow erosion would benefit water quality. Unfortunately, most of the treatments being proposed to be used (and where these herbicides would be applied), result in exposure of large areas of soil to wind and water erosion. Treatments remove both protective vegetation as well as kill or harm microbiotic crusts, on top of the poor or degraded conditions of lands that causes weed problems/need for “restoration” --- in the first place. Soil erosion in the short and mid-term may create gulying and loss of remaining topsoil that will cause long-term problems. Unless causes of degradation are addressed and assessed, and taken into consideration before any treatments are conducted so that the appropriate type of treatment can be applied, outcomes of treatments can not be so rosily predicted. The EIS consistently fails to provide effectiveness or other monitoring information, scientific data, references and analysis to support such claims.

107 ES-6 states “fire suppression and the spread of weeds have degraded vegetation function and quality on public lands” and have led to a cumulative loss of vegetative productivity”.

108 SE-6. “although the number of domestic livestock and wild horses and burros that public lands can support has declined from historic levels, treatments should improve rangelands for these animals, and ensure that the public lands can support viable populations of wild horses and burros and a healthy ranching industry”. BLM fails to mention that – despite the number that public land can support having declined, stocking rates of domestic livestock on the very same lands often have. Lands overstocked with domestic cattle and sheep is a fundamental cause of weed problems and degradation that this ES avoids addressing. Plus, even in areas where AUMs have remained the same, the average weight of cattle and sheep has increased due to breeding, hormone implants, etc. This means that the amount of forage consumed, and disturbance caused, has increased.

109 ES- 1-1 notes that severity and intensity of wildfires has increased dramatically from levels in the 1970s and 1980s, that this is directly related to drought. Yet,, BLM’s fire information for much of the land area proposed for treatment shows that exceptional spring moisture that results in an abundance of cheatgrass or other weeds (and NOT drought) exacerbates fire dangers. Changes in vegetation often caused by grazing or other disturbances have resulted in increases in hazardous flammable fuels/weeds, and dense doghair thickets of trees (Belsky and Blumenthal 1997).

110 The EIS wrongly attributes nearly all of this change in vegetation and increase in hazardous fuels to fire exclusion policies. BLM ignores Best Available Science by failing to address and assess impacts of livestock grazing, roading, its own past vegetation manipulation projects, and other

human-induced disturbance on vegetation change and accompanying changes in severity and intensity of wildfire.

111 ES-1-1. BLM states that as a result, the amount of hazardous fuels reduction and other vegetation management work is expected to increase, and 15% will involve use of herbicides. BLM does not reveal the data and analysis used to derive this projection and these figures – either for acreage of herbicide or acreage to be treated by other means. Nor is data presented or the public informed of how much herbiciding will accompany each of the treatment methods, and where it will be conducted, in each of the states, or what specific type of treatments will be accompanied by herbicide use.

112 ES 1-1, 2. BLM describes an old EIS focused on veg control and removal of unwanted veg for resource enhancement, and noxious and invasive weed control, Oil and Gas, rights of way, reduction of haz fuels, and the “impacts of the proposed increased level of herbicides are likely to be greater in magnitude than the impacts assessed in earlier EISs”. BLM does not admit that the magnitude of the impacts of the proposed treatments due to their greatly expanded acreage and the already highly fragmented landscapes in which they would be conducted, would be much greater than those described in the earlier EISs.

113 ES 1-2. Definitions. Even BLM’s invasive plants definition has significant flaws as it wrongly includes native species, blends management “actively controlled by management interventions”, and is deeply confusing.

114 Official U.S. definitions regarding invasive species were provided in Executive Order 13112 signed by President William Clinton on February 3, 1999.

115 "Invasive species" means an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.

"Alien species" means, with respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem.

116 We believe BLM is using a twisted, unaccepted and scientifically untenable definition of invasive species in order to justify killing large areas of woody native vegetation, such as pinyon pine in Nevada or western juniper in Oregon or California. For example, BLM in Nevada claims pinyon is an invasive species.

117 In Nevada currently generated maps based on soil survey info show large areas as sagebrush vegetation types, when in reality these sites may have been dominated by pinyon-juniper at the time of settlement, and large-scale mining deforestation removed trees. Agencies that rely on soil information to assert that particular vegetation communities should be present ignore the fact that the soil survey descriptions of plant communities on sites were based on vegetation present at the time of the surveys, and did not examine historical impacts of deforestation – such as large-scale mining deforestation in Nevada. In fact, foresters believe that pinyon in Nevada is really returning to its historic range, and not “invading” in many areas. Joe Ratliff, Battle Mountain BLM forester, pers. comm. to Fite. See also Ron Lanner, The Pinyon Pine.



118 Proper acquisition and interpretation of baseline data is critical to the accuracy and adequacy of the analysis of treatments in the PER, as many treatments (with and without herbicide use) are slated to occur in Nevada pinyon-juniper communities, Oregon western juniper communities, etc.

119 Actions in the EIS and PER will have very significant impacts to forestry and forestry products, as herbicides are non-selective for age or size of trees, and application of herbicides can kill old growth and mature stands.

120 We are also very concerned that both prescribed fire killing treatment of pinyon-juniper and other arid forests, as well as herbicide use, may be used to kill trees that will later be removed for use as biomass. Fire and/or spraying will kill trees, allowing them to dry out and be more economical to haul to be burned as biomass. This export of nutrients and other impacts of biomass is of great and growing concern, as there are current proposals for biomass plants in the Great Basin and other areas.

Large-scale use of biomass - and the accompanying nutrient and habitat/cover export - was never assessed in the old BLM EISs. Buried deep in the PER is the following statement: PER at 4-86 states, "trees that are removed could be used in biofuel production to reduce treatment costs".

121 Residual herbicides and breakdown or recombination products may thus be burned in biomass plants - and even in schools, and the effects of these contaminants on human health, air quality, etc. must be assessed. Nowhere has BLM ever assessed the environmental impacts, including cumulative effects, of the large-scale removal of vegetation for use in biomass/biofuel. Any export of nutrients as biomass must also be assessed in relation to annual nutrient export and removal by domestic livestock from nearly all BLM lands. There is also greater risk of NO long term restoration, or recovery of native vegetation occurring with nutrient export in biomass.

