807

shauna wirth
<pixiekiddle@yahoo.com>
12/02/2009 10:14 AM

To orvegtreatments@blm.gov
cc
bcc
Subject Herbacide application plan

Please include my attached letter in your comments.

Thank you,

Shauna Wirth

BLMCouponPublicCommnet.doc

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Shauna Wirth 3125 SE 175th Place, Portland, Oregon 97236 ______________________________

I oppose your plan to increase use of pesticides.
I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.
I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of *vapor* as drift.
I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."
I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!
I object to you using products that contain carcinogens, or mutagens. How dare you assume the right to poison people and water systems.

BLM
OR VEG TEAM

RECEIVED
DEC 02 2009

Enclosed are 2 sets of comments on ed from Western Watersheds Project on the Oregon Veg Treatments/weed EIS.

808

[signature]

WESTERN
WATERSHEDS
PROJECT

PO BOX 2863
BOISE, ID
83701

November 20, 2009

Vegetation Treatments EIS
PO Box 2965
Portland, OR 97208-2965

orvegtreatments@blm.gov

Dear Oregon BLM,

Here are comments of Western Watersheds Project (WWP) on the Oregon BLM EIS "Vegetation Treatments Using Herbicides in Oregon DEIS". We believe that many of WWP's comments on the preceding and linked BLM 17 States Weed EIS and PER process are directly applicable here to the Oregon effort.

WWP is greatly concerned that this EIS for 15. 7 million acres of BLM lands follows on the heels of the woefully deficient BLM 17 States Weed EIS and PER. That EIS was accompanied by a "PER" document that laid out plans to massively "treat", alter and destroy large expanses of woody vegetation across the western public lands. Yet the EIS never analyzed the full direct, indirect and cumulative effects of such massive treatment across public lands as a whole, or in each state, or on each important and sensitive species like sage-grouse and its populations and habitats.

BLM has never, to this day, fully examined the large-scale manipulation and purposeful destruction of native vegetation that it described in the PER and that it is busily conducting across Oregon, Nevada, Idaho and much of the West. BLM – as in the Burns and Lakeview offices of BLM – has been conducting large-scale destructive "manipulations" – with use of fire, mowing, and other disturbance that fosters and promotes weeds. The full scale of these actions and the direct, indirect and cumulative adverse effects across landscapes, across the range of ESA and sensitive species like sage-grouse or pinyon jay, across important public recreational areas and little-roaded or little-fragmented areas has never been examined. The Oregon EIS now continues these failures. Several of the RMPs under which these destructive weed-promoting actions are being carried out have been challenged (both in Oregon and across the West), and the shoddy manipulation treatment analysis and the great scale and harmful "invasiveness" of many of the "treatments" described in the PER and promoted in the RMPs is part of these challenges.

It appears to us that this EIS is being conducted partially because of the scale of the massive "treatment" disturbance to sagebrush communities and juniper communities in Lakeview, Burns and other areas, BLM's continuing grazing disturbance on top of treatment or wild fire disturbance in nearly all areas, and the general pattern of greatly abusive livestock grazing (overstocking of depleted and desertified lands, harmful seasons of use, minimal to no required annual measurable standards of livestock uses) as occurs in Vale BLM Louse canyon and other many other Vale areas, and Lakeview and Burns BLM, that BLM is increasingly relying on dangerous herbicides.

BLM's Oregon Weed EIS proposes to radically increase herbicides use in Oregon and Washington state (?)– from 4 herbicides to 18 of these dangerous substances– with many of the 18 posing very significant risks to the human environment. It again fails to examine a broad range of alternatives and passive and other carefully targeted treatments to minimize herbicide use and conduct truly integrated weed management. Many have cumulative impacts, many have only been tested to any degree by the chemical companies that sell them – and then not in remote windy wild land settings and not on sensitive wildilfe or aquatic biota in degraded habitats like the overgrazed BLM Oregon lands. This all results in disastrous outcomes of BLM treatments - like occurred with Oust.

For example, how many of these hazardous chemicals have been tested in situations where winds blow cattle-trampled and de-stabilized herbicide-encrusted soils into waters? Onto migratory birds eggs? Into pygmy rabbit burrows as well as on the vegetation that pygmy rabbits eat?

Precaution Not Really Considered

From Wikipedia: The precautionary principle is a moral and political principle which states that if an action or policy might cause severe or irreversible harm to the public or to the environment, in the absence of a scientific consensus that harm would not ensue, the burden of proof falls on those who would advocate taking the action.[1] The principle implies that there is a responsibility to intervene and protect the public from exposure to harm where scientific investigation discovers a plausible risk in the course of having screened for other suspected causes. The protections that mitigate suspected risks can be relaxed only if further scientific findings emerge that more robustly support an alternative explanation. In some legal systems, as in the law of the European Union, the precautionary principle is also a general and compulsory principle of law.[2]. The EIS fails to analyze any impacts of any alternative that would deal with integrated weed management, passive and some active restoration to address weed infestation on BLM lands.

Degree of Risks of Herbicide Use in Wild Lands Are Being Recognized All the Time

A recent federal court hearing and trial in Boise over Oust has exposed just how slipshod many of the chemical company claims of the supposed benign effects of herbicides really are. Yet BLM, in a zeal to continue to allow all manner of disturbances that promote the weeds that then the agency needs to treat, allowed use of chemical that poisoned crop fields when it "drifted" - i.e. was transported on the wind. In the disturbance public wild lands subject to heavy grazing use across nearly all BLM lands east of the Cascades, such erosion and "drift in wind and water – including on soil as occurred with Oust can be viewed as common. Instead of using the outcome of the Oust trial as a cautionary tale, BLM seems to be plunging ahead to repeat more of the same past mistakes.

Here is a recent news article on the impacts of drift and the outcome of BLM relying largely on the assurance of the chemical company "pushers" of herbicides.

http://www.idahostatesman.com/531/story/793848.html

Hundreds of farmers face BLM in lost crop lawsuit
By REBECCA BOONE - Associated Press Writer

Published: 06/06/09

BOISE, Idaho — When his beets came in patchy, pushing through the soil with misshapen and discolored leaves, Perry Van Tassell did what most farmers would do.

He watered more.

And more. And more.

"They looked like they were thirsty," said Van Tassell, who farms outside the small, southern Idaho town of Paul. "They looked like they were in a frozen state."

It was 2001, and Van Tassell, like most farmers, had hundreds of thousands of dollars invested in his crops. His corn fields stood shorter than his toddler son when they should have been stretching 12 feet high.

He came to believe his land had been tainted with Oust, a potent herbicide that kills plants by attacking their roots and leaves.

The pesticide had been spread across more than 100,000 acres of nearby public land at the direction of the Bureau of Land Management, which was hoping to prevent the spread of invasive weeds on land that had been scorched by wildfire.

But no rains came to melt the herbicide into the soil. The wind picked up. And Van Tassell and more than 130 other farmers - stretching from Paul east to Aberdeen - claim the powdery herbicide blew across their crops, leaving them with warped plants, barren soil and millions of dollars of debt.

Now a federal jury will decide if the federal government or herbicide maker E.I. DuPont de Nemours and Co. is to blame for their misfortune.

Beet leaves are supposed to open to the sky, spreading out from the center of the plant. The farmers say most of the beet seeds they planted never grew, and the ones that did were small, with leaves that pointed upward and were shaded purple instead of green.

Hay, potatoes, corn, wheat and other crops were also badly affected, the farmers claim.

Van Tassell, who runs a dairy in addition to his farm, used to grow corn and hay to feed his cattle. On Monday he showed pictures to a federal jury of how his crops looked in those years.

"You could see some hay was growing through, but only in strips," he said. "You'd get maybe 15 to 20 percent of the plants that would grow."

By fall of 2002, so much dirt was blowing off the Oust-treated land near his farm that his hay bales were contaminated with dirt.

"We were scared to feed it to the cows," he said.

He pressed DuPont, the maker of Oust, for information on the safety of his crop. They sent him a study showing that feeding hay grown after Oust application was safe for lactating goats. He decided to chance it with after Kraft Foods assured him they would still buy his milk, Van Tassell said.

Van Tassell and the rest of the affected farmers - more than 130 of them - filed a federal lawsuit against the USA, DuPont, Thomas Helicopters (the company that applied Oust from the air) and De Angelo Brothers Inc. (the company that applied the Oust from the ground). But Thomas Helicopters and De Angelo Brothers reached a settlement with the farmers last fall.

Charles Miller, spokesman for the civil division of the U.S. Department of Justice, said he couldn't comment on the lawsuit. Heather Feeney, a spokeswoman for the Bureau of Land Management in Boise, referred all requests for comment to Miller.

The BLM issued a statewide moratorium on Oust in 2002; BLM officials refused to tell The Associated Press whether that moratorium still stands, citing the lawsuit.

Dan Turner, a spokesman for DuPont, said in a prepared statement that the complaint is without merit.

"The Idaho State Department of Agriculture has already investigated this situation and did not find DuPont to be at fault," he said, maintaining that Oust meets global safety standards when used according to the directions.

DuPont has maintained that the BLM and its contractors didn't follow instructions when applying the herbicide. The BLM, meanwhile, points fingers at DuPont. BLM officials said in 2002 that a prolonged drought caused the situation, and that the herbicide was applied correctly.

The trial began May 4 and is expected to last up to four months.

Plaintiff Tina Clinger of American Falls grew up in the rural region and married into a family of beet farmers. She and her husband, Jerome, bought land near his parents to start their own farm.

She handles the books, drive an 18-wheeler during harvest, and taught her children to hoe the weeds from between the tidy rows of plants.

At the trial, she described plantings in 2000, 2001 and 2002 that failed to thrive.

"This is not a good-looking field," Clinger said as the jurors were shown a picture that contained far more dirt than plants. "This is a field that makes you want to cry."

To break even the farm has to yield 25 tons of sugar beets per acre, Clinger said. It yielded 23 tons per acre in 2000, 19 tons in 2001 and 20 tons in 2002.

The crop failure was devastating to her family. Because her father-in-law had recently had heart surgery, Jerome Clinger was working both farms. He quit sleeping and lost weight. They argued, their strong marriage fraying under the pressure. The children worried their parents would divorce, she said, fighting tears.

Her father-in-law's dream of owning his land outright was destroyed in the span of two seasons.

"My father-in-law was 73 at the time and he had one payment left on his farm," Clinger said, "We went into arrears so bad that he had to refinance the farm. Thirty more years."

In 2000, the Clingers had $1.5 million in operating loans to cover normal farming expenses, including $20,000-per-month summer power bills for running the irrigation pumps. They'd planned to pay the loan back with the profits from the beet harvest, as they did every year. Instead they had to extend the loan, refinance, borrow additional cash. The debt continues to grow, she said.

"Now it's $2.3 million," Clinger said.

BLM here, as with the BLM Amme 17 States Weed EIS effort, ignores actions such as passive restoration and a truly Integrated Weed Management Approach. It fails to address and require common sense actions on public lands to limit site disturbance or reduce weed transport. Instead, BLM seeks to impose expensive and dangerous chemicals – with all their degradates, contaminants, carriers, active ingredients and impurities. These then would be used either alone or mixed together n various combinations in an unexamined brew of poisons for which NO research has ever been conducted. Of course, little to no study of the combined effects of herbicides has been conducted. Nor of the effects of repeated use in the same area – as in common with livestock-degraded weedy sites like artificial upland water sources, springs, seeps ad wet meadows, salting sites, etc.

Primary reasons for the need to use herbicides on BLM lands are:

1) The historic, ongoing and chronic effects of domestic livestock grazing disturbance and associated management actions and associated weed-producing disturbances including facilities that intend and intensify livestock use and promote a large road network across the lands they impact and degrade through concentrating and intensifying livestock use.
2) Road networks that have been allowed to grow up, unplanned, over time. Often in association with livestock facilities or management activities such as salt placement on ridges.
3) BLM vegetation treatments designed to kill native woody vegetation and/or increase livestock forage – such as sagebrush or juniper.
4) The indirect, synergistic and cumulative impacts of the above.

We are including comments similar to those that we provided on the previous EIS to you for this Oregon effort.

Oregon BLM (Burns District, Lakeview) has recently conducted massive manipulation of the public lands. Many of these grazed areas areas are very vulnerable to accelerated weed spread with any added disturbance. They are already ecologically compromised by continued high levels of livetock grazing on top of past treatments now new treatments and other disturbance. The use of herbicides described in the 17 States and this Oregon effort to try to stop this weed response to multiple overlapping disturbances. BLM treatments, post-wildfire grazing disturbance, and normal grazing schedules occur with minimal rest from livestock grazing. Passive restoration is truncated, and weeds thrive in bare soil areas, depleted vegetation community understories, etc.

We can find no info in the Oregon EIS on the current ecological conditions of the affected lands – poor, fair, good, presence of cheatgrass, areas of cheatgras dominance in understories, near-complete weedlands as areas near Owyhee Reservoir, mapping and analysis of areas of Oregon public lands that are vulnerable to cheatgrass and other weed spread with continued livestock disturbance/risk of invasion/expansion with continued grazing disturbance, etc. The EIS fails to provide criteria and alternatives that would "manage" and "treat" areas with small amounts of cheatgrass or that are at great risk of its expansion by removing grazing or other intensive disturbances.

The EIS does not provide a current analysis of the info that is needed to understand the scale, amount and volume of each type and combinations of chemicals that will be applied under all alternatives. Comparisons must be made with a minimal disturbance alternative based on the Precautionary principle.

There is also no summary do livestock-disturbed acres, miles of fences, miles of pipelines, troughs, livestock facility roads, road density, etc. in relation to infestations or risks of infestations. All this is necessary to understand weed conduits.

There is no analysis of the FRH assessments, current ESI (Ecological Site Inventory) that is necessary to provide a baseline of current land condition and thus understanding of risk of weed expansion/dominance and amount of herbicide use that may be occurring. The Oregon RMP's largely relied on decades old data. Case in point: SEORMP and its rosy claims about land health based on 1980s info. ESI other info necessary to understand the current ecological condition and health of the lands, and the adverse effects of livestock grazing disturbance on them. This also provides a basos for understanding the severe effects of grazing, and BLM treatment disturbance, in promoting desertification and amplifying the effects of climate change.

Not only was there no analysis of the adverse effects of the large-scale veg treatments in the 17 States EIS, there was no adequate consideration of the tremendous cumulative ompacts of the explosion of proposed wind energy, geothermal energy, transmission lines, the Ruby gas pipeline and many other proposed or very foreseeable activities that will result in large-scale disturbance, roading, soil erosion, degradation of watersheds, and allow for significant inroads to be made by invasive species, especially in chronically grazed landscapes. This all will inevitably prompt BLM to douse public lands with herbicides. The Oregon EIS must provide detailed analysis of all of this new and additional disturbance, and the ramifications for herbicide use.

SOME COMMENTS RE: Livestock, Weeds, Treatments/Disturbance

The EIS Vegetation Treatment on BLM Lands in 17 Western States, the associated PER, Biological Risk Assessments and other documents did not adequately examine the direct, indirect, synergistic and cumulative effects of use of these chemicals and the risks of increased ecological problems especially associated with continued disturbances such as livestock grazing and new disturbances such as treatments. Neither does the Oregon EIS. Our comments include concerns about the lack of adequate data and analysis on the current environmental setting – including degree of severity of desertification and degradation of watersheds; chronic livestock and grazing management impacts; current baseline information on wildlife species (including many special status and other declining species) focused on habitat loss and fragmentation of habitats and populations across native vegetation communities targeted by the EIS for large-scale treatment.

The EIS lacked critical data and analysis necessary to assess the environmental impacts of the herbicide use and the massive array of wild land disturbance treatments proposed – chaining, fire, mowing, cutting, chopping, herbiciding and potential biomass export.

Unless the environmental setting in which the herbicide use and continued land use disturbances such as grazing and veg treatments would occur are fully revealed and assessed based on sound ecological and Best Available Science, BLM can not develop a reasonable range of alternatives, nor apply adequate analysis of impacts of the proposed action under any alternative. Nor can it ensure that the public lands, waters and native biota will de protected from unnecessary and undue degradation.

The **gross deficiencies** of the EIS/PER and associated analyses are illustrated in the cursory, limited, and scientifically invalid discussion of "Impacts of Herbicide Treatments on Wildlife and Habitat by Ecoregion", EIS at 4-106. As an example, in its limited and myopic analysis of wildlife effects of herbicide use and ignoring of the role of livestock grazing, EIS at 4-106 states *"long fire intervals have created decadent, climax sagebrush communities that dominate large areas of public lands. These communities have lost their perennial herbaceous understory as a result of competition from sagebrush"*. The EIS then proceeds to blame sagebrush for cheatgrass invasion. These sweeping assertions indicting sagebrush and blaming old or mature sagebrush for cheatgrass invasion are based on one obscure citation (Perryman et al. 2003). This Perryman et al. citation (Perryman is an outspoken proponent of the public lands livestock industry in Nevada) is nothing more than an **opinion piece**. EIS at 6-28 shows the citation as: Eastern Nevada Landscape Coalition Position. Rangelands 25:30-34. Now the Oregon Weed EIS largely continues in this vein and fails to provide the in-depth analysis of the effects to many important and sensitive species habitats and populations. The adverse impacts of methods and scale of herbicide application are also not addressed.

It is precisely the old growth or mature native plant communities such as the sagebrush that are critical for persistence of a great many species of native wildlife across the lands where treatments are targeted Knick et al. 2003,Welch and Criddle 2003, Connelly et al. 2004, Dobkin and Sauder 2004); that it is disturbance by livestock or other human uses and not sagebrush that is causing any understory problems that may exist; and that it is precisely the loss, fragmentation and degradation of mature and old growth native vegetation communities due to human uses and BLM management paradigms identical to those of the proposed "treatments" that have caused the weed problems the EIS's are supposed to be addressing.

Desertification and Watersheds

There is an extensive body of scientific literature on desertification of watersheds, including in the western United States. Desertification is defined as: "a change in the character of the land to a more desertic condition", involving "**The impoverishment of ecosystems as evidenced in reduced biological productivity and accelerated deterioration of soils** and in an associated impoverishment of dependent human livelihood systems". See Sheridan 1981, CEQ Report 1981 at iii. Major symptoms of desertification in the U. S. include: declining groundwater tables; salinization of topsoil or water; reduction of surface waters; unnaturally high soil erosion; and **desolation of native vegetation** (Sheridan CEQ at 1). The existence of any one can be evidence of desertification.

As lands become desertified due to human disturbance such as chronic livestock grazing and trampling impacts to soils and vegetation, they become **less productive**, and activities such as livestock grazing become **less sustainable**. Continuing disturbance activities like livestock grazing while imposing a new aggressive treatment disturbance regime, may have drastic consequences, and push more sites across thresholds from which they can not recover. Plus, treatment disturbance may result in grazing becoming even less sustainable across the landscape. In many BLM lands, because of desertification and degradation processes that have already occurred, have already crossed the threshold between sustainability and, essentially, "mining" of increasingly **non-renewable** natural resources.