122 Wilderness ES-5 describes use of mechanical equipment in wilderness as being "strongly discouraged", but it does not prohibit its use. Herbicide or other treatment effects in wilderness, especially in combination with treatment, may have much greater impacts, as humans seek wilderness for wild, natural and untrammled landscapes. Plus, foot-based recreational activities such as backpacking rely on drinking water from streams. Across BLM lands, risks to humans backpacking on public lands would be much greater than risks to motorized recreationalists who are much more likely to carry water. Backpackers or hikers in arid country may rely on small pools of water that have accumulated from runoff from large canyon systems. Thus, any herbicide applied upslope/upstream, or sediment or nutrient increase in waters from treatments, would be more likely to be concentrated in much greater amounts in such lands, and thus have far greater effects to recreationists.

123 In addition, many hikers are accompanied by domestic dogs that invariably drink water encountered, and the effects of various chemicals or treatments on these animals has not been assessed. Treatments that increase algal concentrations in wild land waters may have particularly harmful impacts not only to domestic dogs, but also to wildlife. Bighorn sheep in the Oregon Owyhee (as well as domestic dogs) have died from algal blooms caused by excessive nutrients and temperatures.

124 Any treatments in Wilderness should employ minimal disturbances, and this EIS should have established a protocol for doing this, but has not.

125 SES 5-6. Cumulative impacts may be much greater on poor condition lands, or more arid lands, where most of the spraying and treatments would take place, due to greater severity of desertification, degradation, harsher and more arid conditions, and lack of resiliency.

126 There is more likely to be drift from private lands at interfaces, degradation of waters where herbicides may be applied by runoff from ag. lands, roads, etc.

#### Evidence of Mis-Management Abounds, and Demonstrates Need for Baseline Studies of Causes of Problems and Effectiveness of Treatments

127 The EIS states: "It is estimated that downy brome infests over 56 million acres in the 17 western states and that the infestation is growing at 14% per year ... because of its widespread dominance, downy brome has become the most significant forage grass in the western U. S. However, it is highly unreliable as a forage base for both cattle and wildlife because it can exhibit "tenfold differences (300-3500 lbs./acre) from year to year" in productivity, depending on precipitation.

128 What a testimony to BLM mis-management this 56 million acres is! Yet, under the EIS BLM plans to create major new disturbances that will only expand cheatgrass and weed dominance, and destroy more sagebrush and pinyon-juniper communities, as BLM wants to "treat" millions of acres a year, but refuses to deal with CAUSES of cheatgrass and other weeds.

129 The 300 lbs/acre production figure is grossly exaggerated for dry years, many soil types, many elevations. We also note that these figures for cheatgrass (300-3500 lbs/acre) are much greater than production of many degraded native veg. Communities across BLM lands. At Potential Natural Community, production of 600 lbs/acre in many NATIVE communities is representative. Under current degradation (and the lack of production as shown in ESI data from the Jarbidge in the 70s and 80s and the very recent limited sampling of native communities) many native communities have forage production values of around 100-200 lbs. per acre.

130 Recent Battle Mountain BLM documents have shown 50 lbs. or less production (sometimes as low as 15-20 lbs.) production in native non-weedy salt desert shrub communities. Battle Mountain has done a better job than any other BLM offices in recent years in documenting current production values in its FRH processes.

131 We note that elsewhere BLM states: ES-1 also describes "invasive species are the dominant vegetation on an estimated 35 million acres of public lands".

#### What Treatment Falls Under What Umbrella?

132 2-1. While the EIS frequently claims herbicide use related to livestock forage is not part of what the EIS addresses, it provides no clear way to distinguish herbicide use related to forage vs. other purposes. This must be clearly separated, and a rationale and methodology applied. Under

133 "Rangeland Management" EIS 2-2 states that 160 million acres of BLM's 165 million acre "rangeland" category is grazed. This is the area where nearly all treatments and weed spraying will occur. The Rangeland Health program is responsible for upland health, range "improvement" projects, allotment planning and resource monitoring. The EIS states that "vegetation treatment activities conducted by this program are designed to promote compliance with the state and regional rangeland health standards, but specific benefits of these projects often include livestock forage improvement, wildlife habitat improvement, suppression of plants that are toxic to wildlife and livestock, removal of plants that compete with desirable veg, and improvement of watershed conditions".

- 134 BLM continues:” veg treatments ... also include activities to control invasive species such as noxious or invasive weeds ... the BLM uses an integrated pest management approach, more specifically integrated vegetation management”.... The goal of invasive veg management is to control invasive and unwanted veg, to prevent the spread of noxious weeds where they have become established, to eradicate early-detected weeds ... and to control weeds where they have become established. Veg control methods include physical and biological controls, and use of herbicides”. BLM then claims applicable policies are in a 1992 manual.
- 135 Nowhere is a clear separation provided between rangeland management treatments and other treatments provided.
- 136 Also, BLM’s discussion claims that BLM uses IPM, and something it calls IVM, with goals of controlling and prevention of invasive vegetation. BLM violates its own policies and guidance by: Casting aside the RNEA and failing to assess a range of passive restoration treatments, and ignoring analysis of a range of alternatives and data that are based on IPM.
- 137 BLM provides no systematically collected monitoring data that gauges the success, costs, or environmental impacts of BLM vegetation actions that have occurred to date using IPM. How many acres has BLM used IPM or IVM on? Where? What has been the success in the short, mid and long terms? What actions have been taken to control livestock grazing pre or post-treatment, or to limit continued disturbance or spread of weeds at these areas where IPM/IVM is claimed to have been conducted?
- 138 Current science demonstrates that livestock are important causes of weed invasion and spread on BLM lands (Belsky and Gelbard 200). To conduct IPM or IVM, BLM must apply specific actions to limit livestock impacts in the area of immediate treatment, as well as manage for intact native plant communities. It is WWP’s field observations across the West that BLM takes NO action post-spraying to limit livestock disturbance. Typically, weeds invade areas of livestock disturbance. BLM then sprays weeds and kills or weakens all vegetation – including desirable vegetation – on the site. Lands continue to be grazed. Weeds persist, and ultimately thrive on the site, which due to the combined herbicide use and unrelenting grazing, is now devoid of native vegetation. Weeds continue to spread outward from the treated site as livestock spread weed seeds in fur, hooves, gut.
- 139 BLM can not just cite its policies and manuals, and claim that all is well. It must provide evidence and valid scientific studies and analysis that show it has taken specific management actions to limit or eliminate livestock spread of weeds in areas of known infestations.
- 140 2-2 “rangeland management” further describes BLM treating 317,959 acres to prevent the spread of noxious weeds and invasive plants in 2004, and inventorying only 8.9 million acres. BLM also claims that funding and labor dictates a containment strategy. If BLM has only surveyed 8.9 million acres how can it possibly know how many acres need to be treated?
- 141 2-3 refers to implementation of the GBRI – yet, this ‘initiative’ has never undergone NEPA. It claims the GBRI will ‘restore and enhance nearly 70 million acres’. Yet, projects we have seen under the GBRI to date, like the EIS, fail to address root causes of ecosystem problems - i.e livestock, roading and other human disturbance and promote livestock and other extractive uses above all others.
- 142 2-3 BLM claims that a policy at the local level designed to improve veg mgmt efforts is the development of rangeland health standards and assessments, and that these assessments identify restoration activities and establish restoration priorities. This statement doesn’t mesh with the land areas and veg zones shown as most likely to be treated under this EIS/PER – as many areas – such

as the entire Ely BLM region, have never conducted FRH assessments, and thus could not have identified treatment areas as a basis for this EIS/PER process.

143 2-4 summarizes the 1992 13 States EIS, and claims that BLM acts to minimize or prevent the need for veg controls, uses effective nonchemical control, uses herbicides only after considering effectiveness of other methods. Yet, the EIS provides NO current evaluation of herbicide or treatment effectiveness. So BLM has no current framework for identifying which herbicide or treatment, or combination, would be most effective to use in a wild land setting.

144 Nowhere in the current EIS which claims to base its actions and those of the PER on this old EIS does BLM provide information or facts that demonstrate where, how much acreage, and how successful actions under the old EIS have been, or how best to minimize herbicide use.

145 2-4 claims the current EIS focuses on the use of herbicides to treat vegetation, “but other methods include fire use, mechanical, manual and biological controls”, and that the PER describes these treatments and activities proposed on public lands during the next 10 to 15 years.

146 2-4 EIS ignores a broad range of current science in claiming that it did not need to conduct new assessments for the PEIS on already used chemicals other than Oust, and “it was determined that the remaining 19 herbicides did not require further analysis for human health risks”. BLM then states that it needed new analyses for non-target species assessments. BLM did NOT conduct “new” analyses (ERAs) for 9 chemicals, but used old and incomplete Forest Service info (“interactive” spread sheets that were supposed to determine exposure concentrations under various scenarios).

#### Woeful Lack of Monitoring of Vegetation Management

147 2-21 BLM states that “many sites treated in the past lack monitoring data... monitoring was not done, was done sporadically without consistent documentation, or was done but the records were lost”.

148 This demonstrates the great risks with BLM’s greatly expanded herbicide and other treatment acreages, and a great likelihood of unnecessary and undue degradation to lands and waters from BLM’s actions. BLM cannot get off the hook by claiming it never bothered to monitor the projects, or lost the results. WWP regularly receives information from BLM District or Field Offices in FOIAs, or reviews agency project and other files as part of IBLA/OHA or other litigation, and records of past treatments DO exist. Example, Jarbidge office BLM FOIA, producing all documents of veg treatments, ESR, etc. As part of this EIS process, BLM must demonstrate some accountability to the American public. It could readily review past ESR, chaining, prescribed fire, etc. project files, and systematically monitor all, or a randomly selected subset of the sites to determine the effectiveness and risks of treatments. BLM must revisit treated sites in order to gauge the environmental effects, and to develop a valid baseline.

149 Instead, BLM relies on unsubstantiated assertions and predictions of the beneficial nature and impacts of all actions it proposes. This is even more egregious, as BLM claims that “monitoring ensures that vegetation management is an adaptive process that continually builds on past mistakes”.... “this ensures that vegetation treatment processes are effective, adaptive, and based on prior experience”. Yet, BLMs EIS provides no evidence that the agency can be trusted to monitor or learn anything – or be effective, adaptive or base anything on past experience.

150 | If BLM plans to rely on adaptive management, or claim that it is learning from treatments, this EIS must establish specific mandated short, mid and long term monitoring for specific parameters of vegetation, soil, habitat health and ecological integrity on all treatments.

151 | The DEIS ignores a critical fact that emerges from our review of agency vegetation treatment documents and site visits to treatment areas: treatments cannot be viewed in isolation, but are often directly linked to construction of new livestock facilities that permanently alter or fragment sage grouse and other special status species habitats.

#### Mitigation Is Inadequate and Non-Binding; Actions Described as Mitigation Are SOPs and Not True Mitigation

152 | Table 2-7 presents weak, non-mandatory and often nebulous mitigation measures. There is no guarantee that any will be applied. Example “where feasible” BLM will implement mitigation measures for plants described in the 17 states EIS, or will “consider” manual spot applications. No decisionmaking scenario or flowchart is provided to ensure minimal use of herbicides or treatments. Despite the large number and many types of treatments covered in the PER –there is no decisionmaking framework or specific mandated mitigation measures for any treatment scenario. This all maximizes ecological/environmental risk and uncertainty of treatment outcomes in the short, mid and long term.

153 | Other examples: BLM claims it will “regulate” the use of diquat, “regulate” the use of terrestrial herbicides in watersheds, which have characteristics suitable for potential surface runoff” (but only in watersheds “with fish-bearing streams during periods when fish are in life stages most sensitive to the herbicide(s) use”!). What does regulate mean? Why in the world would BLM not regulate toxic diquat and other herbicide use in all watersheds?

154 | BLM also claims it will: “Establish appropriate herbicide-specific buffer zones to waterbodies ...”. Yet, BLM does not set out specific buffer zones, or provide a specific protocol for decisionmaking on appropriate buffers. Likewise, no specific buffers are provided for the witches brew of treatments described in the PER.

155 | Wildlife “mitigation” is even worse: BLM will: “Minimize” risks by applying chemicals “at the typical application rate where feasible”. When and where is “feasible”? What limits, or triggers, or decisionmaking framework are used to determine “feasibility”? Why is there no specific prohibition on using chemicals during critical periods of the year, such as when nests, eggs, nestlings, young, are present? What happens if BLM exceeds the “typical” application rate?

156 | “Minimize the size of application areas where practical” ... “where practical, limit” ... to avoid contamination of food items. What determines practicality? Again here, there is no certainty that any safeguards will be applied, and BLM is free to deviate from claimed protections/mitigations.

157 | Why is there no mitigation or mechanism to prohibit use of these chemicals in sensitive habitats, or during sensitive times of the year? Why is there no protocol to use chemicals of lesser impacts, or selective

158 | Nowhere does BLM mandate that any particular action occur, such as mandatory “no treatment” during nesting periods for migratory birds. Why is there no prohibition on method of application (such as aerial application) during sensitive periods of the year, such as migratory bird nesting?