Desertification can be both a patchy destruction, often exacerbated by drought, as well as **the impoverishment of ecosystems within deserts**. The EIS must assess the levels and degree of desertification that have occurred across the Oregon EIS area. This is necessary to understand the likelihood of soil erosion, accelerated runoff, and other forms of drift, and to understand the amounts of chemicals likely to be applied over time. This is necessary to understand the capability and suitability of these lands for livestock grazing, the productivity and carrying capacity of these lands for grazing, the current or likely future extent of cheatgrass and other hazardous fuels problems linked to desertification and livestock or other degradation, the need for treatments and the type of treatments that may best be applied, the risks associated with treatments, and the likely effectiveness or success of any treatments undertaken under the EIS. The effects of alternatives, their ability to meet any objectives, and the ability of actions under the EIS to maintain, enhance or restore habitats and populations of special status and other important species and native plant communities depend on the current environmental conditions of the lands where they would be applied. For example, how has the extensive depletion of understories in many areas of Wyoming big sagebrush vegetation or western juniper affected the degree and rate of desertification processes across the EIS area, and altered the potential of a site to recover from any treatment disturbance that may be imposed? How has this depletion affected livestock patterns of use, acres per AUM, invasion of hazardous fuels like cheatgrass, increased densities of woody vegetation, etc.? What are the acres per AUM across vegetation types at present, and how do they compare to stocking rates of good or better ecological condition communities? How many acres per AUM are required to sustain cattle or sheep in the lower salt desert shrub or Wyoming big sagebrush communities, and how does this compare to current stocking rates on these lands? How does this all factor into understanding the amount and kinds of herbicides to be used in Oregon – and the risks to native biota?

All BLM grazing, treatments, energy projects, etc. have the potential to disturb native vegetation, soils, and watersheds, and open the door for accelerated erosion and further loss/desolation of native vegetation, i.e. accelerate desertification.

Degraded communities are extremely vulnerable to weed invasion --- especially with chronic grazing or motorized disturbance. As chronic grazing, roading (often linked to livestock facilities or management and other disturbance continues: Livestock and vehicles assist the spread of weeds via mud trapped in hooves and tires and/or on hides; Livestock transport weed seeds in their digestive systems, spreading them across the landscape in manure; Livestock trample soils and vegetation, and vehicles churn soil and smash vegetation, facilitating weed establishment; Livestock crush and trample microbiotic crusts that may inhibit weed establishment; Livestock may selecting native species over exotics, providing a competitive advantage to invasive species by eliminating competition with native species; Livestock can alter landscape variables (such as fire regimes) giving advantages to exotics. (Belsky and Gelbard 2000, Gelbard and Belnap 2003).

BLM has failed to assess the combined effects of desertification, livestock grazing and exotic species/weed increase and infestation in its weed treatment analyses.

Even PRIA acknowledged that production on many BLM lands was below potential, and would decline even further. BLM's typical Grazing Permit EA and rangeland health analyses largely ignore chronic grazing as a cause of weed invasions and any need for treatment. The EIS ignores adequate consideration of any actions/treatments that could lessen the impacts or severity of grazing disturbance. The current crop of Oregon Land Use Plans developed in the Bush era largely continue the current level of grazing while interjecting or superimposing massive treatment disturbance. This will ultimately result in even further loss of soil, microbiotic crusts, water, watershed integrity, wildlife habitat, and forage across the arid West.

Desertification symptoms in arid lands include: Sparsity of grass; presence of invading plant species - both native and non-native, in grass areas that have survived: plants are of poor vigor; topsoil losses - in many places, topsoil is held only by pedestals of surviving plants. Surface signs of soil erosion include: pedestaling, gullies, rills, absence of plant litter to stabilize soils.

Desiccation and erosion caused by livestock can cause water tables to drop, rilling, gullying and arroyo cutting to occur, and result in sediment flow from degraded areas (CEQ at 14). Grazing creates extremely dry site conditions for plants due to removal of litter, loss of soil cover, and trampling of the ground that prohibits rainfall from reaching plant roots (CEQ at 15).

Livestock grazing exacerbates any climate changes and shifts that may be occurring (CEQ at 16). This is of particular concern in the arid EIS landscape periodically plagued with severe drought, and which is facing increasing heat and aridity due to global warming. Such effects must be fully considered if BLM is to understand the impacts of any alternatives, treatments, management actions or disturbance under the EIS.

The near-absence of many species of larger stature native bunchgrasses from many areas of the EIS lands, especially those of Nevada, Idaho, Oregon and Wyoming where many of the treatments are proposed, such as the diminished state of the once abundant Indian ricegrass or bluebunch wheatgrass, signals an ecosystem stressed by livestock grazing (CEQ at 19).

BLM must fully assess the extent and degree of desertification of the affected lands, in order to understand the effects of herbicide use or any treatments. Aridity, absence of plant litter or safe sites in (post-treatment environments, after fire, or with chronic grazing and trampling impacts) makes germination of native species more difficult. Recovery of lower elevation areas will be exceedingly slow, especially considering the aridity of the lands where most treatments are to occur. Arid land recovers very slowly; massive soil erosion has occurred in many areas and is still occurring; exposed soils are less able to support plant life because of lower organic content; and invader species have become well established and have the competitive edge (Sheridan CEQ at 21, Fleischner 1994).

Even though it is well recognized that "**the way to end overgrazing is to reduce the number of livestock in the end**" (Sheridan CEQ at 22), political pressures from ranchers results in strong political opposition to reduced grazing. Political pressures have hamstrung implementation of the Taylor Grazing Act and continue strongly to this day on BLM lands across the West. The EIS **does not** properly characterize the current setting, and never addresses the stress placed by current livestock numbers, or by BLM management paradigms aimed at retaining high stocking rates on arid land ecosystems to avoid political fallout. BLM fails to assess how stocking rates and management paradigms are out of step with current Best Available Science, and known impacts of livestock to soils and microbiotic crusts, and native plant communities. Example: microbiotic crusts and understory impacts: Anderson 1991, Anderson and Holte 1981, Anderson and Inouye 2001, Belnap 1995, Belnap and Gillette 1997, Belnap et al. BLM Tech Bull. 2001, Belsky and Gelbard 2000, Beymer and Klopatek 1992, Donahue 1999, Fleischner 1994 review article, Freilich et al. 2003. Example: Forage utilization levels and associated stocking rates typically allowed by BLM greatly exceed those recommended even by current range science. See Galt et al. 1999, Galt et al. 2000, Gelbard and Belnap 2003, Hockett 2002, Holechek 1996b, Holechek et al. 1998, Holechek et al. 1999 a and b, Holechek et al. 2000, Holechek et al. 2001.
.
This Oregon EIS process provided BLM an opportunity to gain a better understanding of the actual capability and productivity of the vegetation and soils that meets the desires and needs of the public on these Oregon lands. It provided BLM an opportunity to conduct a real analysis of the risks of weed increase, spread and the futility of treatment of disturbances such as livestock grazing continue at or near current levels.

Sagebrush, western juniper, salt desert shrub and other vegetation communities show signs of extensive changes and significant stresses, with livestock grazing and aggressive non-native weeds recognized as among important causal factors. Inter-linked grazing disturbance, weed invasion and altered fire cycles cause native plant communities to cross thresholds from which recovery is very difficult, if not impossible. On top of these degraded conditions and chronic livestock disturbances, BLM's 17 states EIS and the current LUPs would impose massive new disturbance without addressing the current environmental setting and ecological realities across the landscape.

EIS Must Reveal the Current Environmental Setting

Current information on the perilous status of habitats for native biota across much of the project area highlights the need for BLM through the EIS/PER to conduct current surveys. Systematic and comprehensive survey and assessment of species presence, habitat presence and quality and degree of fragmentation is necessary to: 1) Understand current status of habitats and species populations and thus determine which lands may need treatment – including a full range of PASSIVE treatments such as reduction in stocking rates, closure of pastures or allotments, closure of roads; 2) Determine what type of treatments may be minimize site and habitat disturbance. Example: If high numbers of livestock are creating extensive soil disturbance and spreading weeds across wild land areas, then limiting livestock numbers and use must be a primary treatment method to limit weed spread. It has the least risk of new habitat fragmentation or new disturbance to native vegetation and soils that act to promote weed expansion; 3) Understand existing fragmentation before proposing to impose large-scale new disturbance that will further fragment habitats of species already declining from habitat fragmentation and disturbance.

Some of this information was already assembled at the time of the Weed EIS/PER. But its preparers largely ignored it. The Conservation Assessment for Greater Sage Grouse (Connelly et al. 2004) provided GIS maps and information on BLM lands and landscape-level fragmentation factors. The data used in this mapping included information, for example, cheatgrass presence in understories, livestock facilities, and many other factors fragmenting species habitats. Instead of providing necessary information and mapping based on the current information of this type be properly related to the proposed actions.

New assessments and analyses are available. See:

Ecology and Conservation of Greater Sage-Grouse: A Landscape Species and
Its Habitats
>
A release of a scientific monograph with permission of the authors, the
Cooper Ornithological Society, and the University of California Press
>
Twenty-four new chapters on sage-grouse and sagebrush habitat conservation.
>
Download chapters at http://sagemap.wr.usgs.gov/monograph.aspx
>

Please fully consider all of these Chapters in your analysis of the cumulative effects of herbicide use, especially in degraded landscapes where potential for drift and killing of non-target species required by sage-grouse or other native species is significant. How might herbicides applied to kill leafy spurge in understories kill or wipe out sagebrush in the same area? We have observed this effect on public lands in Idaho. How might trampling disturbance to soils be livestock facilitate herbicide effects on non-target species?

We stress that many of these papers fail to adequately deal with the adverse impacts of livestock grazing and trampling disturbance – such as the examining the current scientific literature related to microbiotic crusts, and their role on preventing invasions of cheatgrass or other weeds.

The realities of the current ecological conditions and status of native biota across arid BLM lands, including in the face of climate change, must be fully addressed.

How might small, isolated populations of sage-grouse, pygmy rabbits or other native biota - declining native special status and T&E species in fragmented landscapes – be affected by herbicide use? What if spraying for weeds increases losses of sagebrush in critical wintering areas?

Dwindling Surface and Ground Waters, Shrinking Habitat Areas – Concentrate and Amplify Hazardous Chemicals and Contaminants

It is necessary to understand the degree of impacts to, and losses of, surface and ground waters across arid landscapes. This all has resulted in reduced perennial flows. This means remaining waters relied on by wildlife are more limited. Herbicides that are applied in these watersheds may be even more concentrated/wash into vital and scarce surface waters relied on by sage-grouse, home to rare springsnails, fish, mollusks, etc. In such degraded situations, these species also typically face sediment problems, algae blooms, etc. – all of which interact with herbicides to stress animals and populations.

Even worse, many small springs, seeps and meadows across grazed lands have thistle, henbane and other noxious weeds present. Their flows have been reduced by livestock-facilitated desertification and often by BLM “developments”. Use of herbicides in and near areas with limited mesic vegetation and very limited water availability may have many adverse impacts.

Chronic Ecosystem Disturbance, Fragmentation and Imperilment of the Sagebrush Biome

The decline in sage grouse populations and other species dependent on arid land shrub habitats is a landscape-scale biological indicator that the loss of functions and values of sagebrush ecosystems are serious and widespread. These are also signs of desertification processes across the landscape.

The analysis, Dobkin and Sauder 2004,“Shrubsteppe Landscapes in Jeopardy: Distribution, abundances, and the uncertain future of birds and small mammals in the Intermountain West”, examined bird and small mammal species in the sagebrush biome. The authors found that “very little of the sagebrush biome remains undisturbed”, the **inherent resilience of the ecosystem has been lost and the ability to resist invasion and respond to disturbance has been compromised** (Dobkin and Sauder at 5). At least 60% of sagebrush steppe now has exotic annual grasses in the understory or has been converted completely to non-native annual grasslands (citing West 2000). More than 90% of riparian habitats have been compromised by livestock or agriculture.

The authors distilled a list of 61 species of birds and small mammals that are completely or extensively dependent on shrubsteppe ecosystems, and conducted an analysis of their distributions, abundances, and sensitivity to habitat disturbance to assess current state of knowledge and conservation needs of these species, with focus on Great Basin, Interior Columbia Basin and Wyoming Basin, based on BBS data and other studies.

The Columbia Plateau, Great Basin and Wyoming Basin are among the **least sampled** of all physiographic provinces covered by the Breeding Bird Survey. **Remarkably little** is known about the actual distributions or population trends of small mammals. “Range maps created by connecting the dots among sites where a species has been captured do not paint a realistic picture, especially in the highly altered and fragmented shrubsteppe landscapes of today. For small terrestrial mammals … our results support the view that many of these species now exist only as **small, disconnected populations isolated from each other … it is completely untenable to assume species’ presence based on simply on presence of appropriate**

habitat in shrubsteppe landscapes of the Intermountain West". Also, the authors "**find no reason for optimism about the prospects in the Intermountain West of any of the 61 species" (at 3). "The results of our analyses present an overall picture of an ecosystem teetering on the edge of collapse** (citing Knick et al. 2003)".

Thus, the aggressive "treatments" to be conducted under all BLM's 17 states EIS alternatives, are identical to the practices and treatments currently identified as causing species declines and habitat fragmentation in the first place! Now the Oregon EIS attempts t impose 18 chemicals to deal with weeds mis-management of Oregon BLM lands is causing.

An untold number of livestock facilities (fences, spring projects, pipelines, trough systems salting sites, corrals, wells, windmills, water haul sites, etc.) have been constructed or placed on public lands – including across these allotments and surrounding lands. Roads almost inevitably grow up either as a direct result of facility construction/placement, or of continued facility use and maintenance. Then, roads become travel corridors for predators (Braun 1998, Federal Register 2003, Federal Register 2004, Connelly et al. 2004, Freilich et al. 2003, Connelly et al. 2004, Dobkin and Sauder 2004), and conduits for weed invasion (Gelbard and Belnap 2003). Many of these facilities have unforeseen effects, and exert influence over much larger areas than anticipated. For example, water developments may attract sage grouse predators and be "sinks" (Connelly et al. 2004).

Ecological changes have pushed many sagebrush landscapes beyond ecological thresholds for recovery. Cumulative effects of land use and habitat degradation are moving sagebrush habitats toward ecological collapse and dysfunction (Knick et al. 2003, Dobkin and Sauder 2004).

Sagebrush Mammal Summaries (based on Dobkin and Sauder 2004)

Eleven of 24 mammals in the report by Dobkin and Sauder (2004) are endemic to the IM West, representing a high degree of endemism. Many of the small mammal species whose status is reviewed in the report are important prey for raptors and some other special status species. In addition, the high degree of endemism is likely even greater than species-level ranges would indicate, and genetic analyses of upland and riparian small mammals may provide more examples of "cryptic" species like has now been found in endemic ground squirrels in Idaho.

Only one of the 19 species of small mammals for which adequate trapping data was available was found in more than 62% of potentially suitable localities. This analysis of field studies is the first comprehensive attempt to quantify presence or absence across a region. The report found that **21 of the 24 small mammal species respond negatively to the effects of livestock grazing. Eleven of 18 small mammal species responded negatively to the presence of exotic plants**, with riparian mammal species exhibiting neutral responses if vegetation was thick enough.

Geographic patterns of species richness and community stability raise concern. Despite range maps showing occurrence over broad areas, many species of small mammals now exist only as small, disconnected populations isolated from each other by unsuitable habitats." Thus, **it is completely untenable to assume species' presence based simply on presence of appropriate habitat in shrubsteppe landscapes of the IM West**." This demonstrates why BLM must systematically conduct non-lethal site-specific surveys for small mammals in representative habitat types, and assess habitat conditions, across the allotments.

The report authors conclude: We find **no reason for optimism** about the prospects in the Intermountain West for any of the 61 species identified. **Sagebrush distribution is highly fragmented, and much less extensive than large-scale maps suggest. Extraordinary fragmentation and degradation of sagebrush-steppe landscapes has been caused by livestock grazing practices, purposeful removal of sagebrush and/or seedings through prescribed fire, mechanical treatment, biological agents and herbicides,** invariably done to provide forage for livestock, especially as native vegetation communities have become increasingly depleted, as well as ag-conversion, roads, mining and mining exploration fragmentation, powerline and pipeline corridors.
Although sage grouse have been the flagship species for this ecosystem, and publicity over concerns have focused mainly on grouse, it is not just sage grouse that are in trouble. Sage grouse have become a surrogate for numerous species of animals and plants that depend on sagebrush communities, and many of these species may also use salt desert shrub communities.

Shrubland and grassland birds, representing an important component of the biodiversity of the western United States, are declining faster than any other group of species in North America (Saab and Rich 1997, Paige and Ritter 1999, USGS Great Basin Mojave-Desert Region, Dobkin and Sauder 2004). Species dependent on sagebrush ecosystems (Brewer's sparrow, Sage Sparrow, Sage Thrasher) may be important predictors of ecological collapse.

A review of field studies of small mammal response to livestock grazing (compared moderately to heavily grazed upland or riparian areas with exclosures), found **overwhelmingly negative responses** (decreased abundance or productivity) to the effects of livestock grazing for 12 species (Table 8): Upland: Paiute ground squirrel, Washington ground squirrel, little pocket mouse, Great Basin pocket mouse, Chisel-toothed kangaroo rat, desert woodrat, sagebrush vole, Riparian: Water shrew, Western harvest mouse, long-tailed vole, montane vole, western jumping mouse. 9 species have an extremely high likelihood for negative responses to livestock grazing (Table 8) are: Upland: Merriam's shrew, Preble's shrew, pygmy rabbit Idaho ground squirrel, Merriam's ground squirrel, Townsend's ground squirrel, Townsend's pocket gopher. Riparian: Townsend's pocket gopher. Plus, negative responses to presence of exotic species have been demonstrated for eight upland species, and can be inferred with high likelihood for three others.

Virtually no areas in the Intermountain West exhibited much riparian species diversity. For riparian birds, areas of highest species diversity were areas of **highest community stability**.

Patterns of high mammal species richness were concentrated within the three primary shrubsteppe ecoregions. Species richness was high in much of the Great Basin. Remarkably little is known about the actual distribution or conservation status of small-mammal species – there is no standardized survey. Alarmingly, there was **a high frequency in which species were missing from studies focused on suitable habitat.**

This should raise concern about the current actual extent of populations. It must be understood in the context of the high degree of fragmentation and altered disturbance regimes (Knick et al. 2003), the **"overwhelmingly negative response to livestock grazing",** and the limited dispersal capabilities of small mammals (Dobkin and Sauder 2004). **"Our results support the view that many of these species now exist as small, disconnected populations isolated from each other by unsuitable habitats across which they cannot disperse".** Catastrophic decline of the largest population of northern Idaho ground squirrels illustrates this. The **combined effects of altered fire cycles**, (loss of fire here - as this species occurred in meadows in forest), **livestock grazing and exotic species introduction is the reality faced by many small mammal populations**.

Many species of small mammals exist as scattered, disconnected populations. One cannot assume species presence based simply on presence of appropriate habitat in shrubsteppe landscapes of the IM West.

Vole populations isolated from each other and tied to the riparian habitats among isolated mountain ranges are likely candidates for endemism to be found if genetic analyses are conducted. Several isolated subspecies of montane vole occur along the southernmost portion of the species range - likely isolated from conspecifics for millenia. Endemism among small mammals of the IM West, already high, is likely even greater. Many of the species have two or more described subspecies, and much of the described subspecific variation is based on morphological variations. Where thorough genetic analysis is conducted, there may be sufficient evidence to warrant elevation to full species.

A pattern of high species richness is much more concentrated for small mammals, and the number of endemics may represent more habitat specificity. The authors note that very little attention is paid to conservation needs of small mammals. Conservation efforts should integrate areas of high species richness for birds and mammals.

Across the IM West, **altered fire frequencies combined with ubiquitous grazing drives the loss of native plant community structure and composition on which birds and small mammals depend.** Grazing reduces competition from native grasses, and cheatgrass and other weeds flourish, with each successive fire promoting invader expansion, resulting in self-perpetuating monocultures of exotic plant species with very short fire return intervals (Whisenant 1991, Anthony and Vitousek 1992, Billings 1994, Knick et al. 2003). Exotic plant dominated landscapes are uninhabitable for nearly all native bird and small mammal species (Dobkin and Sauder 2004). Shrub-steppe habitat has diminished greatly - at least 44% of potential habitat for Greater Sage-Grouse has disappeared (Schroeder et al 2004) and this study did not evaluate fragmentation of the rest!

Biome-wide, accelerated Oil and Gas development is occurring in Wyoming. This places landscape-scale fragmentation and soil disturbance on an even faster trajectory. Also, an astonishing number of fences and other livestock projects that serve to also fragment habitats are found across the sagebrush biome (see Connelly et al. 2004). Now large-scale renewable energy is proposed to destroy and fragment important sage-grouse and other habitats on BLM lands in Oregon.

Sagebrush Bird Species Summaries (Dobkin and Sauder 2004)

There were significant declining trends for 16 of 25 upland bird species (64%) in the regions of the Intermountain West (Dobkin and Sauder 2004). Only 3 species showed a significant increasing population trend. 5 of 12 riparian species declined significantly over both the short and long term. “Birds that depend on native vegetation for their nests clearly are jeopardized by the loss or degradation of vegetation. Nearly all 25 upland species are obligate ground/shrub nesters, with 18 of the 25 species dependent on native shrubs for nesting and foraging.

Species richness for upland birds was concentrated in the three primary shrubsteppe ecoregions, with areas of highest species richness extending across the Columbia Plateau from southeastern Oregon to easternmost Idaho, the eastern two-thirds of the Great Basin, and southwestern Wyoming Basin. There was constancy in bird species composition in upland bird communities between 1968-1983 and 1984-2001. However, the community \composition of riparian bird communities varied substantially between periods, with a **decrease in species composition of riparian communities**. Plus, ecologically unsuitable habitats are now embedded in matrices of suitable habitats.

The upland bird species, and all the riparian species listed in Dobkin and Sauder (2004), Table 1 at 9 occur in the EIS Project area, and the small mammal species found in Table 2 at 10 are likely to occur in the Project area. For some species, such as loggerhead shrike, declines were especially severe in the three primary shrubsteppe ecoregions – with population losses across large geographic areas.

Geographic **patterns of species richness for birds found that areas of highest upland avian species richness correspond with areas of lowest shrubsteppe fragmentation**. Bird species "Entirely" dependent on sagebrush: Greater Sage-Grouse, Sage Thrasher, Brewer's Sparrow, and Sage Sparrow. Birds "Nearly" dependent: Gray Flycatcher, Gray Vireo, Green-tailed Towhee, Black-throated Sparrow.

BLM's 17 States EIS and Oregon Land Use Plan proposed "treatments" and herbiciding will INCREASE fragmentation (see also Knick et al. 2003, Connelly et al. 2004). These species reviewed by Dobkin and Sauder and their habitats and populations will only be increasingly harmed in the short, mid and long terms.

Riparian birds have distributions that extend beyond the IM West, as do riparian mammals. Given the relative rarity and ecological importance of riparian habitats within shrub-steppe landscapes, the **high degree of instability in riparian bird community structure** found in the report, reflects **the poor condition of riparian habitats** across the Great Basin, Columbia Plateau and Wyoming Basin ecoregions (Dobkin and Sauder 2004, citing Saab et al. 1995, Dobkin et al. 1998, Tewksbury et al. 2002, Krueper et al. 2003, Earnst et al. 2004) **and the dewatering of riparian zones** (Dobkin and Sauder 2004, citing Rood et al. 2003), causing damage to avifauna and habitats.

Poor riparian condition contradicts BLM claims in the 17 states EIS of improved conditions. BLM has not provided the methodology and data upon which its rosy assertions on ecological conditions in the project area are based. BLM provides no current data on Oregon conditions. It is our observation that many areas (such as in Vale BLM Louse canyon) continue to spiral downward in condition, and face expanded threats from cheatgrass and other wed invasion due to BLM mis-management, and failure to control livestock impacts. as well as efforts to expand roading.

Upland Species - summarized from Dobkin and Sauder (2004) and others:

* Greater Sage-Grouse. Causes of Declines: Habitat destruction, degradation and fragmentation, altered fire frequency (both lower and higher), livestock grazing converting shrubsteppe to annual monocultures are Threats. Range “improvements” and West Nile virus are threats. See also Connelly et al. 2004, USFWS Interim Status Report (2008), new Sage-grouse analyses (USGS site 2009).
* Ferruginous Hawk. Open areas, isolated trees, and edges of pinyon-juniper woodlands are used for hunting perches and nesting. “Prey abundance, particularly jackrabbits and ground squirrels, is correlated significantly with the number of breeding pairs in an area and with reproductive success. (Dobkin and Sauder 2004, citing Jasikoff 1982 and Deschant 2001 b) (at 36). Habitat destruction and degradation are greatest threats, and directly influence prey abundance, important to reproductive success. Ferruginous hawks can be particularly sensitive to human disturbance (at 37).
* Prairie Falcon. Open habitats with moderate grass cover and low-growing sparse shrubs. Nest-site availability and ground squirrel populations are important factors in habitat selection. Activities affecting ground squirrel abundance, include livestock grazing, frequent fires, ag conversion, poisoning. Disturbance near nest sites (cliffs) can reduce breeding success.
* Burrowing Owl. Requires low vegetation and a suitable nest burrow. BOs may expand other species burrows, but do not dig their own. Excavation by ground squirrels, marmots and badgers is important in nest burrow availability. Threats are habitat degradation and destruction, and shrub-steppe degradation by livestock or ag conversion. Pesticides can reduce populations of insect prey and fossorial mammals. Badgers, coyotes, birds of prey and vehicle collisions may also be problems.
* Gray Flycatcher. Shrub-steppe, mountain mahogany and pj. In shrubsteppe, gray flycatchers are associated with tall, dense sagebrush. Chaining or burning of sagebrush and pinyon/juniper areas is known to eliminate gray flycatchers (at 46). It is parasitized by the brown-headed cowbird. Habitat fragmentation likely increases nest parasitism and predation rates.
* Loggerhead Shrike. Shrubsteppe, open woodland, field edges, and occasionally riparian areas. Presence and abundance in shrubsteppe is positively correlated with the diversity, density and height of shrubs. Population declines in Columbia Plateau and Great Basin.
* Horned Lark. May be susceptible to trampling, and affected by invasion of annual grasses.
* Sage Thrasher. Habitat destruction, degradation and fragmentation are threats, including activities that destroy shrub cover (**fire, chaining, herbicide**) eliminate local populations. Although authors note that livestock grazing may increase shrubs, livestock grazing also alters shrub structure, especially that of taller sagebrush or other shrubs which are areas where sage thrashers nest.
* Virginia’s Warbler. P-j, mountain mahogany, mixed deciduous shrublands. Habitat destruction, livestock grazing.
* Green-tailed Towhee. Shrublands and disturbed coniferous zones. In shrubsteppe, its presence and abundance are positively correlated with increased shrub species diversity, shrub cover, and taller shrubs. Threats are habitat destruction and degradation – livestock grazing and frequent fire have impacted shrubs. Simplification of shrub cover results in population reduction or elimination.
* Brewer’s Sparrow. Its presence is positively correlated with total shrub cover, bare ground, taller shrubs, patch size, and habitat heterogeneity – and negatively correlated with grass and salt shrub cover. Large population declines have occurred the in Columbia Plateau and Great Basin. Cowbird host. Threats are habitat destruction and degradation. Activities that destroy shrub cover (fire chaining herbicide, etc). A cowbird host. Positive (increased shrubs – see previous comments about shrub structure) and negative responses to grazing.

* Vesper Sparrow. Inhabits short, patchy herbaceous vegetation, low shrub cover bare ground, forbs. Habitat destruction and degradation – frequent fires, in conjunction with invasive grasses, heavy livestock grazing (which increases shrub cover), and poor range conditions created by livestock grazing during drought increase rates of nest abandonment and failure. Cowbird host.
* Lark Sparrow. Threats are fire and livestock grazing converting lands to annual grass monocultures are threats.
* Black-throated Sparrow. Desert shrub, shrub-steppe, open pinyon-juniper. Correlated with moderate shrub cover, tall vegetation, shrub species richness, and dead woody vegetation. Drought reduces the number breeding attempts and clutch size.
* Sage Sparrow. Particularly associated with big sagebrush, or may be found in mixed shrub communities with greater shrub cover, abundant bare ground, sparse grass cover. Shows high site fidelity. Habitat destruction, degradation and fragmentation are chief threats, and are caused by frequent fire, livestock grazing, range "improvements" (shrub treatments, exotic grass plantings) – and these promote other impacts – predation and nest parasitism.
* Savannah Sparrow. It has been assumed that Savannah Sparrow populations benefit from conversion to annual monocultures. However, converted habitats may not be equivalent to native grassland habitats and may serve as population sinks.
* Grasshopper Sparrow. Livestock grazing degrades habitats. While benefits from natural fire, annual grass conversion resulting from fire is negative.
* Western Meadowlark. May be affected by fire.

Thus, for many of these birds, the very actions that BLM proposed under the 17 States EIS and PER are Threats, and when conducted in the past, have destroyed, altered and fragmented habitats. These threats (livestock grazing, herbiciding, chaining, fire, mowing and other alteration of sagebrush and other native vegetation communities) have not been honestly addressed by BLM in the EIS or PER, or the Oregon EIS at present. Since best Available Science recognizes them as Threats, (see also Knick et al. 2003, Connelly et al. 2004).

Other summaries of species trends support Dobkin and Sauder (2004). Many species with downward trends in population size are associated primarily or exclusively with shrub-steppe or riparian habitats. In shrub-steppe, this includes northern harrier, mourning dove, horned lark, loggerhead shrike, green-tailed towhee, vesper sparrow, sage sparrow (USGS Mojave-Great Basin at 33-51). Populations up in one area, down in another: rock wren, sage thrasher, Brewer's sparrow, black-throated sparrow, western meadowlark. Population sizes of mourning dove and loggerhead shrike, whose abundances are declining widely in western North America are also declining in the Great Basin. The preponderance of downward trends in shrub-steppe indicates continuing problems with the health of this community. In pinyon-juniper with a sagebrush and bunchgrass understory, species include common nighthawk, northern flicker, gray flycatcher, mockingbird, chipping sparrow, and Scott's oriole (USGS Mojave-Great Basin at 33).

BLM's 17 states EIS and PER, by proposing profligate use of **non-selective** fire, chaining or herbicides in western juniper communities will kill shrubs, too. Nowhere does BLM provide a protocol for determining the best or most appropriate treatment methods to be used, or for avoiding old growth or mature plant communities. This is precisely the type of information and analysis that the 17 States EIS, and now the Oregon EIS, should have provided, but it has failed to do so.

Riparian species with downward trends: killdeer, violet-green swallow, warbling vireo, yellow warbler, lazuli bunting, savannah sparrow, song sparrow, yellow-headed blackbird, Brewer's blackbird. Downward trends in riparian species – are indicative of **continuing deterioration of riparian habitats** of the Great Basin (USGS Mojave-Great Basin at 34). Continued deterioration of riparian habitats in the Great Basin contradicts BLM's rosy claims of improvement.

BLM Ignores Conservation Strategies with "Spray and Walk Away" Approaches

Landscape-scale conservation is also a critical component of ICBEMP scientific assessments (see Wisdom et al. 2000). The EIS ignores ecological understanding of the landscapes where massive herbicide and disturbance treatments are proposed.

Across much of the 17 states project area, and all of the Oregon area, large browsers disappeared about 12,000 years ago. The largest ungulate was the pronghorn. Jackrabbits, cottontails, and rodents may have been the largest herbivores (Mack and Thompson 1982, Connelly et al. 2004). Microbiotic crust occurs in areas that are not, or lightly, grazed. As a result, livestock grazing and trampling impacts cause extensive, chronic and often irreversible harm to soils, vegetation and habitats of native species. This results in an alteration of composition, function and structure of plant and native animal communities (Fleischner 2004)

Salt desert communities: Invasive species have impacted shadscale and greasewood communities, and have altered their composition and function. Livestock grazing the most common disturbance that leads to weed invasions and altered fuels and fire regimes at these lower elevations. Cheatgrass and halogeton invades dry sites, exacerbated by livestock grazing. These communities are increasingly threatened by the proliferation of non-native annual grasses. Historically, **they did not burn.**

BLM's Standards and Guides and other recent Assessments and documents across the Project area are replete with descriptions of cheatgrass and other weeds being a growing problem. However, BLM nearly always grossly under-estimates the extent of cheatgrass or other weed infestations in the understory, and fails to undertake cuts in livestock numbers even to the level of the actual numbers of livestock grazed. Grazing permits retain large numbers of ungrazable AUMs even under "Active" use. This results in constant pressure on BLM to "develop" more facilities, "treat" and disturb more land so overstocking can occur. End result: Weeds expand.

BLM often allows extra grazing on degraded lands (under the Temporary Non-Renewable Use) that may lead to further degradation, increased hazardous fuel problems, and introduction of even more aggressive exotic species.

Sagebrush semidesert is highlighted for conservation because of decline of sagebrush-obligate species. Species dependent include: sage sparrow, Brewer's sparrow, sage thrasher, sage grouse, pygmy rabbit, sagebrush vole, sagebrush lizard, pronghorn (Paige and Ritter 2000).

Fire regulates the density of fire-intolerant shrubs. Invasion of exotic annual grasses has increased fire frequency in stands, and resulting fires are causing a decline in abundance of sagebrush and other non-sprouting shrubs. In some areas, knapweed or other noxious weed species may be invading annual grass-dominated sites. Grazing decreases the importance of tall bunchgrasses and increases rabbitbrush, forbs and non-native grasses. Grazed sagebrush usually lacks altogether, or has no good condition microbiotic crusts. Large tracts of sagebrush semidesert and sagebrush-steppe are needed to adequately protect these systems.

Western juniper can live to be 1600 years old, and provides important wildlife habitat (ash-throated flycatcher, black-throated gray warbler, roosting cavities for bats, nesting cavities for raptors) and forest watershed function. Yet BLM across Oregon is currently laying waste to western juniper – resulting in hotter, drier sites more prone to weed invasion. How many acres have been treated? How much have weeds increased from pre-treatment levels? Which weeds have increased? What chemicals have been used? What chemicals will foreseeably be used? Where has cheatgrass invaded? Medusahead? How much more of this or other habitat/veg types will be disturbed during the life of the Oregon Weed EIS? We are dismayed at the rapid spread of medusahead on the Oregon-Idaho border in the vicinity of Jordan Valley. BLM actis in Oregon affect watersheds, sage-grouse populations, etc. shared with Idaho. Medsuahead is spreading like wildfire in areas where junipers have been burned off in the past, and where grazing and trampling disturbance occurs. BLM continues to allow cattle to trail right through known areas of medusahead infestation into lands not infested. There is no effort of any kind made by BKM ion the ground to control weed spread. End result: BLM kneejerk reaction of relying on massive amounts of herbicide rather than prevention, passive restoration, de-stocking, etc.

It is WWP's experience that BLM constantly ignores the importance of these old growth and mature western juniper habitats, and knowingly conducts projects to purposefully destroy them so as to increase livestock forage on depleted lands. Under ongoing BLM livestock management and paradigms that fail to use best available science, the aggressive proposed treatment actions of the 17 States EIS/PER, actins under the Oegon LUPs, will be carried out in just such a manner, and threaten still-intact habitats for these species.

Juniper habitats are threatened by grazing and fire, many are in degraded condition, and are still being chained to create rangeland for livestock. May use federal fire funds and in reality a relivestock forage projects.

Larger tracts of lower montane systems with connectivity to lower elevation sagebrush semidesert or basin and desert scrub systems are more likely to harbor larger populations of bighorn sheep. The adjacent vegetation to juniper woodlands is sagebrush steppe at lower and upper elevation margins and sagebrush or bitterbrush is found in abundance in openings or understories. EIS/PER treatment projects using indiscriminate methods such as fire or herbicides to kill junipers – kill the shrubs, too.

The Partners in Flight North American Landbird Conservation Plan (Rich et al. 2004) identifies a critical need for strategic approaches to landbird conservation, and describes overarching threats faced by landbirds, including: significant direct loss of major bird habitats (including loss of western riparian, pinyon-juniper and sagebrush habitats); fragmentation and degradation of remaining habitats due to intensified agricultural practices, inappropriate grazing, spread of exotic vegetation and other factors; failure to identify and properly protect or manage habitat used during spring migration, fall migration, and winter. Birds stressed during migration require quality habitats for food and cover; a steady, widespread increase in dispersed mortality factors. These factors collectively contribute to a **high proportion of population declines and anticipated future threats.**

The Plan describes the growing recreational importance of birds, and the economic importance of bird-associated recreational activities. Birds also contribute to the maintenance of ecosystems – from dispersing native plant seeds to consuming insect pests. Conserving habitat for birds will contribute to meeting needs of other wildlife.

The Plan stressed it does not advocate conservation based on single species only, and encourages planners to identify common issues or habitats among suites of high priority species. It assesses conservation vulnerability based on biological criteria. PIF Assessment Factors include: Population size, breeding distribution, non-breeding distribution, threats to breeding, threats to non-breeding, and population trend.

The EIS/PER failed to examine such current population attributes in relation to areas slated for Treatment, and assess outcomes of treatments on many high priority species. Now the Oregon EIS seeks to impose large amounts of herbicide use without ever analyzing such effects.

Species of Continental Importance: Includes Watch List and Stewardship Species. Watch List: Greater Sage-Grouse, Swainson's Hawk, Short-eared Owl, White-throated Swift, Pinyon Jay, Brewer's Sparrow, Mountain Quail, Calliope Hummingbird, Black-capped Gnatcatcher, Virginia's Warbler. Stewardship Species: Gray Flycatcher, Western Scrub Jay ???, Sage Thrasher, Black-throated Gray Warbler, Green-tailed Towhee, Black-throated Sparrow, Sage Sparrow, Grasshopper Sparrow (?), Yellow-headed Blackbird, Rough-legged Hawk (winter?). Rosy Finch species (winter?).

Conservation of Stewardship Species will be a step towards maintaining broader suites of species within all biomes. LCP at 31 states: "**habitat loss remains the paramount factor for most species", and "habitats in danger of significant loss in the near future include western pinyon-juniper, sagebrush, and wetlands**. It describes the impacts of habitat fragmentation, and the growth in dispersed recreation such as OHV use.

Sadly, the series of Alternatives (Proposed and Preferred Actions) cast aside reasonable analysis of the impacts of the massive intervention and treatment disturbance put forth in the 1y States EIS/PER as well as chronic livestock degradation and desertification on these species, and the viability of habitats that will be drastically fragmented under the EIS actions.

Sage grouse are threatened by "extensive degradation of its sagebrush habitat by overgrazing and invasive plants" (LCP at 31). Livestock grazing "has had enormous effects on native vegetation – a century of selective removal of palatable plant species, soil compaction, water developments and livestock management activities" (LCP 2004, citing Saab et al. 2004. Habitat loss and fragmentation are also occurring on migration routes and in wintering areas.

Issues identified that transcend biomes, including:

- Habitat loss, degradation and fragmentation
- Forestry management
- Fire management strategies
- Wetland Issues
- Exotic or invasive species
- Resource extraction/energy

- Livestock grazing management
- Climate change
- Contaminants and pesticides
- Lack of information.

Lands slated for many of the treatments lie within the Intermountain West Avifaunal Biome, which is composed of 3 Bird Conservation Regions (BCRs). "Extensive mountain ranges and broad basins produce large elevational gradients that create a **complex and variable** environment - including coniferous forest, pinyon-juniper woodland, and cold semidesert shrubsteppe, and important wetland complexes. The IM West is center of distribution for many birds, and over half the Biome's SCSI have 75 percent or more of their population here. "**Threats and/or declining trends face Species of Continental Importance that use coniferous forest, pinyon-juniper woodland, shrubsteppe, and riparian habitats".**
For example:

* Coniferous forest: flammulated owl, Cassin's finch, others.
* Deciduous forest: Aspen forest is a declining habitat type SIC: Red-naped Sapsuckers, Mountain Bluebird.
* Woodland: Pinyon-juniper woodlands are especially characteristic of the southern portion of the IM West. **This habitat type supports the largest nesting-bird species list of any upland vegetation type in the West (Beidleman 2000),** cited in LCP at 53. SCI are Pinyon Jay, Gray Vireo and Gray Flycatcher. **Degradation** of woodlands has been widespread and continuous since European settlement.