159 | The EIS states “where feasible” would implement mitigation for non-TES species “unless treatments are specifically designed to improve habitats for these species”. BLM will always have an out – just claim that some nebulous benefit of some kind will result decades down the road – and Boom – the action can go ahead and kill or destroy nests, intact habitats, etc.

160 | This provides no reassurance whatsoever, as BLM loosely applies claims of habitat improvement for many projects it undertakes – with no science or data used to demonstrate positive improvement. Why can’t BLM simply avoid chemical treatment during times of maximum sensitivity of native species? Why are non-TES species given lesser uncertain protections? Why are buffer zones not specifically described and made mandatory?

161 | These same concerns apply to wild horses, and cultural concerns.

162 | Plus, this outrageously allows BLM to destroy mature or old growth habitats, if it can claim that sometime, 100 years hence, things might be slightly improved for a species. As many species that rely on mature vegetation are declining or are special status or T&E species due to habitat loss and fragmentation – the effects of the habitat loss and fragmentation from BLM projects may cause population-level impacts, and extirpate species.

163 | It is shocking that BLM proposes NO adequate mitigation measures for visual resources. Recreational visitors to specific areas may visit them to view vibrant spring wildflower displays, or fall aspen leaf color, or for other purposes. Herbiciding, burning or otherwise treating scenic or wilderness areas using methods, or during periods of the year when recreational uses are maximized, and creating ugly brown or dead zones, should not be given blanket coverage. BLM has ACECs, SRMAs, WSAs, Wilderness areas, and many other special use areas that require special management attention, and BLM’s herbicide and other treatments must comply with protection of scenic and aesthetic values, too.

164 | The mitigation table provides no specific measures for Wilderness areas, instead referring a reader to various sections of Chapter 4. Thus, there is no assurance that ANY mitigation/SOP will be applied.

165 | We are very concerned that BLM may hire local parties with limited training that will take shortcuts, or wrongly conduct treatments or spraying.

166 | Human health and safety mitigations are grossly inadequate. “Use the typical application rate”. Instead, most harmful chemicals must be prohibited in areas with high recreational use, abundant neighboring habitations, areas where forest products - especially non-traditional forest products are sought, etc.

167 | BLM must forbid use of diuron, instead of the nebulous, uncertain “evaluate ... on a site by site basis”. There is no clear and specific framework for any evaluation provided.

#### Rosy Analyses and Outcomes Unsubstantiated

168 | Throughout the EIS/PER, BLM makes sweeping statements such as: “if livestock grazing is managed to increase the vigor of native perennial plants, especially grasses, the chance of weeds invading rangelands is much less” (2-15), yet provides few or no scientific records or studies to back up its rosy claims.

169 | The Rosy Predicted Preferred Alternative Outcomes of Table 2-8 are based on little or no data. Here, BLM predicts “minor effects” to soil under the Preferred Alternative. Yet, EIS/PER is based on large increases in defoliation including of non-target vegetation interspersed with herbicided areas – especially acute with large-scale aerial applications, and great expansion of ‘treatments’ on BLM lands. Nowhere is an adequate analysis of herbicide or treatment impacts to microbiotic crusts provided.

170 | BLM’s analysis ignores the poor condition of many soils and microbiotic crusts across BLM lands, especially the poor condition or arid lands most likely to be treated using herbicides or other treatments/disturbances.

171 | BLM, without a scientific basis, projects that with more acres treated, there would be improved soil productivity and reduced soil erosion. Yet, the outcome could very likely be just the opposite – treatments cause disturbance that is often severe. The more new disturbance, the more soil erosion and loss of productivity that is likely.

#### Some Problems with HHRA, Appendix B

172 | HHRA at B-29 states that “rangeland veg treatment operations provide forage for domestic livestock and wildlife by removing undesirable competing plant species and preparing seedbeds for desirable plants. Approximately 89% of the herbicide treated acreage in the BLM veg treatment program falls in the rangeland improvement category”.

173 | B-29 further discusses use of expanded list of herbicides on “public Domain Forestland”, and energy and mineral sites. Yet, the EIS claims it does not address use of herbicides on these sites. Spraying imazapic and sulfometuron methyl including aerielly -on forests may have serious harmful consequences.

174 | B-30 BLM proposes use of existing and new chemicals on Rights-of-way and recreation and cultural sites. So here to it appears BLM is authorizing these chemicals to be used in rights-of-way that elsewhere the EIS claims are not included in acreage totals. In areas such as Wyoming that undergoing massive energy exploration and development, large acreages may be treated on or near rows, exploration swaths, etc.

175 | B-30 provides no clear protocol and decisionmaking process or framework for BLM to follow in either determining treatment method, chemicals to be used, or application methods to be used. A “pretreatment survey” does not provide adequate assurance that public safety and the health of the environment will be adequately protected. This is particularly the case as BLM may be increasingly relying on local weed districts or public lands permittees in weed applications.

176 | BLM ignores analysis of the variation between states in legal limits on wind speeds where aerial application is allowed. How does Idaho differ from California? BLM must establish a conservative wind speed that maximizes public safety and the health of the land, air and water, not rely on whatever is allowed in any particular state. BLM can not assess risk without evaluating application and drift under various wind speeds.

177 | Aquatic application is particularly alarming – as there is no assurance that chemicals will not be quickly transported into areas where the public is recreating. The limited wild land surface waters often tied to limited aquifers in the arid West are critical for survival of many species of wildlife and wild horses that have nowhere else to drink.

177  
cont.

Pollution/contamination of sources of drinking water by aquatic chemicals, especially if animals inhabiting degraded lands are also coping with degraded habitats subject to grazing, fragmentation, energy development, etc. with suboptimal cover or food or where they are otherwise stressed from human disturbances, may increase harmful responses to chemicals.

178

b-33 “herbicide use parameters are claimed to be dependent on condition of non-target veg., the soil type, depth to water table and presence of other water sources” The RA then refers the reader to Tables B-4 to b-9 that “summarize the veg treatment program for each of the herbicides. Nowhere is any info provided on the critical factors of the condition of non-target vegetation, soil type, depth to water table and presence of other water sources provided. We are aware of no methodology used by BLM to determine depth to water table, presence of other water sources, etc. as part of treatments. Please provide the methodology and protocols claimed to be used.