Shrub-steppe species comprise the largest number of Species of Continental Importance in this biome. Conversion has occurred for ag., and it has suffered large-scale invasion of non-native grasses and forbs, range developments, sagebrush eradication and changes in fire frequency. This has caused extensive loss and degradation of habitat, with subsequent population declines. **Cheatgrass has invaded over half of the existing sagebrush habitat.** It is the highest conservation priority in the Interior Columbia Basin (Saab and Rich 1997, Paige and Ritter 1999), and species include: Greater Sage-Grouse, Sage Sparrow, Sage Thrasher, Brewer's Sparrow, Green-tailed Towhee. "Montane shrublands embedded in the forests provide many species with valuable food and cover – and may be critical to hummingbirds during migration. Montane Shrubland SCI include: Dusky Flycatcher, Virginia's Warbler, Calliope Hummingbird, Green-tailed Towhee, Rufous Hummingbird, and Mountain Bluebird.

Riparian Habitats. Characteristics of riparian habitats vary widely depending on matrix and elevation, from cottonwood gallery forests to willow thickets. Nearly all riparian areas have been substantially degraded by development or alteration of many types – including de-watering, and alteration of flows, road construction, invasion of non-native species, logging, severe overgrazing, recreation.

Conservation issues include: Inappropriate livestock grazing, invasion of exotic plants change in fire intensity and frequency, logging practices affecting forest structure, and composition – especially mature, continued degradation of riparian habitat, **conversion of sagebrush and pinyon-juniper habitats, including through land management practices,** water diversion, alteration of flows, and spring development, recreational OHV use.

The 17 States EIS treatments and Oregon BLM ongoing treatments (chaining, fire, chopping, herbiciding, and "biological control" livestock grazing) are identical to past activities that have caused the ecological conversions to weedlands that are dooming native species. The EIS has failed to both provide a baseline of information on past acreages converted, the habitat fragmentation that has resulted, and the direct, indirect and cumulative impacts of its proposed greatly expanded treatments on resulting new conversion.

Recommended actions: Retain large tracts of forested vegetation. Maintain/promote growth of native grasses and forbs in shrub-steppe, prevent large scale wildfire, restore with native plants following disturbance. Maintain water quality and quantity and vegetation in embedded springs, seeps and riparian areas. Restore degraded habitats and habitats that have been converted to non-native grasslands. Protect high quality riparian habitat. Restore natural flows and flooding regimes.

Nowhere does the EIS and PER provide any protocol, analysis, mitigation, SOP or other provisions or analyses that would retain large tracts of any vegetation type, ensure seed-producing pine, or promote growth of native grasses and forbs. In fact, as the EIS fails to address livestock disturbance impacts and effects on outcomes of any treatments, and fails to provide science-based limitations on post-treatment livestock grazing and trampling use, there is no certainty that native grasses and forbs will not deteriorate further. This is especially the case as the very treatments identified may weaken or kill native grasses and forbs, as well as microbiotic soil crusts. The Oregon Herbicide EIS fails to adequately analyze the effects of this all, and effects on microbiotic crusts, of herbicide use.

Interfacing Communities/Natural Diversity and Inherent Complexity of Plant Communities. The habitat requirements of the ferruginous hawk illustrates the importance of understanding interfacing habitats. Ferruginous hawks typically nest in junipers at the edge of, or interfacing with sagebrush habitats. It is critical that BLM examine the already complex interspersion of plant communities across the landscape. Sagebrush communities often exist as complex mosaics with inherent natural diversity (Montana Department of Fish, Wildlife and Parks 1995, Welch and Criddle 2003).

BLM fails to address the inherent complexity and complex interspersion of vegetation across the landscape, and instead claims that its artificially imposed chaining and other disturbance is necessary to create more of a mosaic, or for greater diversity.

The ecological integrity of native plant communities is the foundation of healthy habitats for special status species, raptor prey species, and healthy watersheds and watershed processes that replenish aquifers for scarce desert springs.

Info and Analysis Needed on Species

BLM must conduct on-the-ground inventories of species, and habitat conditions and populations across the EIS area. BLM must use its current special status species list, Partner in Flight species lists, information from the Conservation Data Center, and other important recent summaries, such as Connelly et al. 2004 and Dobkin and Sauder 2004, and Wisdom et al. 2000, to examine species of concern and their habitat needs. It must conduct in depth surveys and analyses for species of concern, and collect thorough and up-to-date information on the quality and quantity of habitats across the EIS area.

BLM must carefully review these lists, and updated information, and assess habitat conditions for these species. BLM must conduct systematic baseline surveys for breeding birds, migrants, wintering species. BLM should work with experts to assess populations, genetic uniqueness, etc.). BLM must also fully consider the changing dynamics in wildlife populations – such as elk, and the high priority segments of the public place on this species, as well as antelope and mule deer.

Juniper birds are of high conservation concern (USFWS 2002, Rich et al. 2004). Yet, juniper habitats are among the **most consistently under-represented** habitat types in biological and ecological survey efforts (Red Willow Research 2004).

In the Great Basin Bird Conservation Region, high-priority Pinyon-Juniper species include: Pinyon Jay, Ferruginous Hawk, Plumbeous Vireo, Virginia's Warbler, and Black-throated Gray warbler. Pinyon-juniper and juniper woodlands/pygmy forest provide important breeding habitat for many wildlife species. Pinyon-juniper provides provides important food for birds and other wildlife. Avian species known to consume pinyon seeds include: Pinyon Jay, Steller's Jay, Black-capped Chickadee, Northern Flicker, Gray-eyed Junco, Black-billed Magpie, Clark's Nutcracker, Red-breasted Nuthatch, Pine Siskin, Juniper Titmouse, and Lewis Woodpecker (Martin and others 1951, cited in Red Willow 2004). Both pinyon nuts and juniper berries provide a vital food resource for birds. Juniper berries remain on trees in winter, and are important for Cedar Waxwing, Townsend's Solitaire, Pinyon Jay, Clark's Nutcracker, Western Scrub Jay, Grosbeak sp., American Robin (Martin and others 1951; Johnson 1998; PIF 2000). Townsend's Solitaires establish winter territories based on juniper berry presence and abundance.

Extensive alteration has occurred to juniper (and pinyon-juniper in other areas of the Great Basin) in many ways – **chaining, spraying, and prescribed fire have been used to remove pinyon-juniper and juniper to plant livestock forage, especially at lower elevations on upper portions of alluvial fans and toeslopes of ranges.** Often, exotic crested wheatgrass was planted. Wildfires have consumed large acreages, including across southern Idaho, northern Nevada and northern Utah, as well as significant areas in Oregon. Plus, large-scale die-offs of sagebrush have occurred. BLM must assess the integrity and continuity of communities, identify higher quality communities, and protect them from new disturbance under a broadened range of Alternatives, and act to address and ameliorate ongoing, chronic disturbance of livestock grazing or other land use practices as part of the treatments assessed in a Supplemental the EIS. These areas will also provide reference areas for unfragmented habitats.

Wisdom et al. (2000) provide additional information on understanding animal species habitat needs. See Summaries for Species Groups 30-35 – two specific examples are provided below. Please apply information in this document to species and habitat needs analyses in the EIS area.

Examples:

Group 30. Ash-throated flycatcher and bushtit depend on a mix of source habitats. Retain contiguous blocks of mature juniper/sagebrush, especially old juniper with nest cavities.

Consider site-specific ecological potential and response to management before removing juniper trees. Retain old growth, cavities, restrict pesticides, restore native understories, minimize likelihood of exotic invasion.

Group 31. Ferruginous hawk, burrowing owl, vesper sparrow, lark sparrow, western meadowlark, shirt-eared owl and pronghorn. Ferruginous hawk populations fluctuate in response to prey populations. Breeding populations of short-eared owls are nomadic, and may occur when rodent densities are high. Burrowing owls rely on burrows provided by burrowing mammals (ground squirrels, marmots, coyotes, badgers) and may be closely tied to these mammals. Broad-sale changes in source habitats – have dramatic "decreasing" and "strongly decreasing trends". Source habitat remains in northern Great Basin and Owyhee Uplands. Source habitat loss – tied to loss of big sagebrush. Ag. conversion, conversion to exotics. BO populations have declined as the result of pest control programs. Meadowlark and lark sparrow success, correlated with grass. Removal of grass cover may have detrimental effects, presence of livestock may attract brown-headed cowbirds and increase brood parasitism.

Juniper expansion may have benefited ferruginous hawks. Microbiotic crusts have been widely destroyed by livestock. Roads, human activities and domestic dogs. Recreational shooting of marmots or ground squirrels impacts burrowing owls, and pesticide use may lead to direct mortality.

Management implications. Most of habitat clusters 5 (Owyhee Uplands ERU) and 6 (northern Great Basin, Owyhee Uplands, Upper Snake ERU), with the potential risks to ecological integrity are: continued declines in herbland and shrubland habitats.
Primary issues: Permanent and continued loss of shrubsteppe due to ag conversion, **brush control**, cheatgrass invasion; Soil compaction and loss of microbiotic crust; Adverse human disturbance.

Note: "Brush control" is exactly what hazardous fuels projects are aimed to do. This is a clear threat to many species that rely on mature native plant communities.

Strategy: **Identify and conserve large remaining areas (contiguous habitat) of shrubsteppe vegetation where ecological integrity is still relatively high, and to provide long-term habitat stability for populations and provide anchor points for restoration, corridors, and other landscape-level management. Restore grass and forb components. Restore microbiotic crusts, maintain burrows. Minimize adverse effects of human intrusion**.

In support of conserving shrub-steppe, identify large areas of high ecological integrity to be managed for sustainability, on large areas of federal land. Criteria for protect and enhance include: maintaining or increasing the size of smaller patches, preventing further habitat disassociation, protecting or increasing the size and integrity of corridors, all in connection with the location of core areas. Use fire suppression and prevention to retard the spread of cheatgrass. Restore cheatgrass monocultures. Restore native vegetation. Design livestock grazing to promote abundance of forbs and grasses in understory, encourage development of microbiotic crusts. Allow burrows to persist or expand (Wisdom et al. 2000).

BLM "Range"/Vegetation Data

BLM typically has very little current information on ecological conditions and the health of native plant communities across the landscape. The last comprehensive ecological inventories (SVIM) were conducted primarily in the late 70s and early 1980s. When BLM conducts its limited and narrow Fundamentals of Rangeland Health assessments and allotment evaluations, it typically relies on old data, and never re-visits the sites where ESI data had been collected. Key Area sites are located in only the most accessible areas, and are clustered in particular areas of the allotments, leaving vast land areas with no monitoring information at all collected. BLM also fails to collect necessary data on degradation caused by livestock facilities and management activities. Such information is critical to understanding sources of flammable cheatgrass or other weed invasion, causes of roading, the inter-relationship and cumulative impacts of grazing facilities and roading. Current, comprehensive data on condition of soils vegetation, and habitats must be systematically collected. Likewise, BLM relies heavily on wildlife species data in databases and not current inventories. We fear that unless compilation and assessment of this information is conducted at the level of the EIS/PER, data and analysis necessary to understand all direct, indirect and cumulative impacts of the proposed actions will never be done.

BLM can not ignore evidence that its limited old data does show - i. e, only a small fraction of larger size native grasses present are present in most sites that should be dominated by these species. Thus, desertification has occurred, and “production” is greatly less than that of good or better condition sites, and this is typical of nearly all sites. These sites are very vulnerable to weed expansion with continued disturbance and unless long-term ‘rest” allows recovery. BLM must also tie water developments, water hauling or other livestock management practices to site depletion and alteration of species structure, composition and weeds, hazardous fuels and fire problems.

As part of this process, BLM must revisit its limited monitoring sites (or at least a subset), and must also establish a series of new ESI and monitoring sites that represent the ecological condition of the lands where Oregon would apply massive amounts of herbicides to try to stave off weeds caused by the BLM’s inability to limit or control livestock, and other disturbances.

BLM must also conduct comprehensive assessments, in representative sites grazed by livestock, and assess the role of livestock degradation in causing hazardous fuels or weed problems.

BLM Treatments Pose Grave Dangers to Native Species and Important Landscapes

BLM’s17 States EIS/PER involves large-scale vegetation manipulation proposals – ranging from massive burning and “treatment” of conifers and aspen communities to extensive fragmentation (like burning “mosaics”) across areas identified as some of the most intact remaining big sagebrush habitats in Interior Columbia Basin.

All of manipulation proposals pose serious risks to native species – and pose great threats of escalated weed invasion and permanent loss of plants, animals and biodiversity.

BLM must conduct a comprehensive analysis of pre-existing projects and disturbance across the landscape, and include analyses of treatments and disturbance factors across land ownership boundaries. BLM must also assess significant ecological problems that may have arisen in the wake of past manipulation, hazardous fuels or other treatments.

In our past experience with BLM, the agency has much exaggerated the needed scale of fire prevention treatment projects that may be necessary to protect plant communities or human habitations from large-scale fires. For example, in the Ely-Mount Wilson Urban interface near Ely, NV – only around 13% of the land area proposed by the Ely District was actually found necessary to be treated when BLM's own national-level fire experts, having assessed the situation, and developed a sane and reasonable approach.

As the acreage estimates for treatments proposed under the EIS are based on BLM District/Field Office estimates – with NO APPARENT SCIENTIFIC METHODOLOGY APPLIED for developing these estimates, BLM's over-exaggerations about treatment needs in the past must be used as the lens through which the public views claims of treatment need in the EIS/PER, and must provide the basis for trying to understand the amount and kinds of herbicide to be applied as weeds proliferate.

Grazing Carrying Capacity, Suitability and Capability Analysis

BLM must conduct a current livestock grazing capability and suitability analysis. BLM is aware that it has based livestock use areas and stocking rates on old adjudication processes – where AUMs claimed and then assigned in the adjudication process were often greatly inflated by ranchers. These "adjudicated" AUMs were not based on the ability of the land to sustain such high numbers of livestock and levels of use.   To this day, BLM renews grazing permits at levels greatly in excess of thise able to be grazed. This creates constant tension for agencies to kill native shrubs and trees to try to grow "forage".

In the EIS capability and suitability analysis which is necessary to understand the risk of wed expansion and how much land will likely be sprayed, BLM must examine:
Slope, distance to natural water, dispersion of "forage" across the landscape – i.e. many lands have been so depleted that it takes dozens of acres to support an AUM – so the costs (including in weight gain/loss of livestock) are often so great that grazing is a resoundingly losing proposition, areas inaccessible due to winter snow, summer desiccation, etc.

Directly relevant to the Weed EIS is an assessment of the Risk that continued livestock grazing may push habitats over ecological thresholds from which they can not recover. Examples: Continued heavy stocking and degradation of mountain big sagebrush opening the door to cheatgrass invasion of understory; continued heavy stocking and degradation of juniper leading to cheatgrass invasion of understory; continued heavy stocking and degradation of sagebrush leading to both juniper and cheatgrass invasion of sagebrush.

BLM must also determine, for example, if lands where taxpayers may spend hundreds of dollars an acre to restore native vegetation that has been destroyed by livestock are suitable for continued grazing following herbicide or other treatment.

Sagebrush and Other Habitat Assessments

Assessments of the quality of sagebrush, salt desert shrub, juniper, montane conifer, aspen and other important habitats across the project area are necessary because: habitats and populations of species continue to decline across vast areas; there are many sagebrush species of concern; threats to sagebrush are regional in scale; regional knowledge facilitates development of consistent, efficient and credible management strategies for a comprehensive set of species. Federal land managers have legal responsibilities for effective management of habitats for sagebrush-associated species of conservation concern.

Analysis procedures include: Ecoregion and spatial extent, identify species of conservation concern, delineate ranges, estimate habitat requirements, identify regional Threats and Effects, estimate and map the Risks posed by each threat, Calculate Species-Habitat effects from all risks and other steps. Other Analyses include: Fragmentation, connectivity and patch size analyses, Consideration of non-vegetative factors affecting species of concern, change detection studies. Regional knowledge provides essential context for land use planning.

We have reviewed, for example, local sage grouse plans, and they fail to provide information/conduct several necessary analyses at the appropriate scale, and fails to present necessary information to the public, and do not integrate necessary information to understand scale and extent of Threats (such as livestock grazing, cheatgrass presence in understory or domination, livestock facility fragmentation, etc.) and other habitat degradation or fragmentation effects – especially for mammals, reptiles and many migratory birds. They also completely fail to describe or map attributes necessary to understand the **quality of habitats** that do exist. For example, there is no mapping or other information that shows sagebrush habitats dominated by cheatgrass; no mapping or other information to show where large understory grasses have been largely eliminated and weakened, and replaced by small *Poas*, or squirreltail, etc.

As part of an Integrated Weed Strategy, BLM must develop passive restoration actions along with any herbicide use. The Oregon EIS falls fall short here.

Threats to Sagebrush and Other Shrub-Dependent Species and Habitats Must be Assessed

BLM must assess the following existing threats to native vegetation and special status species, T&E species, and other important biota across the project area:

Wells and windmills
Pipelines
Troughs
Pipelines
Roads (often linked to facilities)
Salting Sites
Weed Infestations
Powerlines
Fences
Aquifer depletion

Cheatgrass-dominated understories
Cheatgrass, few shrubs

Altered understory species composition
Altered understory species structure
Altered overstory species composition

Altered overstory species structure (see, for example, Katzner and Parker 1997, and Federal Register 68 (43): 10389-10409) describing impacts of livestock-altered or thinned sagebrush to pygmy rabbit)

Vegetation Treatments (chainings, seedings, railings, herbicidings, mechanical such as mowing) lacking key habitat components and associated roading

Grazing season/disturbance conflicts with nesting, birthing, wintering or other critical period in species life cycle
Grazing use levels fail to provide necessary habitat components (cover or food) based on nest available science
Livestock structural alteration of shrubs

Energy project siting (wind, geothermal, other) and associated roading and infrastructure such as utility corridors and lines
Mines and mining exploration and associated roading
Oil and Gas exploration and Development

OHV races
Areas of high OHV use
Unregulated motorized use
Road densities
Communication towers and other vertical structures

De-watering proposals (example – aquifer depletion and water export to Las Vegas), land disposal proposals.

Often overlooked threats from livestock facilities and structures include:

- Physical harm to species - obstacles such as fences that can cause injury or mortality;
- Structures cause species avoidance of areas, i.e. sage grouse avoid vertical structures.
- Providing elevated predator perches and nest predator perches (in the case of songbirds – brood parasite perches).
- Attract predators and act as sinks
- Attract brood parasites

All of these impacts may act directly, indirectly, cumulatively or synergistically with the effects livestock degradation associated with lands over broad areas surrounding these facilities may have to vegetation, soils and other habitat components. The end result is degradation and fragmentation of habitats for important and special status species.

This must be determined in a supplemental EIS **before** BLM can evaluate impacts of the large-scale disturbance that is being imposed under the Weed and Treatment EIS to many areas of still relatively intact native vegetation and species habitats.

The impacts of grazing on native wildlife, including species displaced by treatments into neighboring or sub-optimal habitats, must be assessed. For example, inundating sage grouse nesting or brood rearing habitats with large numbers of cattle or sheep during nesting season may cause: Removal of cover necessary to protect nesting birds and to hide and provide essential insect food for chicks; cause flushing of birds from nests – thus revealing nests to predators; cause separation of broods and increased vulnerability to predation; strip essential cover to hide hens and nests and conceal chicks from aerial vision-oriented predators and screen scent from ground-based predators. If this is coupled with loss of a significant portion of nesting habitat due to a BLM sagebrush Tebuthiuron "treatment", impacts will be magnified, and populations suffer significant losses.

BLM must Conduct Population Viability, Persistence, Extinction/Extirpation Models for species of Native Wildlife, Rare Plants, Special Status Species and T&E Species Under all Alternatives.

The 17 States Action would treat 6 million acres a year, with a potential of 60 million acres in 10 years. This will have a widespread, and drastic, impact on special status species habitats and populations on Oregon and surrounding states.

Altered Fire Cycles

BLM must study the extent of cheatgrass in understories, and areas already dominated by cheatgrass. BLM must assess the risk of cheatgrass invasion of understories with continued or extended livestock use or disturbance. BLM cannot gloss over the role of ongoing livestock grazing in continuing disturbance that spreads and promotes cheatgrass, medusahead and other weed growth; in retarding recovery and continuing weakening of native vegetation in plant communities that still have a significant component of native species present, etc.

BLM must assess how the presence of cheatgrass may affect special status species. For example, how do cheatgrass-dominated understories and interspaces affect reptile species occurrence and abundance - (lizards may be prey species for small mammals)? How does cheatgrass affect the pygmy rabbit? Which of BLM's proposed treatment disturbances maximize chances of increased cheatgrass dominance of undestories?

In any discussion of plant communities where BLM claims the fuels/fuel loading is too heavy, BLM must examine causes heavy fuels related to livestock degradation, topsoil loss and change in site potential, climate change, etc.

Altered Composition and Structure/Lost Productivity

Over large areas of the EIS lands, larger sized native bunchgrasses and forbs have been eliminated, or significantly weakened. Only smaller stature native grasses and weeds remain. How do these smaller stature grasses affect fire behavior, outcomes of various treatments, etc.? Appropriate stocking levels for any areas grazed must be based on the amount of forage present on a sustainable level, and Risk of exotic species invasions must be minimized. In addition, with extensive depletion over large areas, BLM must assess the diminishing returns – and increased ecological damage done by livestock having to roam over dozens if not hundreds of acres to sustain themselves/harvest an AUM. This may lead to more trampling impacts, more disturbance, more sites for weeds to take hold, and more livestock-vectored movement of weed seeds across the landscape. BLM must identify areas where grazing is unsustainable, or where it will cause harm to still-intact communities, as part of the capability and suitability analyses. What lands are really capable, or suitable, to be grazed post-treatment?

Grazing systems, grazing intensity and season of use: Financial returns from livestock production, trend in ecological condition, forage production, watershed status and soil stability are all closely associated with grazing intensity (Holechek et al. 1998). Short-term rest or deferment can not overcome periodic heavy use. The conflicts with wildlife habitat needs, including food, cover, nutritional composition, space, lack of disturbance and other factors, must be studied.

BLM fails to address shifted, intensified or increased use by livestock that may occur as livestock are shifted into untreated lands. Nowhere does the EIS mandate removal of livestock grazed on treated lands, not merely displacement of livestock and their impacts to nearby areas. Increasingly, we are seeing BLM fail to reduce AUMs following fire, and Nevada BLM often takes no action whatsoever to limit livestock use of treatments. This all reduces the effectiveness of any treatments, and increases likelihood of increased weed proliferation in the wake of treatment or post-fire disturbance.

Range of Alternatives

As an additional comment on BLM's Range of Alternatives: Instead of structuring this process to develop a range of alternatives centered around the need to intensively alter and treat still relatively intact native vegetation and spray weeds everywhere, BLM must consider a range of alternatives that focus on restoring cheatgrass-infested lands, and protecting native vegetation as much as possible. Expansion of cheatgrass pushes communities across thresholds from which natural recovery is difficult - if even possible. Livestock grazing as only one of many competing uses on these fragile and much-abused arid lands which are already undergoing accelerated habitat fragmentation.

See also discussion in other WWP comments.

Drought Impacts, Drought Coupled with Treatments

All impacts of livestock grazing on all elements of the EIS must be assessed during drought, or other adverse weather conditions. How does drought affect productivity of vegetation? What are the additive, synergistic and cumulative impacts of grazing depletion and drought on loss of plant vigor, weakening, or death? Are prolonged droughts or more variable weather conditions foreseeable with global warming effects? How will this increase the risk of herbicide use and drift –including in cattle-desertified landscapes that themselves contribute to global warming?

How much are plants of good vs. poor vigor affected by drought? What utilization levels are appropriate on drought-stressed vegetation? What stocking rates are necessary to prevent depletion during drought? How does drought affect fuels and fire danger in plant communities weakened by the combined effects of grazing and drought? Do they become vulnerable to cheatgrass and other weeds that increase fire dangers and cause fuels problems?

What are the impacts of treatments, and likelihood of success under drought conditions? How would the effects of a passive treatment (reduction in, or removal of livestock) compared to invasive disturbance treatments as proposed under the EIS?

Need To Understand Impacts Of Grazing and Other Uses On Sage Grouse And Other Special Status Species

Sage grouse depend on a variety of shrub-steppe habitats, and populations may move over large areas of land in the course of a year. Overhead cover of sagebrush and tall residual native grass cover are critical to successful sage grouse nesting (DeLong et al. 1995; Connelly et al. 2000; Hockett 2003; 69 Federal Register (77) 21489; Connelly et al. 2004). The sage grouse is reliant on sage-steppe communities, and its populations have plummeted westwide. Excessive livestock grazing strips required nesting cover that screens nests of ground- and shrub-nesting birds from ground and aerial predators, and alters long-term diversity of native forbs that produce insects essential to the diet of sage grouse chicks. Sage grouse eat only sagebrush in winter, and require intact stands for winter survival. Physical breakage of sagebrush and nipping by livestock also alter and decrease sagebrush cover essential for sage grouse and other sagebrush species.

The “Guidelines to Manage Sage Grouse Populations and their Habitats” (Connelly et al. 2000), have been adopted by the Western Association of Fish and Wildlife Agencies (WAFWA) guidelines, and present well-established information on essential habitat components and management based on sage grouse needs. The WAFWA guidelines are now buttressed by the recent WAFWA Conservation Assessment of Greater Sage-Grouse and Sagebrush Habitats (Connelly et al. 2004).

The WAFWA Guidelines and the recent WAFWA Conservation Assessment (Connelly et al. 2004) underscore the following points with respect to sage grouse biological and habitat needs:

- The great importance of herbaceous cover in nesting habitats (WAFWA at 968; CA at 4-4 to 4-8). Grass height and cover are important to nest success. Herbaceous cover provides scent, visual and physical barriers to predators. (WAFWA at 971; CA at 4-4 to 4-8);
- Successful sage grouse nesting occurs under larger bushes. Nesting habitat has greater canopy cover, taller live and residual grasses, more live and residual grass cover, and less bare ground (WAFWA at 970-971; CA at 4-4 to 4-8);
- Successful nests occur in stands with greater canopy cover (WAFWA at 971; CA at 4-4 to 4-8);
- Early brood rearing habitats should have greater than 15% canopy cover of grasses and forbs. After chicks hatch, these grasses and forbs produce insects for chicks to eat and canopy cover to screen them from predators. Later, forbs are eaten by maturing chicks. Forbs are also important in providing adequate pre-laying nutrients to hens (WAFWA at 971; CA at 4-8 to 4-9);
- As upland vegetation desiccates, hens with broods seek out late brood rearing habitats comprised of areas with succulent green forb vegetation, such as wet meadows and riparian areas (WAFWA at 971; CA at 4-9 to 4-11);
- Winter habitats have relatively dense sagebrush canopy cover, with sagebrush exposed above the snow (WAFWA at 972; CA at 4-14).

105. Habitat protection management actions for sage grouse are summarized in the WAFWA Guidelines, and include:

- Manage breeding habitats to support 15-25% canopy cover of sagebrush, 18 cm. or greater perennial herbaceous cover height (grasses and forbs) (WAFWA at 977);

- In late summer brood rearing habitats, "avoid land use practices that reduce soil moisture effectiveness, increase erosion, cause invasion of exotic plants, and reduce abundance and diversity of forbs" (WAFWA at 980);
- "Avoid developing springs for livestock water." If this must occur, "design project to maintain free water and wet meadows at the spring," as "capturing water from springs using pipelines and troughs may adversely affect wet meadows used by grouse for foraging" (WAFWA at 980).

In addition, US Fish and Wildlife Service (69 Federal Register (77) at 21491, and the 2008 USFWS Interim Status review for sage-grouse describes studies showing that losses of hens and nests are related to herbaceous cover surrounding nests. "Enhancing Sage Grouse Habitat, a Nevada Landowner's Guide" (Northwest Nevada Sage Grouse Working Group) also cites studies showing that sage grouse nests were least preyed upon when a residual cover of 7 inches or more of herbaceous vegetation was present.

Thus, there is strong scientific support for application of grazing use standards that provide for 7-9 inches of residual stubble height left uneaten on native grasses. Unfortunately, the livestock utilization levels now being applied across the nearly the entire EIS Project area **will not provide for necessary residual stubble heights and cover for sage grouse nesting**, even under normal circumstances – let alone under drought, or weakened or low vigor conditions, or shifted or increased livestock use onto untreated lands in the wake of widespread treatments.

As treatments are conducted under the EIS, wildlife including special status and T&E species will be faced with new habitat fragmentation on top of the management deficiencies on untreated BLM lands.

An EA from the BLM's Jarbidge Field Office (BLM Jarbidge EA, Ch. IV, pg. 88-89). The public lands of the BLM's Jarbidge Field Office are contiguous with the USRD area, and are sagebrush-steppe and other communities, with species of native bunchgrasses that are the same as the allotments here.

BLM has found that with 50% utilization levels, as allowed across the EIS lands, bluebunch wheatgrass is grazed to 4.5 inches, Idaho fescue is grazed to 2.0 inches, Thurber's needlegrass is grazed to 2.8 inches, bottlebrush squirreltail is grazed to 1.5 inches, and the exotic crested wheatgrass is grazed to 3.5 inches. All of these residual stubble heights are thus far less than the 7-9 inch stubble heights called for under the best scientific information available, such as the WAFWA guidelines discussed above; and demonstrate that grazing under BLM's current management will result in far more utilization and seriously inadequate cover for sage grouse. BLM's often woefully inadequate upland utilization levels and hand full of riparian stubble heights on permits across the project area are often not even required Terms and Conditions on grazing permits, so there is no assurance that compliance will occur.

In many areas across the EIS area, livestock grazing has caused depletion of larger-sized native bunchgrasses capable of providing grass heights sufficient to mask sage grouse nests and to protect nests and chicks from predation. These larger "decreaser" grass species have been replaced with smaller "increaser" grasses like small *Poas* (bluegrasses) or unpalatable weeds. The direct, indirect, synergistic and cumulative impacts of the many treatments under the EIS/PER must be assessed in relation to such livestock impacts to sage grouse and other species habitat components.

Harmful Impacts of Livestock Facilities: Habitat Degradation and Fragmentation

A growing body of scientific evidence demonstrates the negative impacts of fences and other vertical objects, as well as the increased fragmentation of sagebrush-steppe and other wild land habitats that result from placing vertical objects in sage grouse habitats. (Connelly et al. 2004).

BLM must conduct a full inventory and assessment of all existing livestock facilities and developments on lands identified by its Field Offices for treatment under the EIS/PER, including, all water haul and salting sites, and all vegetation treatments that have been conducted on these lands. The full array of direct, indirect, cumulative and synergistic impacts of these projects and activities must be assessed.

A substantial body of scientific information demonstrates the harmful impacts of fences and other range developments on sage grouse. Sage grouse evolved in an open landscape without vertical structures, and they naturally avoid using areas near these structures - which include fences and fence posts. Sage grouse habitats are fragmented by fences and other facilities associated with grazing (USFWS 69 Federal Register (77) at 21490). Fences and other facilities (as associated with wells, pipelines, troughs and water developments in the three allotments) provide perching locations for raptors, and associated roading that grows up along fences or in association with other livestock facilities provides both travel corridors for predators and conduits for weeds (69 Federal Register (77): 21490). Mechanical treatments and seeding with exotics degrades sage grouse habitat by altering structure and composition of vegetative community (69 Federal Register (77): 21488). Development of springs and other water sources to support livestock in upland shrub-steppe habitats can artificially concentrate domestic and wild ungulates in sage grouse habitats, and worsen grazing impacts (69 Federal Register (77) at 21489). Direct mortality of sage grouse from collisions with fences is described in the WAFWA guidelines at 977, and USFWS in 69 Federal Register (77) at 21492.

Sage grouse are a landscape-scale species, inhabiting large, interconnected expanses of sagebrush. A mosaic of fragmentation now exists across many parts of the landscape, including portions of these allotments, and BLM's Proposed Actions in the EIS/PER would extend and worsen fragmentation effects across the landscape. Causes of habitat fragmentation include vegetation treatments and removal of sagebrush, wild and prescribed fire, livestock facilities and zones of livestock concentration. There is mounting evidence of long-term negative effects of fire on sage grouse populations (WAFWA Conservation Assessment at 4-16, 7-28), 80% of the land area in the Great Basin is susceptible to displacement by cheatgrass (WAFWA CA. at 7-17 and Fig. 7.10). Wyoming and basin big sagebrush shrub cover types occupy large areas in the EIS lands and are the cover types most susceptible to displacement by cheatgrass (these areas comprise large portions of the three allotments). The ecological effects of livestock grazing may alter vegetation communities, water and nutrient availability and soils so that **lands cross thresholds from which the system can not recover** (WAFWA CA. at 7-29 to 32). Habitat treatments have consequences for the habitat dynamics and wildlife use of habitats – and "each potentially decreases the suitability of sagebrush for wildlife" that depend on large, unfragmented sagebrush habitats" (WAFWA CA at 7-32). Evaluation of sagebrush communities primarily based on their ability to produce livestock forage (as in the case of these lands), may result in extensive alterations that are unsuitable for sage grouse and other species dependent on sagebrush habitats (WAFWA CA at 1-3).
Fences influence livestock and predator movement, facilitate spread of exotic plants, provide travel and additional access for human disturbances, increase mortality due to direct collisions, and increase predation rates by providing perches for raptors (WAFWA CA at 7-34 to 35).

Fences used to control grazing (or in the aftermath of the treatments that may result under various EIS/PER actions) modify the landscape by creating an artificial mosaic (WAFWA CA at 7-35), and allow more intensive grazing and loss of necessary habitat components such as residual grass cover for nesting. Intensified or more uniform use inside fenced areas results in patterns of unusable habitat across the landscape. Water developments influence the composition and relative abundance of plants (WAFWA CA at 7-35). Thus, infrastructure to support grazing programs including fences and water developments have both direct and indirect effects on the landscape (WAFWA CA at 13-9). Grouse may not commonly use water developments, and “water developments tend to attract other animals, and may serve as a predator “sink” for sage grouse, i.e. grouse fall victim to the many predators attracted to water developments (WAFWA CA at 4-12).

The Conservation Assessment describes impacts of disturbance of sagebrush habitats by vegetation treatments (at 13-6); depletion of native vegetation facilitating cheatgrass invasion (at 13-7); problems associated with blocks of crested wheatgrass and exotic seedings (at 13-7 to 8); landscape-level concerns – including that areas with larger patches of sagebrush remaining receive lower precipitation and are the least resilient to disturbance (such lower precipitation areas characterize much of the arid land area targeted for treatment). This highlights why careful management of these lands is crucial) (at 13-8 to 9).

An unknown array of livestock facilities has already been constructed throughout the three allotments (on both BLM and private lands) to facilitate, extend and concentrate livestock grazing. These facilities include wells, windmills, spring developments and water diversions, pipelines, troughs, stock ponds – at times dug into and destroying springs, fences and corrals. Some have fallen into abject disrepair – windmills lie crumpled on the ground, junk tanks and troughs are strewn across the landscape. Fences have improper spacing. Not only do these facilities concentrate large numbers of livestock with deleterious impacts to soils, vegetation and wildlife habitats in their vicinity and radiating outward over broad areas, unplanned roading is often directly related to construction or maintenance of these facilities. Plus, there are innumerable livestock salting or mineral supplement sites, too, which also result in zones of intensive livestock disturbance and incidental roading. All of these areas of livestock concentration, where heavy and severe livestock use has compacted soils and destroyed cover and food for wildlife, exhibit harmful impacts to vegetation and native wildlife habitats. These developments and zones of intensive disturbance fragment habitats, and cover and food, for native species including sage grouse (Braun 1998; Freilich 2003; Connelly et al. 2004). Such projects have been constructed throughout habitats critical for sage grouse and other shrub-steppe species. New pipeline spurs incrementally constructed would extend and shift livestock use to new and less grazed areas, as the vegetation has been depleted by livestock around existing artificial or natural water sources (Sada et al. 2001).

BLM lands that are not close to livestock water sources often comprise the best remaining healthy native vegetation communities and are thus very important habitats for native sagebrush-steppe species – precisely because they have been far less altered by livestock impacts. On top of the existing network of facilities BLM treatments may foreseeably result in plans to construct dozens of new projects (fences and water sources to keep cattle off of EIS/PER treated lands), thus greatly expanding the zones of disturbance and intense livestock concentration into currently better condition habitats.

Networks of roads associated with livestock facilities (and which will likely grow dramatically as vegetation is burned or otherwise treated and thus cleared under the EIS) serve as conduits for exotic plant invasions (Gelbard and Belnap 2003), and travel corridors for predators (Braun 1998, Connelly et al. 2004). The development of a maze of roads fragmenting the landscape has resulted from the proliferation of livestock facilities across the landscape, and BLM past treatments. Roads grow up as lands are treated, or projects are constructed and maintained. Treated lands, cleared of woody vegetation, are also greatly subject to increased Off-road use, and new roading development from this activity.

Instead of attempting to rest to enhance habitats or jump start recovery through passive restoration techniques, or place strict use livestock use limits on areas susceptible to weed invasion such as degraded riparian areas, BLM relies overwhelmingly on new treatment and other disturbances and likely more harmful facilities, such as the construction of a series of fences, with accompanying development and de-watering of wetland areas through piping water to troughs. Large new areas of better condition habitats then become wastelands/weedlands as a result of intensified use.

An increasing body of science demonstrates that fences are harmful to sage grouse and many other species of native wildlife, and that sage grouse may avoid use of areas near fences. BLM's post-treatment actions may in fact further fragment habitats beyond removal of vegetation, and rendering patches of remaining untreated or native vegetation unusable by grouse, while creating extended wasteland areas in their surroundings, causing expanded environmental harm.

Instead of taking strong and decisive action to restore and enhance habitats and populations, BLM pursues a path of new and extended habitat alteration and fragmentation across the allotments under the guise of hazardous fuels, and restoring a "natural" fire interval that can no longer be considered natural under the chronic disturbance caused by livestock and in the face of exotic species invasions. .

Degradation, fragmentation and loss of sagebrush across landscapes has imperiled the sagebrush-steppe avifauna. Besides the many effects described for sage grouse, these habitat changes and fragmentation have been shown to affect abundance of shrub-steppe birds Paige and Ritter 1999, Knick et al. 2003, Connelly et al. 2004 at 1-3.

The habitat for many native wildlife species across the EIS lands is already fragmented. Populations are shrinking, and increasingly isolated. Fragmentation would continue and escalate with new livestock developments, livestock management practices that result in zones of livestock concentration, and other disturbances under the actions as laid out in the EIS/PER. Disturbance and depletion associated with livestock grazing and associated rangeland developments serve to break up and fragment the continuous cover of native sagebrush-steppe vegetation necessary for many sagebrush-dependent wildlife species survival (Knick and Rotenberry 1995; Knick et al. 2003; Freilich et al. 2003; 69 Federal Register (77), Connelly et al. 2004).