179

B (b-35) assumes limited public exposure, discounting the fact that many of the treatments are proposed to take place at WUIs inhabited by people, and that herbicide-contamination of ground or surface water in the arid West can result in long-term exposure to chemicals.

180

BLM falsely claims that “signage” is used. This is simply not the case in wild land settings. We have NEVER encountered a sign, despite dozens of encounters with sprayed vegetation on BLM lands. WWP has never observed BLM signing sprayed areas. B-25 claims that it is used on areas

181

“directly sprayed”. How much of the land is considered “directly sprayed” vs. BLM supplying contractors or private entities such as ranchers with chemicals or funding counties or weed districts to apply chemicals? Is aerial application considered ‘directly sprayed’?

182

Additionally, no advance warning of spraying can effectively be provided to public land recreational users. Chemical-sensitive hikers may find themselves in the midst of a newly sprayed area, with harmful consequences to their health.

183

A question that is unanswered in the EIS, PER, HHRA, etc. is: How much of the chemical application, or treatment, will be done by BLM itself, or will significant parts of this treatment be turned over to local governments, grazing permittees, etc. If so, we are very concerned that even the inadequate mitigation, SOPs, etc. will not be followed.

184

We are also very concerned that inhalation risks from drift or accidental exposure of the public are not part of the ‘public receptor’ analysis.

185

Drift models used by BLM focus on ag fields. Drift and Gleams and are not valid for use in topographically rugged wild land settings subject to rapid temperature and wind shifts, or sparse vegetation and aridity of BLM lands. The forest applications of these models are based on the presence of much greater shielding foliage than typically occurs on BLM lands.

Thus, these analyses do not adequately assess risks associated with spray drift, or transport into water or neighboring soils in runoff or by winds. Water bodies may be subject to chemical contamination with herbicides and their degradates through application drift, soil and water runoff, and wind deposition of contaminated soils.

186

There is no indication that these models assess the impacts to many typical arid BLM land springs, seeps, and ephemeral or intermittent drainages, where water is much more limited, and concentrations of chemicals may end up being much greater than in ag. ponds. Impacts to a variety of flow rates and water volumes of limited water sources must fully assessed, and this must form a



basis for a much more realistic examination of impacts to humans, as well as wildlife, aquatic and TES species ‘receptors’.

187 The use of the ‘forestry land model’ – and also the ag. land model is made more egregious as BLM claims that aspects of forest management are not the focus of the EIS.

188 All the modeling and assessments also fail to include the often limited growing season in arid lands, and the fact that “treatment” activities may be compressed into a short time frame – thus members of the public are more likely to be exposed to multiple chemical or other treatment products (such as smoke, blowing disturbed soils, etc.) at one time. Many BLM lands border Forest lands upslope, and the likelihood of multiple exposures from multiple chemicals and multiple agency treatments is real.

189 BLM fails to present information on use of combinations of chemicals, or multiple chemicals used in the same area to control multiple species of weeds or to kill the same weeds.

190 There really is no “updated” information at all on any but 6 chemicals, and even this “new” information is woefully deficient. BLM has improperly limited information on Hazard Identification, including toxicity (acute, chronic, subchronic, chronic/carcinogenicity, developmental, reproductive, neurotoxicity, mutagenicity, and metabolism of chemicals) it plans to use in greatly expanded amounts.

BLM has improperly limited information on Dose-Response Assessments, including dietary, non-dietary, acuter dietary, chronic dietary, oral, dermal, inhalation

191 The information that is presented is often based on unverified industry studies, stable lab environments, environments where organisms do not face additional or overlapping stresses such as habitat degradation or disturbance by livestock, environments where predation of chemically impaired animals does not arise as a consequence of sublethal health effects of chemical exposure, target margin of exposure, cancer dose-response, etc.

192 The secrecy surrounding inert ingredients provides no assurance or legitimate way to assess impacts to the environment or receptors. Although List 3 contains chemicals of unknown toxicity, BLM strangely jumps to the conclusion that this translates into “minimal risk” (see B-27-28). Just because something may be “unknown”. It cannot be assumed to present “minimal risk”!

193 The Risk Characterization combines the exposure assessment with the dose-response assessment. As there are significant flaws in these, the characterization can not be valid.

194 We are alarmed at the BLMs proposal to allow use of Diquat, given that the BLM’s own Risk Characterization results show that Diquat exceeds EPA’s level of concern for occupational receptors under the majority of terrestrial scenarios (B-69). BLM< does not claim to now use Diquat on lands, but land contamination is very likely, and this opens the door for future use on land. Contamination of riparian vegetation and soils, and impacts to aquatic biota, are likely from its use in aquatic systems.

195 We also are alarmed that BLM proposes to use fluridone, despite accidental risks exceeding EPA’s level of concern for occupational receptors.

196 BLM also utterly fails to put the importance of recreational experiences and wild lands to the public in proper perspective. People visit public lands to seek solitude, peace, quiet, and get away from

196  
cont.

civilization and pollution. People also engage in arduous activities such as backpacking, bike riding, running, etc. on public lands. Exposure to herbicides that may trigger asthma attacks or chemical sensitivities, result in feelings of malaise, headache or nausea--- or simply stink up an area with an offensive chemical smell--- are antithetical to the public lands recreational experience.

#### Appendix C, Ecological Risk Assessment Problems

197

BLM continues to use the inappropriate ag and forest drift models (see C-3) to assess wild land arid risk of exposure. BLM inappropriately relies on “surrogate” lab animal studies to understand effects to animals in wild land and water settings. (see C-4, discussion of TRVs).

198

Migrating birds are often under stress, and need to refuel and replenish during migration, and use of herbicides may destroy vital non-target plants that produce/have associated insects critical to migration and survival. Then, the same birds may be exposed to chemicals on insects and in scarce surface waters at rare desert springs and seeps or other areas that may be sprayed. Plus, the combined effects of herbicide use on top of potential treatment alteration or disruption of food sources must be considered.

199

BLM claims to apply information based on species guilds. Yet, there is no guild for insectivorous birds, granivorous birds, frugivorous birds, predatory birds, etc. – just “small, large and piscivorous birds”. A great many guilds are not represented in the analysis.

Likewise, BLM uses small and large mammals. BLM fails to differentiate between insectivorous small mammals, granivorous small mammals, predatory small mammals, etc.

200

C-6. Acute LOC was lowered. There was no systematic methodology to examine population viability on top of individual viability.