The Snake River Birds of Prey Area: Case Study in How NOT to Manage Lands

BLM must closely examine the woeful management failures of BLM in the Snake River Birds of Prey National Conservation Area to understand the consequences of continuing near status quo forage allocations, livestock project construction/water hauling, roading, etc. and the inability of the land to recover following fire or other disturbance under BLM's post-fire management and ESR activities. A 1996 USDI BLM/IDANG report details the ongoing destruction of habitat caused by fire, grazing and other human activity (including military training). The loss of sagebrush in the SRBOPA is clear to even the most casual observer driving through the area. A proliferation of exotic species – cheatgrass, medusahead, bur buttercup, and now white top, rush skeletonweed, and other noxious weeds - have occurred in the wake of the excessive livestock seasons of use and numbers that have been authorized here in the past and under new 10-year grazing permits issued by BLM that continue these same stocking rates and use levels. The grazing levels and management paradigms in the SRBOPA (high allowable utilization of 50%, and many harmful grazing practices) are similar to BLM grazing management across the EIS area), and also include continued construction of new livestock projects or providing water in arid uplands through facilities and water hauling.

Over the years since the SRBOPA NCA has been designated, we have watched as BLM has continued to allow grazing during periods of the year that are known to be harmful to native bunchgrasses and forbs, to allow use at high levels, including during drought years, and generally continue management in a manner biased towards the livestock industry. Hazardous fine fuels have only increased. The situation has only worsened with each new fire, and the failure of BLM to take necessary measures - especially passive measures such as removal of livestock coupled with native seedings, to restore these NCA lands.

The SRBOPA situation should be used by BLM as an example of how fire and subsequent grazing management failures and out-dated management paradigms affect sagebrush lands. Spraying large amounts of herbicide on such lands, while continuing disturbances, is futile.

The lower elevation Oregon Owyhee watershed, including even portions of the Louse Canyon GMA bear many similarities to the SRBOPA.

The calamitous weedland situation of the SRBOPA also illustrates the failure of the EIS/PER to reveal to the public how the proposed actions will be carried in landscapes of national significance, and how these important areas may be protected from unnecessary and undue degradation under EIS/PER actions. For example, BLM has been touting the use of livestock to graze firebreaks in cheatgrass. Is this action, under the EIS/PER's flawed definition of "biological control" likely to be used widely in the SRBOPA or Oregon, instead of undertaking necessary restoration action accompanied by large-scale livestock reductions or cessation of grazing?

We have just received Proposed Decsions from Oregon BLM for Louse Canyon – after 5 years of litigation and NO current data or analysis of stocking rates, BLM proposes a reduction of apply around 50 AUMs! Virtually no difference at all despite weeds exploding, microbiotic crusts greatly damaged, sage-grouse and other habitats increasingly fragmented by livestock facilities, hardened roading, etc. and many other signs of ecological degradation and the road to ruin.

We ask that this Oregon Weed EIS effort incorporate the Louse canyon record from the oroginal FRH assessments to the recent Proposed Decisions as an illustration of the FAILURE of BLM to practice integrated Weed Management.

Grim Ecological Realities of Current BLM Management

Species such as the loggerhead shrike or pygmy rabbit that require structurally diverse sagebrush cover and mature or old growth sagebrush communities are greatly at risk of undergoing extensive and accelerated habitat loss under BLM's treatment scenario. BLM fuels treatments target old growth and mature sagebrush that are essential to many sagebrush-dependent species. Examples: January 2006 Winnemucca BLM proposal to herbicide, burn, mow and otherwise disturb 40,000 acres of sagebrush in the Little Owyhee allotment over the next 10 years. See Nevada BLM *Sage Notes* 2004, killing old growth Wyoming big sagebrush in occupied pygmy rabbit habitat to plant crested wheatgrass as livestock forage and claiming it is a fuelbreak in the Spruce and Valley allotments. See also Elko BLM 2005 Spruce Veg Treatment EA, proposing burning, chaining in Spruce Mountain. North Fork Malheur GMA Oregon BLM proposed Veg killing projects, Burns North Steens Project etc.

USDI BLM. 2005, Elko District's Draft Sheep Complex, Big Springs and Owyhee Grazing allotments Sensitive Bird Species DEIS illustrates the failure of BLM at the Activity Plan level, to address habitat needs of important and special status species. Here, **despite a Federal Court order** to consider the habitat needs of sensitive bird species in livestock grazing decisionmaking, BLM proposes harmful new facilities and crested wheatgrass seedings and sagebrush mowing in the midst of mature and old growth sage grouse, burrowing owl, pygmy rabbit and other important and special status species habitats. The veg. treatments, livestock facilities, lax grazing requirements and stocking with cattle and sheep 28-50% above the levels that have been grazed here in the past. Sadly, this is the reality of the current situation on arid BLM lands across the West, and is the real environmental setting/management paradigm landscape, that BLM must consider in assessment of the environmental risks and harms of actions proposed in the EIS/PER. Plus, researchers tied to ag interests and land grant colleges are acquiring large federal fire fund and other grants to manipulate and treat sagebrush, pinyon-juniper and other vegetation, and BLM is authorizing large acreages of new "research" killing of sagebrush and pj under categorical Exclusions. See Ely District BLM Butte Valley proposal. These impacts are completely unassessed in the EIS/PER.

Please see the Petition to List the Pygmy Rabbit and associated bibliography to illuminate the critical importance of mature, old growth and structurally complex native vegetation to declining important and special status species across the arid West, and to illustrate the high level of loss and fragmentation of sagebrush and other habitats across the West. BLM's EIS/PER aggressive treatment disturbance to mature and old growth plant communities will only serve to accelerate habitat fragmentation and degradation.

The primary plant communities being dubbed hazardous fuels and targeted for 'treatment" across BLM and Forest Service lands across the West are primarily old growth and mature native vegetation communities upon which many rare and declining species rely. Case on pint: Lakeview BLM sagebrush mowing areas in pygmy rabbit and sage-grouse habitats. Sagebrush mowing promotes rapid spread of cheatgrass. Thus, the treatment and herbicide actions that disturb these vegetation communities instead of having BLM's claimed rosy outcomes, will further endanger sagebrush and juniper dependent species, and have deleterious watershed-level impacts affecting such species as Lahontan cutthroat trout or bull trout. Without providing necessary data on not just broad vegetation types where it contemplates treatment, but also how it characterizes "hazardous fuels" and vegetation to be targeted, no honest Weed EIS analysis or adequate BA for spraying and treatments can be provided.

This demonstrates why BLM must abandon its myopic analysis and limited alternatives that would radically alter large areas of the arid West that still contain largely native vegetation, and instead develop a range of new alternatives focused on passive restoration of remaining better condition communities. This is essential to maintain, enhance or restore public lands, native vegetation and special status species and T&E habitats. If BLM proceeds on the aggressive disturbance and herbicide campaign laid out in the EIS/PER, native species and T&E species will only suffer further declines.

Sincerely,

Katie Fite
Biodiversity Director
Western Watersheds Project
PO Box 2863
Boise, ID 83701
208-429-1679

Please apply the following literature, and the Restore Native Ecosystems Bibliography, to these and other WWP comment submissions.

Relevant Literature

Anderson, L. D. 1991. Bluebunch wheatgrass defoliation: effects and recovery. USDI Bureau of Land Management Technical Bulletin 91-2. Salmon, ID.

Anderson, D. C., K. T. Harper and R. C. Holmgren. 1982. Factors influencing development of cryptogamic soil crusts in Utah deserts. Journal of Range Management 35(2):180-185.

Anderson, J. E. and K. E. Holte. 1981. Vegetation Development over 25 years without grazing on sagebrush-dominated rangeland in southern Idaho. Journal of Range Management 34(1):25-29.

Anderson, Jay E. and Richard S. Inouye. 2001. Landscape-scale changes in plant species abundance and biodiversity of a sagebrush steppe over 45 years. Ecological Monographs 71(4):531-556.

Belnap, J. 1995. Surface disturbances: their role in accelerating desertification. Environmental Monitoring and Assessment 37:39-57.

Belnap, J. and D. A. Gillette. 1997. Disturbance of biological soil crusts: impacts on potential wind erodibility of sandy desert soils in southeastern Utah. Land Degradation and Development 8:355-362.

Belnap, J., R. Rosentreter, S. Leonard, J. H. Kaltenecker, J. Williams and D. Eldridge. 2001. Biological soil crusts: ecology and management. USDI BLM. Technical Reference 1730-12.

Belsky, A.J. 1996. Review of the scientific assessment of western juniper woodlands (of the Pacific Northwest). Eastside Ecosystem Management Program EIS.

Belsky, A.J. 1996. Viewpoint on western juniper expansion: is it a threat to arid western ecosystems? J. Range Management. 49. 53-59. www.onda.org/library/papers/index.html.

Belsky, A. J. and D. M. Blumenthal. 1997. Effects of livestock grazing on stand dynamics and soils of upland forests of the Interior West. Conservation Biology 11: 315-327. www.onda.org/library/papers/index.html

Belsky, A. J., A. Matzke, and S. Uselman. 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. Journal of Soil and Water Conservation 54:419-431.

Belsky, A. J. and J. Gelbard. 2000. Livestock grazing and weed invasions in the arid west. Oregon Natural Desert Association. Bend, OR. [available on-line at www.onda.org/library/papers/index.html]

Beymer, R. J. and J. M. Klopatek. 1992. Effects of grazing on cryptogamic crusts in pinyon-juniper woodlands in Grand Canyon National Park. Am. Midland Naturalist. 127:139-148.

Billings, W. D. 1994. Ecological impacts of cheatgrass and resultant fire on ecosystems in the Western Great Basin, in S.B. Monsen and S.G. Kitchen, eds. Proceedings - ecology and management of annual rangelands. USDA Forest Service. General Technical Report INT-GTR-313. Intermountain Research Station. Ogden, UT.

Braun, C. 1998. Sage grouse declines in western North America: what are the problems? Proc. Western Assoc. State Fish and Wildlife Agencies 78.

Chaney, E., W. Elmore, and W. S. Platts. 1990. Livestock grazing on western riparian areas. Report prepared for the U.S. Environmental Protection Agency by Northwest Resources Information Center, Inc. Eagle, ID.

Chaney, E., Elmore, W. and W. S. Platts. 1993. Managing change: livestock grazing on western riparian areas. Northwest Resource Information Center. Eagle, ID.

Clary, W. P. and B. F. Webster. 1989. Managing grazing of riparian areas in the Intermountain region. General Technical Report INT-263. USDA Intermountain Research Station.

Collopy, M.W. and J. Smith. 1995. National status and trends; the Pacific Northwest (Draft). UDI/NBS Forest and Rangeland Ecosystem Science Center, Corvallis, OR.

Connelly, J. W., M. A. Schroeder, A. R. Sands, and C. E. Braun. 2001. Guidelines to manage sage grouse populations and their habitats. Western Association of Fish and Wildlife Agencies. Wildlife Society Bulletin 2000, 28(4):967-985.

Connelly, J. W., S. T. Knick, M. A. Schroeder and S. J. Stiver. 2004. Conservation assessment of greater sage grouse and sagebrush habitats. Western Association of Fish and Wildlife Agencies. Cheyenne, Wyoming. [available on-line at www.ndow.org/wild/sg/resources/assessment.shtm]

Conservation Biology Institute. 2000. Importance of BLM roadless areas in the western US. Full report can be viewed at *www.consbio.org*.

Coulter, I. Davidison, L. Dickson. N. Edelson, R. Eliot, R. M. Erwin, S. Hatch, S. Kress, R. Milko, S. Miller, K. Mills, R. Paul, R. Philips, J. E. Saliva, B. Syderman, J. Trapp, J. Wheeler, and K. Wohl. 2002. Waterbird Conservation for the Americas: the North American Waterbird Conservation Plan, Version 1. Waterbird Conservation for the Americas. Washington, DC.

Donahue, D. 1999. The western range revisited: Removing livestock from public lands to conserve native biodiversity. University of Oklahoma Press, Norman, OK.

DeLong, A. K., J. A. Crawford, and D. C. DeLong. 1995. Relationship between vegetation structure and predation of artificial sage grouse nests. J. Wildlife Management. 59(1):88-92.

Dobkin, D. S. and J. D. Sauder. 2004. Shrubsteppe landscapes in jeopardy. Distributions, abundances and the uncertain future of birds and mammals in the Intermountain West. High Desert Ecological Research Institute. Bend, OR.

Duff, D. A. 1977. Livestock grazing impacts on aquatic habitat in Big Creek, Utah. *In* Proceedings of the workshop on livestock and wildlife –fisheries relationships in the Great Basin.

Dyksterhuis, E. J. 1949. Condition and management of range land based on quantitative ecology. Journal of Range Management 2:104-115.

Eddleman, L. L., P. M. Miller, R. F. Miller, and P. L. Dysart. 1994. Scientific assessment of western juniper woodlands (of the Pacific northwest). Eastside Ecosystem Management Program. EIS.

Everett, R.L. 1987. Plant response to fire in the pinyon-juniper zone. p.152-157 in R. L. Everett, ed. Proceedings – pinyon-juniper conference. USDA Forest Serv. Tech. Rep. INT-215.

Everett, R.L. 1987. (ed.) Proceedings – pinyon-juniper conference. USDA Forest Serv. Gen. Tech. Rep. INT-215.

Everett, R. L. and W. Clary. 1985. Fire effects and revegetation of pinyon-juniper woodlands p. 33-37 in Rangeland Fire Effects: a symposium. USDI. BLM. Boise.

Federal Register. November 30, 2001. Endangered and threatened wildlife and plant; emergency rule to list the Columbia Basin distinct population segment of the pygmy rabbit (*Brachylagus idahoensis)* as endangered. 66, 231: 59734-59749.

Federal Register. November 30, 2001. Endangered and threatened wildlife and plants; Proposed rule to list the Columbia Basin distinct population segment of the pygmy rabbit (*Brachylagus idahoensis)* as endangered. Vol. 66, 231: 59769-59771.

Federal Register. July 15, 2002. Endangered and threatened wildlife and plants; Listing the plant *Lepidium papilliferum* (slickspot peppergrass) as endangered. Vol. 67, 135: 46441-46450.

Federal Register. July 17, 2002. Endangered and threatened wildlife and plants; reopening of the comment period on the proposed listing of the Columbia Basin Distinct Population Segment of the pygmy rabbit (*Brachylagus idahoensis*) as endangered . Vol. 67, 137: 46951.

Federal Register. March 5, 2003. Endangered and threatened wildlife and plants: Final Rule to List the Columbia Basin Distinct Population Segment of the Pygmy Rabbit (*Brachylagus idahoensis*) as Endangered. Vol. 68, 43: 10388-10409.

Federal Register. March 5, 2003. Endangered and threatened wildlife and plants; Final Rule to list the Columbia Basin Distinct Population Segment of the pygmy rabbit (*Brachylagus* i*dahoensis*) as endangered. Vol. 68, 43:10389-10409.

Federal Register. April 21, 2004. Endangered and threatened wildlife and plants; 90-day finding for petitions to list the greater sage grouse as threatened or endangered. Vol. 69(77):21484-21494

Fleischner, T. 1994. Ecological costs of livestock grazing in western North America. Conservation Biology 8:629-644.

Freilich, J. E., J. M. Emlen, J. J. Duda, D. C. Freeman and P. J. Cafaro. 2003. Ecological effects of ranching: a six-point critique. BioScience 53(8):759-765.

Galt, D., G. Mendez, J. Holechek and J. Joseph. 1999. Heavy winter grazing reduces forage production: an observation. Rangelands 21(4):18-21

Galt, D., F. Molinar, J. Navarro, J. Joseph and J. Holechek. 2000. Grazing capacity and stocking rate. Rangelands 22(6):7-11

Gelbard, J. L. and J. Belnap. 2003. Roads as conduits or exotic plant invasions in a semiarid landscape. Conservation Biology 17 (2):420-432.

Gerber, M.F.. J.C. Munger, A. Ames and J. Stewart. 1887. Reptiles and amphibians in deep canyons: the Big Jacks and Little Jacks Creek drainages of Owyhee County, Idaho. BLM Technical Bulletin 97-1.

Gilbert, B. N. 2003. Motorized Access on Montana's' Rocky Mountain Front: A synthesis of scientific literature and recommendations for use in revisions of the travel plan for the Rocky Mountain division. Coalition for the Rocky Mountain Front.

Gifford, G. F. 1973. Runoff and sediment yields from plots on chained pinyon-juniper sites in Utah. J. Range Management. 26: 440-443.

Gifford, G. F. 1987. Myths and fables and the pinyon-juniper type. P. 34-37 in Everett, R.L. ed. Proceedings – pinyon-juniper conference. USDA Forest Serv. Gen. Tech. Rep. INT_215.

Gifford, G. F. and R. H. Hawkins. 1978. Hydrologic impact of grazing on infiltration: a critical review. Water Resources Research 14: 305-313.

Groves, C. 1994. Idaho's amphibians and reptiles: description, habitat and ecology. Nongame Wildlife Leaflet No. 7. Idaho Department of Fish and Game. Boise, ID.

Haferkamp, M. R., P. O. Currie, J. D. Volesky and B. W. Knapp. 1992. Mortality of crested wheatgrass and Russian wildrye during drought. J. Range Management. 45(4):355-357.

Hockett, G.A. 2002. Livestock impacts on herbaceous components of sage grouse habitat: a review. Intermountain Journal of Science 8(2): 105-114.

Holechek, J. L. 1996a. Financial returns and range condition on southern New Mexico ranches. Rangelands 18(2):52-56

Holechek, J. L. 1996b. Drought and low cattle prices: hardship for New Mexico ranchers. Rangelands 18(1):11-13

Holechek, J. L., H. de Souza Gomes, F. Molinar and D. Galt. 1998. Grazing intensity: critique and approach. Rangelands 20(5):15-18

Holechek, J. L., H. Gomez, F. Molinar and D. Galt. 1999a. Grazing studies: what we've learned. Rangelands 21(2):12-16

Holechek, J. L., M. Thomas, F. Molinar and D. Galt. 1999b. Stocking desert rangelands: what we've learned. Rangelands 21(6):8-12

Holechek, J. L., H. Gomez, F. Molinar, D.Galt and R. Valdez. 2000. Short-duration grazing: The facts in 1999. Rangelands 22(1):18-22.

Holechek, J. L., R. D. Pieper and C. H. Herbel. 2001.Range Management: Principles and Practices, Fourth Edition. Prentice-Hall, New Jersey. 587p

Holmes, A. L., G. A. Green, R. L. Morgan, K. B. Livezey. 2003. Burrowing owl nest success and longevity in north central Oregon. Western North American Naturalist 63(2):244-250.

Hutchings, S.S. and G. Stewart. 1953. Increasing forage yields and sheep production on Intermountain winter ranges. U.S. Department of Agriculture Circular 925. 63p.

Katzner, T. E. and K. L. Harlow. 1998. Long-distance movements from established burrow sites by pygmy rabbits (*Brachylagus idahoensis*) in southwestern Wyoming. Northwestern Naturalist 7:72-74.

Katzner, T. E., K. L. Parker and H. H. Harlow. 1997. Metabolism and thermal response in winter-acclimatized pygmy rabbits (*Brachylagus idahoensis*). Journal of Mammalogy 78(4):1053-1062.

Kay, C. E. and D. L. Bartos. 2000. Ungulate herbivory on Utah aspen: assessment of long-term exclosures. J. Range Management 53: 145-153.

Knick, S. T. and J. T. Rotenberry. 1995. Landscape characteristics of fragmented shrubsteppe habitats and breeding passerine birds. Conservation Biology 9:1059-1071.

Knick, S. T. and J. T. Rotenberry. 1997. Landscape characteristic of disturbed shrubsteppe habitats in southwestern Idaho (U.S.A.). Landscape ecology 12:287-297.

Knick, S. T., J. T. Rotenberry, and B. Van Horne. 1999. Effects of disturbance on shrub steppe habitats and raptor prey in the Snake River Birds of Prey National Conservation Area, Idaho. Pages 98-99. *In* P.G. Entwhistle and others. Proceedings: sagebrush steppe ecosystems symposium.

Knick, S.J. and J.T. Rotenberry. 1999. Spatial distribution of breeding passerine birds habitats in a shrub steppe region of southwestern Idaho. Studies in Avian Biology 19: 104-111.

Knick, S. T. and J. T. Rotenberry. 2002. Effects of habitat fragmentation on passerine birds breeding in intermountain shrubsteppe. Studies in Avian Biology 25:130-140.

Knick, S. T.,D. S. Dobkin, J. T. Rotenberry, M. A. Schroeder, W. M. Vander Haegen and C. V. Riper. 2003. Teetering on the edge or too late? Conservation and research issues for avifauna of sagebrush habitats. Condor 105:61-634.

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

Kushlan, J. A., M. J. Steinkamp, K. C. Parsons, J. Capp, M. . Cruz, M. Coulter, I. Davidison, L. Dickson. N. Edelson, R. Eliot, R. M. Erwin, S. Hatch, S. Kress, R. Milko, S. Miller, K. Mills, R. Paul, R. Philips, J. E. Saliva, B. Syderman, J. Trapp, J. Wheeler, and K. Wohl. 2002. Waterbird Conservation for the Americas: the North American Waterbird Conservation Plan, Version 1. Waterbird Conservation for the Americas. Washington, DC.

Lesica, P. and F.W. Allendorf, 1995. When are peripheral populations valuable for conservation? Conservation Biology. 9(4): 753-760.

Lesica, P. and T.H. DeLuca. 1998. Long-term harmful effects of crested wheatgrass on Great Plains grassland ecosystems. Journal of Soil and Water Conservation. 51 (5)408-409.

Loft, E. R., J. W. Menke, J. G. Kie. 1991. Habitat shifts by mule deer: the influence of cattle grazing. J. Wildlife Management 55(1):16-24.

Lusby, G. C. 1979. Effects of grazing on runoff and sediment yield from desert rangeland at Badger Wash in western Colorado, 1953-1973. Geological Survey Water Supply Paper. 1532-1. U. S. Government Printing Office.

Mack, R. N. and J. N. Thompson. 1982. Evolution in steppe with few large, hoofed mammals. American Naturalist 119:757-773.

McLean, A. and A. L. van Ryswyk. 1973. Mortality in crested wheatgrass and Russian wildrye. J. Range Management. 26(6): 431-433.

McLean, A. and E.W. Tisdale. 1972. Recovery rate of depleted range sites under protection from grazing. Journal of Range Management 25:178-184.

Montana Department of Fish, Wildlife and Parks. 1995. Ecological implications of sagebrush manipulation. Montana Department of Fish, Wildlife and Parks. Booklet. 49 pages.

Monsen, S. B. 2000. 1994. The competitive influences of cheatgrass on (*Bromus tectorum*) on site restoration. Pages 35-40. *In* S.B. Monsen and S.G. Kitchen, compilers. Proc. Ecology and Management of Annual Rangelands. Gen. Tech. Rep. INT-313. USDA Forest Service. Intermountain Research Station. Ogden, UT.

Nachlinger, J., K. Sochi, P. Comer, G. Kittel and D. Dorfman. 2001. Great Basin: An ecoregion based conservation blueprint. The Nature Conservancy of Nevada.

Nature Conservancy. 1999. Owyhee Canyonlands. Conservation Focus. (Unpublished).

Neel, L. Nevada Partners in Flight Conservation Plan. 1999.

Nevada Natural Resources Status Report. 2002. State of Nevada. Wildlife and habitat. Plants. Fungi. [available on-line at www.dcnr.nv.gov/nrp01/bio02.html]

Nevada Natural Resources Status Report. 2002. State of Nevada. Non-native flora and fauna. Non-native flora. Non-native fauna. [available on-line at www.dcnr.nv.gov/nrp01/bio09.htm]

Noss, R. Undated. Ecological effects of roads.

Noss, R.F. 2002. Context matters: considerations for large-scale conservation planning. Society for Conservation Biology. Conservation in practice 3:3 10-19.

Noss, R. F. and A. Cooperrider. 1994. *Saving Nature's Legacy: Protecting and Restoring Biodiversity*. Defenders of Wildlife and Island Press. Washington, DC.

Noss, R. F. and B. Csuti. 1997. Habitat fragmentation. Pages 269-304. *In* G.K. Meffe and C. Carroll, eds. *Principles of Conservation Biology*. 2nd edition. Sinauer Associates. Sunderland, MA

Noy-Meir, I. 1974. Desert Ecosystems: higher trophic levels. Annual Review Ecology and Systematics 5:195-214.

Ohmart, R. D. 1996. Historical and present impacts of livestock grazing on fish and wildlife resources in western riparian habitats. Pages 245-279 in P. R. Krausman, ed., Rangeland Wildlife. Society of Range Management, Denver, CO.

Owyhee Canyonlands Coalition. 2001. Owyhee-Bruneau Canyonlands: Objects of specific interest.

Paige, C. and S. Ritter. 1999. Birds in a sagebrush sea. Partners in Flight, Western Working Group. Boise, ID.

Pellant, M. and C. Hall. 1994. Distribution of two exotic grasses on intermountain rangelands: status in 1992. Pages 109-112. *In* S. B. Monsen and S. G. Kitchen, compilers. Proc. Ecology and Management of Annual Rangelands. Gen. Tech. Rep. INT-313. USDA Forest Service. Intermountain Research Station. Ogden, UT.

Peters, E. F. and S. C. Bunting. 1994. Pages 31-36. *In* S. B. Monsen and S. G. Kitchen, compilers. Proc. Ecology and Management of Annual Rangelands. Gen. Tech. Rep. INT-313. USDA Forest Service. Intermountain Research Station. Ogden, UT.

Peterson, J. G. 1995. Ecological implications of sagebrush manipulation. MDFWP. Wildlife Management Division. 49 pps.. On-line version: www.fwp.state.mt.us/insidefwp/library/sagebrushbulletin.asp

Pickford, G. D. 1932. The influence of continued promiscuous burning on spring-fall ranges in Utah. Ecology 13 (2): 159-171.

Platts, W. S. 1991. Influence of forest and rangeland management on anadromous fish habitat in western North America. USDA Forest Serv. Gen. Tech. Rep. PNW-124.

Platts, W. S. 1992. Livestock grazing: Influences of Forest and Rangeland Management on Salmonid fisheries and their habitats. AFS Society Publication 19:389-423.

Pyke, D. A. 1999. Invasive exotic plants in sagebrush ecosystems of the Intermountain West. Sagebrush Steppe Ecosystems Symposium. Boise, ID.

Pimentel, D. L. Lach, R. Zuniga, and D. Morrison. Environmental and economic costs associated with non-indigenous species in the United States… http://news/cornell.edu/releases/Jan99/spcies_costs.old.html
.

Provenza, D. and J. H. Richards. 1984. Interseeding crested wheatgrass ranges. Utah Science. 73-77.

Quigley, T.M. and S.J. Arbelbide, eds. 1997. An assessment of ecosystem components in the Interior Columbia Basin and portions of the Klamath and Great Basins. Gen. Tech. Rep. PNW-GTR-405.

Quigley. T.M. and H. Bigler Cole. 1997.Highlighted scientific findings of the Interior Columbia Basin Ecosystem Management Project. Gen. Tech. Rep. PNW-GTR-404. USDA/USDI. Portland, OR. 34 pages.

Red Willow Research. 2004. Western burrowing owl (*Athene cucularia*) 2004 Nest Site Survey Project Update. Report prepared for BLM Shoshone Field Office.

Red Willow Research. Bird Survey.

Rich, T. D. C. J. Beardmore, H. Berlanger, P. J. Blancher, M. S. W. Bradstreet, G. S. Butcher, D. W. Demarest, E. H. Dunn. W. C. Hunter, E. E. Inigo-Elias, J. A. Kennedy, A. M. Martell, A. O. Panjabi, D. N. Pashley, K. V. Rosneberg, C. M. Rustay, J. S. Wendt, T. C. Will. 2004. Partners in Flight North American Landbird Conservation Plan. Cornell Lab of Ornithology. Ithaca, NY

Ricketts, T.H., E. Dinerstein, D.M. Olson, C.J. Loucks, W. Eichbaum, D. Dellasala, K. Kavanaugh, P. Hedao, P.T. Hurley, K.M. Carney, R. Abell and S.T. Waters. 1999. Terrestrial ecoregions of North America: a conservation assessment. World Wildlife Fund. Washington, DC.

Rosenberg, K. V. 2004. Partners in Flight Continental Priorities and objectives defined at the state and bird conservation region levels. Cornell Lab of Ornithology. Ithaca, NY.

S. K. Rust and C. L. Coulter. 2000. Composition, structure and distribution of Utah juniper plant associations. Cooperative Challenge cost-share Project. IDFG/BLM. Conservation Data Center, Idaho Department of Fish and Game. Boise, ID.

Saab, V. and C.A. Groves 1992. Idaho's migratory landbirds: description, conservation, habits. IDFG Non-game Wildlife Leaflet #10. 16 pages.

Saab, V. and T. Rich. 1997. Large-scale conservation assessment for neotropical migratory land birds in the Interior Columbia River Basin. USDA Forest Service General Technical Report PNW-GTR-399. Pacific Research Station, Portland, OR.

Sada, D. W., J. E. Williams, J. C. Silvey, A. Halford, J. Ramakka, P. Summers, and L. Lewis. 2001. A guide to managing, restoring, and conserving springs in the western United States. USDI BLM. Technical Reference. 1737-17.

Sada, D. W. and D. B. Herbst. 2001. Macroinvertebrates and environmental characteristics of Owens Valley Springs, Inyo County, California (Draft). Report submitted to City of Los Angeles Department of Water and Power, Bishop, CA.

Sada, D. W. and K. Pohlmann. 2003. U. S. National Park Service Mojave Inventorying and Monitoring Protocols: Level I. Desert Research Institute.

Sharp, L. A., K. Sanders and N. Rimbey. 1992. Variability of crested wheatgrass production over 35 years. Rangelands 14(3):153-168.

Schmidt, L. J. 1987. Present and future themes in pinyon-juniper technology. P. 474-489. In. R.l. Everett, ed. Proceedings – pinyon-juniper conference. USDA Forest Service Gen. Tech. Rep. INT-215.

Schwan, H.E., Donald J. Hodges and Clayton N. Weaver. 1949. Influence of grazing and mulch on forage growth. Journal of Range Management 2(3):142-148

Stewart, K. M., R. T. Bowyer, J. G. Kie, N. J. Cimon and B. J. Johnson. 2002. Temporo-spatial distributions of elk, mule deer, and cattle: resource partitioning and competitive displacement. Journal of Mammalogy 83(1):229-244.

Siegel, N. S., L. A. Shipley and R. D. Sayler. 2002. Ecology and conservation of pygmy rabbits in the shrub-steppe of eastern Washington. Society for Conservation BiologyAnnual Meeting. Britain. July, 2002. Abstract.

Soule, M. E. (ed.). 1986. *Conservation Biology: The Science of Scarcity and Diversity*. Sinauer Associates, Sunderland, MA.

Soule, M. 1999. An unflinching vision: networks of people for networks of wildlands. Wild Earth 9(4): 38-46.

Stohlgren, T. J., Y. Otsuki, C. A. Villa, M. Lee and J. Belnap. 2001. Patterns of plant invasions: a case example in native species hotspots and rare habitats. *Biological Invasions* 3:37-50. Kluwer Academic Publishers, Netherlands.

Thomas, C .D. 1993. Extinction, colonization and metapopulations: environmental tracking by rare species. Conservation Biology 8: 373-378.

USDI. BLM/IDARNG. 1996. Effects of military training and fire on the Snake River Birds of Prey National Conservation Area. Res. Proj. Final Report. USDI Geological Services Division. Snake River Field Station. Boise, ID.

USDI BLM. 1999. Owyhee Resource Management Plan. ROD. Lower Snake River District BLM. Boise, ID.

USDA/USDI 1996. Integrated scientific assessment for ecosystem management in the interior Columbia Basin and portions of the Klamath and Great Basins. T.M. Quigley, R.W. Hayes and R.T. Graham, eds. General Technical Report PNW GTR-382. Pacific Northwest Research Station. Portland, OR.

USDA/USDI 1996. Status of the Interior Columbia Basin: summary of scientific findings. Gen. Tech. Rep. PNW-GTR-385. Portland, OR.

USDI BLM. BLM's War Against Weeds in Nevada. [available on-line at www.nv.blm.gov/Resources/noxious_weeds_revised.htm]

USDI BLM. 2003. Issuing grazing permits and forage allocations. EA ID-097-03-040. Jarbidge Field Office. Twin Falls, ID.

USDI BLM. 2004. *Sage Notes.*

USDI BLM. 2005. Elko District. Categorical Exclusion. Owyhee sagebrush mowing.

USDI BLM. 2005. Elko District. Spruce Allotment EA.

USDI BLM. 2005. Elko District. Draft Sheep Complex, Big Springs and Owyhee Grazing allotments Sensitive Bird Species DEIS.

USDI BLM. Ely District. Categorical Exclusion. Butte Valley Fire Sciences Project.

USDI BLM. 2006. Winnemucca District. Scoping letter for sagebrush treatments in the Little Owyhee allotment.

USGS. Undated. Great Basin-Mojave Region.

Vale, T. R. 1975. Presettlement vegetation in the sage-bunchgrass area of the Intermountain West. Journal of Range Management. 28: 32-36.

Van Haeveren, B. P., E. B. Janes and W. L. Jackson. 1985. Nonpoint pollution control on public lands. Journal of Soil and Water Conservation. 92-95.

Van Poollen, H.W. and J. R. Lacey. 1979. Herbage response to grazing systems and stocking intensities. Journal of Range Management 32:250-253.

Welch, B. L. and C. Criddle. 2003. Countering misinformation concerning big sagebrush. Research Paper RMRS-RP-40. Ogden, UT. USDA, Forest Service, Rocky Mountain Research Station, 28 p.

Whisenant, S. G. 1990. Changing fire frequencies on Idaho's Snake River Plains: ecological and management implications. In E.D. McArthur, E.M. Romney, and P.T. Tueller, eds. Proceedings of the symposium on cheatgrass invasion, shrub die-off, and other aspects of shrub biology and management. USDA Forest Service General Technical Report INT-276. Intermountain Research Station, Ogden, UT.

Winder, J.A., C.C. Bailey, M.G. Thomas and J. L. Holechek. 2000. Breed and stocking rate effects on Chihuahuan Desert cattle production. Journal of Range Management 53(1):32-38.

Wisdom, M. J., R. S. Holthausen, B. C. Wales, M. A. Henstrom, W. J. Hann, M. G. Raphael, R. S. Holthausen, R. A. Gravemeier, and T. D. Rich. 2000. Source habitats for terrestrial vertebrates of focus in the interior Columbia Basin: broad-sale trends and management implications. USDA Forest Service General Technical Report. PNW-GTR-485.

Zimmerman, G. T. and L. F. Neuenschwander. 1984. Livestock grazing influences on community structure, fire intensity, and fire frequency within the Douglas fir-ninebark habitat type. Journal of Range Management 37(2):104-110.

Zoellich, B.W. 1999. Stream temperatures and elevational distribution of redband trout in southwestern Idaho. Great Basin Naturalist 59(2): 136-143.

OTHER CHEMICALS

We are very concerned about the increased use of various biocides, and occurrence of environmental contaminants on public lands and in water supplies. For example, APHIS has been expanding its acreage of lands sprayed. APHIS is always seeking to expand acres to conduct spraying activities in western states. Vast areas have recently been subject to spraying of insecticides.

It is generally believed that rangeland degradation exacerbates populations of grasshoppers and Mormon crickets, so as more areas of BLM lands become overrun with cheatgrass. More acres are sprayed. Thus, there is co-occurrence, or overlap of lands likely to be sprayed for weeds with APHIS insecticide campaigns.

See:

http://www.agri.state.id.us/Categories/PlantsInsects/GrasshopperMormonCricketControlProgram/Documents/EnvironmentalDocumentation/2007/2007%20MC%20USDA%20APHIS%20EA.pdf

There is also increased awareness of the endocrine-disrupting chemicals, many of them linked to various ag or farming practices. Such chemicals area particular concern in areas with feedlots, dairies, and large marginal irrigated ag land that may also be sprayed. Large industrial livestock facilities frequently are increasingly located in areas away from population centers – and near BLM lands. These have great potential to pollute waterways, including drinking water supplies in streams, rivers, and aquifers, may be subject to pollution and contamination from many chemicals. Wildlife, aquatic species, and humans would thus be exposed to increased chemicals from these sources at the same time BLM greatly increases chemical uses.

See http://www.boiseweekly.com/gyrobase/Content?oid=oid%3A215775 a *Boise Weekly* article:

The potential hazards of EDCs were first discovered in the 1990s among fish and amphibians that gather downstream from sewage treatment plants in Europe. These waters contain abnormally high concentrations of organic chemicals such as steroids, nonprescription drugs, insect repellents, detergents, plasticizers, fire retardants, antibiotics, fragrances and household solvents and their byproducts. Aquatic biologists noticed that wild fish and frogs evidenced significantly increased rates of sex reversal, gonadal cysts and other reproductive tract tumors, dead tissue and decreased fertility. Intersexed or feminized fish, in which males grow both functioning testes and ovaries, have already been caught in rivers in Colorado, Washington state and Virginia, and in Lake Ontario. Because these intersexed characteristics make reproduction difficult, they tend to appear just before fish populations begin to decline.

EDCs are found in herbicides and pesticides, plastics, pharmaceuticals, residues from contraceptives and hormone replacements, cleansers, human waste and pollution from feedlots.

The latter are especially controversial. In 2006, residents in Weiser raised questions about possible contamination of their domestic water supply from hormones and antibiotics used by nearby Sunnyside Feedlots (BW, *News, "Dirty Water," February 1, 2006*). According to state officials, the Idaho Department of Health and Welfare expects to have the results of its study available for public comment in February.

AND:

DDT is one of the most familiar xenoestrogens, but 2,4-D, the most commonly used herbicide in the U.S., and 2,4,5-T, used in Agent Orange, have also been in the news. Dioxins, the byproducts of burning plastics and rubber, are among the most hazardous xenoestrogens.

Researchers worry that policymakers are ignoring the hazards of this little-known pollution.

Jim Nagler Ph.D., an associate professor of biology at Idaho State University, operates a lab that examines the effects of environmental estrogens on fish fertility. He thinks that the issue of EDC leakage or dumpage into state waters should be a priority.

"In terms of what's actually out there, we have no clue, we have no baseline at this point," Nagler says. "What's in the Snake River? What's in the Clearwater River? Who knows?"

Papers written by Nagler and research associates about estrogens and other EDCs suggest that rainbow trout are susceptible to even short-term exposure to the chemicals.

Don Essig, administrator for water quality of the Idaho Department of Environmental Quality (DEQ), acknowledges that it's an emerging issue.

AND:

Whenever offered a glass of water, the great comedian W.C. Fields typically declined, on the grounds that fish have sex in it. But with the increasing spread of a class of chemicals called endocrine disruptor compounds (EDCs) in Idaho's watersheds, some experts wonder if local fish are at risk of losing their sexual and reproductive capacities.