201

BLM analyses in this section assumes adequate habitat - but the on weedy lands, the problem is precisely that habitat is often deficient, degraded or fragmented for these species, and treatments and/or non-target impacts may seriously or irreversibly alter or fragment remaining non-weedy habitats.

202

C-7 states that a thorough description of uncertainties is a key component, and serves to identify weaknesses in this process. Why, then, does BLM throughout the DEIS and PER ignore uncertainties and predict rosy outcomes?

203

C-7 reveals that the models used by BLM, did not estimate additional risks from adjuvants, inert ingredients, or chemical breakdown products/degradates. BLM claims “evaluating the potential additional/cumulative risks from mixtures of pesticides is substantially more difficult, particularly at the level of a PEIS”. Well, BLM is claiming elsewhere that the PEIS WILL adequately assess risks and impacts, and yet fails to do so here! BLM then uses a qualitative assessment, based on labels, most of which say mixing is ok.

204

BLM models use buffers of 100, 300 and 90 feet. In wild land areas with downdrafts, rugged canyons, canyon breezes, thermals, etc. much greater buffers may be required. Plus, as aerial application is allowed under varying wind speeds in different states, such uncertainties must also be assessed.

205

The list of surrogate species is extremely limited (C-11). Honeybee, rat, mouse, dog, rabbit, guinea pig, mallard, bobwhite quail, ring-necked pheasant, Japanese quail, chicken. Many of these species

are very similar – example: avian granivores, so this list does NOT represent the “guild” approach claimed by BLM, and is full of deficiencies as described above.

206 Table C-4 then presents “vertebrate surrogate species evaluated by life history”. This list is extremely limited, and does not cover necessary important species types, even under the guild approach. The robin, goose, deer mouse, mule deer, bald eagle, coyote that it includes are generalist, or common species and coyotes are predators but also omnivorous to some degree. NONE of these species is rare or declining.

207 There are no burrowing mammals (such as the pygmy rabbit or northern Idaho ground squirrel or kit fox)? How might herbicides and vapors of breaks down products affect burrowing mammals? How are vapors suspended in the air column? Not only may an animal consume herbicided vegetation for prolonged periods, it may also be subject to inhalation of chemicals, plus suddenly encounter an environment where essential cover from predators is being defoliated or killed.

208 If species existing in environments that contain no surface water sources, and consume sprayed vegetation or dew on sprayed vegetation, how will this affect their water balance, or organ function? Exposure pathway scenarios do not adequately reflect real-life scenarios for wild animals on public lands.

209 The EIS drastically underplays the impacts and likelihood of direct spray exposure (see C-15). Animals that inhabit an area to be sprayed will be in contact with these chemicals. BLM also claims that “impacts outside of the intended application area are accidental exposures that are not typical. Yet, BLM provides no information or data showing that it has ever systematically monitored its own applications of chemicals applied in wild land settings under the many ways covered under this EIS. This monitoring is required if BLM is to be able to make such statements. Where is the data that shows this is not typical, or that BLM 99% - or whatever – of the time –does not misapply chemicals? We are being asked to believe in a fantasy world that BLM has constructed here.

210 The sub-lethal effects of herbicide use on wildlife (biochemical disruption) may greatly increase their vulnerability to predation, their ability to find food, etc. BLM fails to describe the real environmental setting that exists for wildlife in wild land settings, and the many sub-lethal or mortality-related effects of herbicides or other chemical (degradates), and the great uncertainty that exists in understanding effects of chemical use o wild land settings. See, for example, “Factors influencing estimation of pesticide-related wildlife mortality” <http://www.abcbirds.org/pesticides/Pesticidemortalityestimation.htm>, “The influence of the natural history of the poisoned species on search intensity encompasses factors such as physiology, life cycle, and behavior. Laboratory and field studies show adult songbirds to be 2 to 137 times less sensitive to OP insecticides than their nestlings”. How are nestling songbirds affected by the various herbicides to be used??? How might herbicides inflict sub-lethal effects on adults, and reduce their ability to provide forage for nestlings?

211 BLM also fails to assess both: effects of loss or cover or food resulting from herbicide application (especially as BLM plans to use many non-specific herbicides). Not only may reproduction be directly impaired through chemical actions, loss of food and cover may result in fewer young being produced, and predation mortality being greater.

212 C-15. BLM assumes small mammals are most sensitive to direct spray. Young of many small mammals are protected in burrows or covered nests. In contrast, nestlings of birds, including many altricial migratory bird species, are found in open cup nests, with no nest material covering the young.

- 213 | BLM ignores analysis of impacts of herbicides (and all their components and breakdown products) on bird eggs. If birds eggs are sprayed (as would happen if incubating parents are flushed by spray application or are off foraging), how does this affect developing embryos? Will hatching success be affected? Will developing embryos be killed? What might the indirect effects of chemicals and their breakdown products be on eggs or nestlings?
- 214 | BLM ignores a critical link between forbs/broad-leaved plants and insect production. In the arid West, many more species of insects and a much greater diversity of insects are produced in association with forbs. By killing broad-leaved insect-producing plants with herbicides, BLM not only would alter protective vegetative cover (increasing likelihood of predation of parent, and nestlings/eggs, as well as greatly diminish food supplies for insect-dependent young birds (both altricial passerines or precocial young such as sage grouse.
- 215 | Shrub or ground-nesting birds would be increasingly vulnerable to both aerial and ground predators in the aftermath of herbicide application or other treatment. Standing vegetation provides scent-masking of nests from ground-based predators, and
- 216 | If BLM was serious about protecting many wildlife and TES species, this EIS would mandate no treatment during nesting/birthing season, or in specific targeted treatment of invasives only.
- 217 | C-15 states that “there is little information on magnitude of transfer of herbicide from plant to animal. Well, if an animal walks through sprayed vegetation, it will contaminate itself with herbicide, inhale fumes, etc.
- 218 | C-16. Again, drift models here (as previously discussed) do not represent real world arid land scenarios.
- 219 | Water is much more scarce and concentrated –often limited small springs and seeps, puddles, or small streams, and many of these may be receiving significant in-flow from large surrounding areas during runoff events. Such scenarios (very small water bodies, often receiving concentrated inflow/runoff from large areas) are not represented in the models used by BLM. Plus, BLM has ignores the fact that many of its treatments are likely to occur in lands where livestock use is most concentrated – which are often sites nearest water or flatter areas bordering draws. So herbicide application directly to degraded zones of livestock concentration is much more likely to result in herbicide and breakdown product contamination of, and concentration in, ground and surface waters.
- 220 | BLM also ignores link between pollinators and rare plants. Rare plant species dependent on insect pollinators may be significantly harmed by herbicide use.
- 221 | BLM fails to provide data and analysis of impacts to springsnails and aquatic insects.
- 222 | C-17 states GLEAMS came from a field-sized model CREAMS.
- 223 | C-19. BLM’s model does not take into account a combination of high risk events.
- 224 | Calculations of ambient water concentrations may not reflect wild land scarce-water settings. The EIS provides no information on the size of the ponds or streams and topographical and vegetation components used in modeling.

225 | C-20. Wind erosion. BLM states “dry conditions and wind may also allow transport of herbicide in fugitive dust’. This does not consider degraded site conditions and the level of site disturbance, as would be typical of many sites where herbicides may be applied. This is especially critical in understanding the fate of chemicals in post-burn ESR environments where large black burn surfaces essentially generate their own weather and winds. Plus, the modeling examines only small acreages (1000) see c-21, yet BLM in post-burn environment may apply chemicals such as Oust over tens of thousands of acres.

Erosion models also do not appear to take into account OHV use, cattle or sheep trampling of soils.

226 | BLM describes ‘overdrive” being a combination of chemicals, and no toxicity data available, so BLM extrapolates to another mixture. C-28 and c-29 show adverse impacts of tebuthiuron and other chemicals BLM proposes to use.

227 | BLM’s Table C-15 “Risk levels used to describe typical herbicide effects according to exposure scenario and ecological receptor groups” only provides information for 11 chemicals. The inadequacy of the drift models used by BLM is shown by the large numbers of zeroes in off-site drift, surface runoff, wind erosion.

228 | Plus, wind erosion effects are not shown for aquatic species. This does not even evaluate any assessment of impacts to water bodies. As scarce isolated desert springs, seeps potholes, puddles tinajas, etc. may serve as critical water sources for terrestrial fauna, this is critical. Plus, many rare desert aquatic species exist in environments of limited water that may be subject to input of runoff or windblown soils from large land areas, and subsequent evaporation events that concentrate chemicals.

229 | The surface runoff calculations are not representative of the real world of often degraded and desertified arid lands where BLM’s treatments and herbiciding will occur.

230 | Organisms may already be greatly stressed by livestock or other damage – such as trampling-destroyed microbiotic crusts. Additional disturbance from treatment and/or herbicides may accelerate desertification/depletion, and result in long-term loss of crusts.

#### Some Biological Assessment Deficiencies

231 | 1-7 describes the PEIS as “ .... provides Bureau-wide tools for vegetation management. Additionally, it provides an umbrella ESA consultation”. Yet, as previously discussed, there is no current or inclusive NEPA analysis of vegetation management or the battery of treatments proposed. Thus, an adequate BA can not be prepared, and necessary ESA consultation cannot be done under this leaky “umbrella”.

232 | 1-9 claims the BA evaluated the likely impacts to TES species, yet nowhere does it evaluate the impacts of acres projected to be treated to the species inhabiting the land areas that will suffer the brunt of the treatments. As the EIS is based on specific information from FOs concerning treatment acreages in particular geographic areas, such information should be readily available, and the impacts of these treatments adequately assessed.

- 233 Further, to conduct an adequate assessment, BLM needs to provide adequate baseline data on the conditions of the lands in the areas slated for treatment, as ecological conditions will have great impacts on the risks, outcomes and environmental effects of treatments.
- 234 The BA is inadequate to assess the impacts of proposed treatment actions at any level. It is written at the third grade level, and provides no real examination of the biological status of species and their habitats, as is necessary to understand the impacts of the proposed action.
- 235 Such analysis must be conducted in relation to the lands where treatment is proposed under the EIS. PER at 1-6 states that the field offices provided information on lands to be treated as part of this EIS and methods to be used. Thus, BLM has a very good idea of which lands are to be treated, and where they are located. Instead of spending many pages rambling about Alaska, or a rare butterfly inhabiting a very small area, small where NO treatments were really envisioned to occur, BLM should have assessed the impacts of Veg Treatments on the lands – and the particular TES species inhabiting the lands where treatments are likely to occur.
- 236 The wording in the Intro of the Weed BA, really twists the mind. The increase in treatments is described as the "Proposed Action". Yet, there has never been any NEPA review of the Proposed Action, which treats MUCH more acreage than was ever proposed to be treated before, or assessed in the old stack of NEPA docs. The "treatment" covered by the BA is not just herbicide treatment - it is ALL methods of killing trees and shrubs such as sagebrush.
- 237 BA at 1-1: "At the time earlier EISs were completed, the BLM was proposing to treat only about 16% of the total acreage that would be treated under the program that is now being proposed". This exposes the fallacy of the BLM claim that the old EISs covered the effects of the non-herbicide vegetation treatments to be conducted.
- 238 BLM has prepared the BA to be used just like the Programmatic Risk Assessment - to provide ESA consultation coverage for all of these greatly expanded actions that have never undergone NEPA.

#### BLM Ignores Role of Livestock

- 239 1-11, as an example of "Issues not addressed", BLM includes 'address the role of livestock grazing on aquifer recharge and wildlife habitat'.
- 240 BLM has wrongfully constrained the environmental analysis – relying on constant repetition of the need to restore fire cycles, HRV in fire disturbance, etc., yet never assessing the role of livestock and the need to restore ungrazed "natural" grazing disturbance (or lack of disturbance).
- 241 Table 1-1 claims livestock grazing is addressed in 2 places, 1-1, 2-15 (statement that BLM 'recommends' as a SOP that grazing animals be fed only weed free forage for a minimum of 96 hours prior to going onto public lands', and also bundles a mention of 'poor grazing management' under 1-4, 2-14 (eliminates consideration of no grazing alt.), and Chapter 4. 2-15 states
- 242 BLM makes false claims. The claim that BLM 'recommends' as a SOP that grazing animals be fed only weed free forage for a minimum of 96 hours prior to going onto public lands' is completely divorced from the reality of BLM actions related to livestock turnout on public lands. In review of hundreds if not thousands of grazing permits and BLM NEPA or other assessments of grazing, WWP has never found any permit Term and Condition or EA management requirement to so. In fact, BLM has repeatedly ignored our comments that such measures be used to control weed infestation and spread by domestic livestock. (2-15). BLM elsewhere terms these SOPs

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“Mitigation”. Examination of both Tables 2-6 (SOPs), and 2-7 (Mitigation) show no indication that this is even “recommended”. In fact, the discussion of “livestock” relates to limiting impacts of treatment to livestock, and not impacts of livestock to the land or treatment outcome. Livestock may continue to bring weeds onto lands, or create disturbed conditions for sprayed or treated lands to stay infested or to become reinfested, yet no SOP or mitigation is applied to limit this.

243

BLM refers to “poor grazing management” as a resulting in “conditions that enhance invasive species spread”, yet never defines “poor grazing management”, or provides any data or other information showing where this has or is occurring. Since 35 million acres of public lands are now dominated by invasive species (where are these lands, and how old is this figure??), and weeds continue to spread at an alarming rate, such “poor” management must be commonplace. (2-15)

244

BLM claims that “if livestock grazing is managed to maintain the vigor of native perennial plants especially grasses, the chance of weeds invading rangeland is much less”. Yet, BLM never provides data (such as that from current FRH assessments), analysis, acreage figures or maps, showing where such management is occurring. Nor does it provide any information on the lands where native grasses have been depleted, and are rarely present, or present at only reduced levels. Plus, in this claim, BLM undercuts the role of forbs, shrubs, trees and other native vegetation, and intact function, structure and composition of vegetation communities in limiting or slowing invasions (see Fleischner 1994, describing livestock alteration of composition, function and structure of native ecosystems in the arid West). (2-15).

245

Our concerns about the EIS and livestock are detailed in a separate comment letter.

Wild Horses

246

The EIS mentions, in passing that "in FY 2004, the wild horse and burro populations on public lands totaled over 37,000 animals, with nearly half of these animals living in Nevada ... another 24,000 animals are in holding pens. The population of wild horses and burros is approximately 14,000 animals above AML". It continues: "in 2001, BLM implemented a program to further reduce the wild horse and burro population to approx. 27,000 animals by 2005 or 2006".

247

Thus, BLM treatments and alteration of plant communities and wild landscapes on which wild horses depend will affect a large percentage of the Nation’s wild horse herds. These very significant impacts to wild horses and the lands and waters on which they depend are greatly ignored

248

Through this EIS, BLM plans to really greatly increase acres "treated" - herbicide, fire, chopping, etc. - with much of the effort focused in Nevada and using fire/hazardous fuels funds.

249

What we have been seeing happen is that BLM is purposefully rounding up/clearing off horses in advance of the "hazardous fuels" projects that are already being conducted. This appears to be aimed at allowing domestic livestock to get all the grass and weeds that grow up after their haz fuels/weed "treatments". Yet, the stocking rate of domestic livestock on the treated lands is not changed. Nowhere is there an analysis of how the ecological balance is affected by significant reductions in horse numbers accompanying treatments, and only a year or 2 removal of livestock and only from the immediate area of the treatment – if even that occurs.

250

Plus, No assessment is provided of the lethal infrastructure (to horses) that may accompany treatments. For example, Nevada BLM has recently killed wild horses by constructing fences around GBRI cheatgrass “treatments” that cut wild horses off from water. Fences and other impediments to wild and free roaming horses are common accompaniments to BLM “treatments”.

Fences shift or alter horse use, force them into sub-optimal habitats, heighten conflicts with livestock or wildlife, and may cause injury or death by entanglement.

251

Likewise, fences constructed either temporarily or permanently in the aftermath of treatments or post-wildfire fragment wildlife habitats and cause injury or death. These are indirect effects of treatments or ESR that must be fully assessed. Although BLM often claims such fences are temporary, often they are not removed and become permanent fixtures. Fence construction is also often accompanied by, or followed by, development of additional water sources – which may have serious harmful impacts to wild land springs. If upland pipelines or wells are developed, extensive degradation to remaining better condition native vegetation communities (often refugia for native wildlife) may ensue. The end result: A few thousand acre “treatment” spawned a 10 mile length of barbed wire fence, that resulted in the need to drill a cattle well and destroy sagebrush through development of new troughs in better condition lands previously remote from water and associated livestock impacts.

#### Wild Land Products

252

The EIS and PER are grossly deficient in the impacts of the herbicides and other treatments to non-timber forest products or other wild land products. In fact, the plants that produce these valuable products may be the exact species targeted as “undesirable” vegetation, for example: pinyon pine.

253

Nowhere in this EIS is there a fair or accurate accounting of the value, including the economic value, of the NATIVE vegetation to be killed, altered or destroyed by the proposed treatments.

254

The EIS/PER, in ignoring the impacts of these projects on Forest products and values, violates the provisions of the Land Use Plans in many of the affected wild land areas.

#### Risk Assessment

255

EIS at 1-3: BLM claims the EIS will: "Develop a state-of-the-art risk assessment ... will serve as the initial standard for assessing human health and ecological risk".

256

Well, to understand ecological risk, you have to have some idea how often you will have to treat, whether the weed infestation will be never-ending, and to do that you have to understand and address the CAUSE of weeds. Plus, you have to understand the disturbance factors, including chronic or cumulative factors that alter or affect the environment where the weeds are being treated.

257

To understand ecological risk in wild land settings, you have to understand the CONDITION of the lands/watershed to be treated. A proper risk assessment can't be done without that. Are soils stable, or will erosion transport chemicals quickly into streams? If you are using a targeted herbicide (example - a chemical that supposedly selectively kills mustards – not that BLM is using anything so selective here) you have to understand what the species composition and health of the veg., community is. Ex: If it is comprised largely of the exotic mustard you are trying to kill, then application of chemicals in livestock-disturbed lands will result in significant removal of soil-stabilizing vegetative cover.

258

Is the site to be treated a cow-beat dust bowl? If so, the risk of wind-transport of soil particles contaminated with harmful chemicals is much higher.

259

If livestock are the primary CAUSE of weed infestation, the same site will have to be doused with chemicals – over the long term - unless treatment need triggers you changed management practices.



The effects of long-term treatment on disturbed lands must be fully considered as part of a risk assessment.

260 To understand what chemicals to apply, you have to understand the causes of weeds.

261 At the public mtg. in Boise, BLM's consultant specifically described livestock as part of bio-control methods. Yet, BLM has not adequately considered role of livestock in site disturbance and spread of weeds. See additional WWP comments here.

262 2-15. BLM claims it is required to develop a risk assessment if there is risk of noxious weeds associated with treatments/projects/actions, yet never provides information on the number of Risk Assessments it has developed, and the risks that have been found.

263 We will be submitting additional comments that flesh out many of the points raised here.

Sincerely,

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