Despite scarce funding, the ramifications for human health still prompt research in this area.

The potential hazards of EDCs were first discovered in the 1990s among fish and amphibians that gather downstream from sewage treatment plants in Europe. These waters contain abnormally high concentrations of organic chemicals such as steroids, nonprescription drugs, insect repellents, detergents, plasticizers, fire retardants, antibiotics, fragrances and household solvents and their byproducts. Aquatic biologists noticed that wild fish and frogs evidenced significantly increased rates of sex reversal, gonadal cysts and other reproductive tract tumors, dead tissue and decreased fertility. Intersexed or feminized fish, in which males grow both functioning testes and ovaries, have already been caught in rivers in Colorado, Washington state and Virginia, and in Lake Ontario. Because these intersexed characteristics make reproduction difficult, they tend to appear just before fish populations begin to decline.

EDCs are found in herbicides and pesticides, plastics, pharmaceuticals, residues from contraceptives and hormone replacements, cleansers, human waste and pollution from feedlots.

The latter are especially controversial. In 2006, residents in Weiser raised questions about possible contamination of their domestic water supply from hormones and antibiotics used by nearby Sunnyside Feedlots (BW, *News, "Dirty Water," February 1, 2006*). According to state officials, the Idaho Department of Health and Welfare expects to have the results of its study available for public comment in February.

Now, scientists have evidence that some of these EDCs, called xenoestrogens, might cause conditions such as testicular cancer, urinary tract birth defects, low sperm counts and the premature onset of menses in females among people who regularly drink water with these compounds in them.

Kai Elgethun, Ph.D., Idaho's state toxicologist, says the majority of xenoestrogens come from everyday personal-care products such as soaps, lotions, medications and cosmetics. While xenoestrogens are far less potent than estrogens proper, Elgethun says, they can accumulate in body fat and stay in the system a long time.

DDT is one of the most familiar xenoestrogens, but 2,4-D, the most commonly used herbicide in the U.S., and 2,4,5-T, used in Agent Orange, have also been in the news. Dioxins, the byproducts of burning plastics and rubber, are among the most hazardous xenoestrogens.

Researchers worry that policymakers are ignoring the hazards of this little-known pollution.

Jim Nagler Ph.D., an associate professor of biology at Idaho State University, operates a lab that examines the effects of environmental estrogens on fish fertility. He thinks that the issue of EDC leakage or dumpage into state waters should be a priority.

"In terms of what's actually out there, we have no clue, we have no baseline at this point," Nagler says. "What's in the Snake River? What's in the Clearwater River? Who knows?"

Papers written by Nagler and research associates about estrogens and other EDCs suggest that rainbow trout are susceptible to even short-term exposure to the chemicals.

Don Essig, administrator for water quality of the Idaho Department of Environmental Quality (DEQ), acknowledges that it's an emerging issue.

"[It's] probably something we should be paying attention to, but you can't have too many No. 1 priorities," Essig says.

Instead, Essig says, DEQ concentrates on biological examinations of water, not necessarily a lot of chemical analysis. "I'm sure we're going to be hearing about it more in the emerging future, [but] there's a zillion things out there that we just don't have the budget to study."

Given Idaho's relatively low population density, Essig surmises that Idaho is "probably better off" than more urban states. He attributes much of the contamination to household products such as over-the-counter medications, chemicals, antibacterial soaps and so on.

"The sewage techniques of the day don't treat those things, so they just pass on through," he says.

Essig's outlook differs from that of Boise City's water quality manager, Robin Finch.

"The dirty little secret in all this is that almost 90 percent of all pharmaceuticals manufactured in this country are made for agricultural use, and they're disposed of inside a watershed," Finch says. The issue crosses both municipal and agricultural lines, and demands some level of partnership.

"We need to partner with those guys for the sake of public protection," she says.

Local officials have been tracking the EDC issue since the European studies, but there are "a lot of questions that still need to be resolved before we can launch on this," Finch says.

Although a nationwide study by the U.S. Geological Survey included three Boise River sampling sites, Finch says the matter is "still a very researchy topic at this point."

"There's no standards, no monitoring requirements, no good understanding of threshold effects at either ecological or human health levels," Finch says. "We can identify about 60 to 70 compounds right now that have estrogenic effects, but there's potentially 10,000 out there."

While the USGS study found few target compounds at relatively low or medium concentrations, Finch says that the city is already looking at Seattle's "Flush No Drugs" campaign, which encourages residents to bring their outdated prescription drugs to fire stations for proper disposal, instead of flushing them down the toilet.

The USGS study's one-time reconnaissance of waste compounds in the lower Boise found several endocrine disruptors present, says Mark A. Hardy of the USGS.

The agency also looked for those compounds at several groundwater wells throughout Idaho.

Yet in an e-mail to Trout Unlimited (a trout and salmon conservation organization), forwarded to *BW*, Hardy does not comment on the data or their environmental and human health implications.

Carl Ellsworth, environmental manager of the Boise City Public Works Department, confirms that his department is aware of the EDC issue.

"It's definitely on the radar screen, and it's a pretty high-powered discussion; but our staff follow it, and we've had our consultants look at it," he says.

While there are "no standards yet, and the jury is still out, it's an issue we need to be on top of," Ellsworth says.

But he was reluctant to estimate what it might cost the city to start EDC monitoring because there are "a lot of unknowns and we don't have the answers yet."

The city currently examines its water supply and waste "for metals, phosphorus, fecal coliform, solids, volatile organics--but not on a routine basis," he says. The city relies on subcontractors to do the work.

Local conservation groups have not yet gotten active in this area.

Bert Bowler, native fisheries director for Idaho Rivers United, says that "it's relatively new ... I'm not aware of anything in Idaho going on about it."

Pam Smolzynski of Trout Unlimited agrees.

"This is a little bit cutting-edge for us," says Smolzynski. "People here know about it, but we don't actually track water quality." Much of Trout Unlimited's work focuses instead on watershed and fish habitat restoration. But Jack Williams, a senior scientist for Trout Unlimited, says in an e-mail that his organization has been "asking EPA about what they are doing with endocrine disrupting chemicals, but can't get a reply from them."

For now, state toxicologist Elgethun says that Idaho does not have any particular source of xenoestrogens that is different from other states or greater than other states.

"A greater long-term concern for waters nationwide are estrogens proper, which are present in discharge from most water treatment plants and can be present in discharge from [feed lots]," Elgethun says. There are no EPA standards for estrogens, but there are national drinking water standards for the majority of xenoestrogens.

"This discrepancy is a pressing concern for EPA," says Elgethun.

Whether Idaho's pollution concentrations or sources are different, the Gem State does have extra reason for caution, according to Jim Werntz, director of the Environmental Protection Agency Idaho Operations Office.

"Ninety-five percent of people in Idaho drink groundwater, which is the highest percentage in the nation," Werntz says.

While noting that EDCs are often associated with veterinary drugs from feedlots, Werntz says most of his agency's research deals with surface water and contamination from nitrates.

"There's not enough scientific basis right now for understanding hazards or setting minimum standards of water quality in regards to EDCs," Werntz says.

While standards remain unset, Idahoans continue to drink water and eat fish containing the chemicals.

The public policy implications of endocrine disruptors go even further than that, according to Conrad Volz, a national expert in the field. Volz serves as scientific director for the Center for Healthy Environments and Communities, and is the co-director of the Exposure Assessment and Control Division at the University of Pittsburgh Cancer Institute's Center for Environmental Oncology.

"[Endocrine disruptors] are very important, but remember the wide range of chemicals in everyday use," Volz says in a telephone interview with *BW*. "Whatever we flush down the toilet we wind up drinking, or ends up in the animals that humans are going to be eating. All these chemicals go into our waterways and are not entirely filtered out from the water supply."

Volz's own lab research suggests direct associations between exposure to such chemicals through eating fish flesh and fat. That leads to an increased potential risk for cancer of any tissue that is responsive to estrogen, potentially leading to ovarian, uterine and breast cancer, and potentially some effects on the prostate. All this has far-reaching implications, says Volz, "but what they'd mean is hard to say."

Volz's interest in fish and other species--what he call "bioindicators"--stems from a much wider concern with human health.

"Public health-wise, our biggest problem in the 21st century is water, what's in it, its overuse and nearby land development," Volz says. "In fact, water management policy is a national and even international security policy. Water is it."

Volz, who advises NATO on peace and security issues, believes that as pure water becomes a scarcer commodity, states should be designating restricted watersheds for strategic reasons.

"We need to be very careful because you cannot divorce the issue of chemicals going into our waterways from land development," says Volz. For example, the kinds of herbicides, pesticides and turf-topping compounds used in new subdivisions contain carcinogens that nonabsorbent pavement shunts away into culverts. Development distribution patterns also require rethinking.

"If we continue to break up our watersheds, we continue to degrade the ability of natural ecosystems to purify our water. There's bacteria that live in topsoil that can help break down these chemicals, but when you develop for thin layers of topsoil, a monoculture of grass instead of native species, and don't allow for larger trees, you reduce the ability of that area to hold and purify water."

Moreover, in the past two years, there has been a large increase in land areas sprayed for West Nile virus in the West, and there is likely to be much more spraying in the future – and it will overlap, or affect in a direct, indirect or cumulative way many of the areas that BLM would use its new and expanded chemical arsenal and applications on.

The indirect and cumulative impacts of this sudden surge in chemical use (APHIS, West Nile), on top of BLM's proposed weed spraying and treatment increase, must be thoroughly assessed – including effects of all chemicals, degradates and contaminants.

Often, the lands that are most likely to require any weed spraying or "treatment" – are disturbed lands, near populations, so the effects of increased weed spraying may overlap or be near the very same lands where grasshopper, mosquito or other spraying may occur.

Attached are two recent APHIS reports – showing large acreages "treated" in recent years, and APHIS seeking to extend spraying into northern Idaho. Please compile all such information for all western states, and be sure that you have adequately consulted over all of these many ongoing or foreseeable treatments and impacts.

Thank you,

Katie Fite
Biodiversity Director
Western Watersheds Project
PO Box 2863
Boise, ID 83701
Katie@westernwatersheds.org

November 25, 2009

Vegetation Treatments EIS
PO Box 2965
Portland, OR 97208-2965

orvegtreatments@blm.gov

Dear Oregon BLM,

Please also include all concerns raised in these comments we had submitted on the BLM 17 States Weed EIS to this 2009 Oregon Weed EIS process.

It is also clear that much more information to form a baseline of data on current conditions must be provided to the public and USGWS/NOAA Fisheries before full consultation over effects on Threatened and Endangered species can be understood. The poor ecological conditions of many Oregon watersheds heightens the risks of drift and herbicide damage to non-target species and organisms.

A full analysis of the adverse effects of all herbicides and their associated chemicals – including where multiple chemicals may be used - must be conducted under real-world degraded wild lands situations. Increased weather extremes under climate change scenarios must be incorporated into this risk analysis.

A detailed analysis of the effects on killing or weakening biological crusts/microbiotic crusts must also be provided. Microbiotic crusts are also increasingly recognized as providing natural benefits in reducing climate change processes.

Thank you,

Katie Fite
Western Watersheds Project
PO Box 2863
Boise, ID 83701

February 9, 2006

Bureau of Land Management
Nevada State Office
Attn: Brian Amme, Weed EIS Project Manager
1340 Financial Blvd.
PO Box 12000
Reno, NV 89520-0006
vegeis@nv.blm.gov

Dear Brian,

Here are additional comments of Western Watersheds Project on the BLM's Draft Vegetation Treatments on BLM Lands in 17 Western States EIS incorporate by reference scoping, and comments provided at public meetings.

LIVESTOCK GRAZING AS A CAUSAL AGENT IN FIRE, FUELS, VEGETATION "PROBLEMS"

The Draft EIS fails to adequately address the role of livestock, and BLM and other agency management of livestock, on the ecological health and fire regime of lands across the Project area. It fails to present scientific information and analysis necessary to understand the role of livestock in causing fuels problems – including the role of ongoing livestock grazing across the lands of the EIS area and adjoining National Forest, state and private lands.

The EIS and alternatives are based on BLM's false premise that it can impose fire and other treatments to bring about "historical" ranges of fire occurrence and achieve some artificially derived "desired" future conditions. This is not based on the hard, cold facts that cattle and sheep grazing and other human disturbances in the arid West have created an UNNATURAL environmental setting – often with massive topsoil loss, lowered ecological site potential, desertification, and great vulnerability to weed invasion following disturbance. The risk of alien invasive species dominance of sites following BLM's proposed disturbance treatments interjects great risk into BLM's claims that it can restore lands by inflicting large-scale new disturbances.

In this setting, BLM's premise that chaining, fire and other disturbance will have beneficial outcomes, especially with no significant changes in land management (reduced grazing, roading, other continued sources of degradation) is unrealistic and not based on either common sense or scientific reality.

BLM must recognize the deficiencies of livestock grazing and other allocation components of Land Use Plans, and their role in contributing to hazardous fuels, weeds and other ecological problems. The livestock grazing and vegetation portions of many Land Use Plans are woefully outdated. New Land Use Plans ignore (example, Craters of the Moon, Black Rock) fail to address forage allocations in any way. There is no management requirement for conservative use levels, no specific new or updated allocation for livestock, no concrete habitat goals related to livestock use, and BLM continues to apply known harmful levels of vegetation use.

Most of the old plans view threatened native sagebrush vegetation communities as "brush", primarily suitable for burning, spraying and discing up. The new plans fail to include necessary management guidance such as stubble height standards necessary for riparian protection, utilization levels necessary for successful sage grouse nesting, or grazing systems that protect microbiotic crusts necessary for soil health and keeping cheatgrass and other weeds that cause a fuels problem from invading. LUPs lack certainty, and especially newer plans lack application of specific use standards. All plans fail to address disturbance such as livestock trampling, and lack quantified trampling standards.

As management on the ground over the course of the EIS/PER will be carried out under out-dated old plans, and new plans with often even fewer standards and that do not address forage/stocking allocations, we believe it is not possible for BLM to predict rosy short, mid or long-term outcomes to its proposed treatments.

Neither the old or new Land Use Plans provide for protections necessary to slow down or halt weed invasions with associated alterations/shortening of fire cycles in areas invaded by annual bromes or other flammable weeds. The current scientific literature overwhelmingly shows that livestock grazing is a primary cause of problems affecting native vegetation, including altered fire frequencies and altered fuel situations.

An EIS grappling with weeds, and fire, fuels and vegetation treatment must address livestock grazing as a causal agent; analyze the impacts of livestock grazing in continuing to cause "unnatural" fire cycles and weed problems; honestly assess the impact of chronic livestock grazing on the ultimate outcome/effectiveness/success of any treatments; develop a range of alternatives that minimizes livestock and other disturbances as prevention and part of an Integrated Pest Management Strategy. Without including significant changes in livestock grazing practices including reduced stocking rates and/or removal of livestock from lands at risk to cheatgrass/weed invasion or dominance, or where restoration actions may be undertaken, and more protective levels and standards of use, BLM will be wasting taxpayer dollars on this Fire EIS effort.

BLM must fully address livestock as a causal agent in ecosystem disruption, and alteration of composition, structure and function of native ecosystems in the arid lands (see Fleischner 1994) covered by the EIS. The role of livestock in causing any fuels problem must be fully assessed, including all direct, indirect and cumulative impacts of past and ongoing livestock use on rangeland health problems associated with fire, hazardous fuels and weeds. A wide range of up-to-date livestock management alternative components must accompany all alternatives in this EIS process. These should include analysis of a range of reductions in stocking rates and use levels, and their effects on ecosystem processes, fire, fuels, weeds, restoration, rehabilitation efforts.

BLM must fully analyze reductions in, or cessation of livestock use and grazing permit retirement as part of any treatment analysis that is conducted. Federal fire funds should be used to buyout and retire grazing permits on lands that are treated and where subsequent grazing will result in new weed problems, or still-intact lands determined to be at risk to weed invasion, or determined to be at risk of crossing thresholds from which recovery may not be possible. The inextricable linked fire/fuels problems and livestock grazing effects must be addressed.

Background information that must be presented and assessed includes:

- Current stocking rates (average actual use as well as active permitted use) in all allotments, and in all vegetation types and all lands where Field Offices slated treatment in information used to form the basis of this EIS/PER;
- Utilization levels and other management standards applied on the affected lands vs. current range science texts
- Current ecological condition of soils, vegetation, habitats related to stocking rates, levels of use allowed, etc.

See also additional WWP comments submitted separately.

ADEQUATE BASELINE INFORMATION ON VEGETATION COMMUNITIES MUST BE COLLECTED

Unfortunately, the Draft EIS does not provide adequate information on vegetation communities in the affected lands and their surroundings.

BLM must collect and analyze extensive baseline information on past fire and vegetation conversion or manipulation projects in the affected lands in each vegetation type identified in the DEIS/PER, and the effects of these treatments on wildlife corridors, habitat fragmentation, likelihood of human-caused fires or disturbance, etc. Data and maps must be compiled and assessed that indicate where all past treatments have been conducted. Without understanding the past dispersion and impacts of treatments and disturbance across the landscape, BLM can not adequately assess the impacts of various alternatives related to treatment and land health.

Information that needs to be acquired and assessed includes data and maps of:

- Past disturbance events on these lands (fire- prescribed or wild, chemical treatment, mechanical treatment – chaining, cutting, etc.);
- Seedings or any other post-disturbance treatments that have occurred and their current condition
- Condition of treatments and seedings, including cheatgrass and other fine fuels and weeds in interspaces
- Impacts of all livestock facilities
- Impacts of roading, and roading links to past treatments or livestock or other land uses.

Assessment should include a valid study of the current ecological condition and health of soils, vegetation, important wildlife habitats and other important values of the affected lands, a comparison between these conditions and conditions at the time of the disturbance.

For all lands where treatments have been identified by BLM Field offices, BLM must collect current information on: Vegetation species composition, its current ecological condition; livestock grazing regimen and standards of use; wildlife habitats and populations occurring here. Information on periods of rest, trespass, and other livestock factors must be included.

Current information on ecological condition, presence of weeds and other exotic species, etc. on all lands within the project area must be collected as part of this effort. It must be the basis for decisionmaking on “acres to be treated” for various purposes in the EIS.

For example, how many acres of salt desert shrub communities, Wyoming big sagebrush, or other communities have a significant component of cheatgrass in the understory? How many of these lands have already crossed thresholds, where succession is truncated? How many are at risk of crossing thresholds? How many acres, and what is the location, of each vegetation type is in good or better ecological condition?

After solid, on-the-ground collection of new information, BLM must develop a rigorous protocol for determining all lands in need of “treatment”, and explain in comprehensive detail, with supporting science, why these lands need treatment.

We are alarmed that BLM in the EIS avoids focus on treating the extensive crested wheatgrass and other seedings that have so altered and largely destroyed wildlife habitats, and which often form the basis of stocking excessive numbers of livestock that also affect native vegetation in or near these seedings. Many crested wheatgrass seedings that resulted in the aftermath of past treatments have become infested with cheatgrass, halogeton or other weeds and now contain continuous fine fuels. In many seedings, exotics such as crested wheatgrass have been planted at unnaturally thick densities, and thus present an increased fire risk, or have significant components of cheatgrass in understories. Large wildfires sweep across such seedings - as in the 2005 Clover fire in the Jarbidge Field Office.

The harm and fragmentation of native species habitats caused by these seedings must be assessed – as it is important to in understanding their role in habitat fragmentation on top of the extensive alterations of habitat proposed by BLM under the DEIS/PER. Both the Jarbidge and Burley BLM lands provide a perfect example of a woefully fragmented landscape where crested wheatgrass seedings have greatly fragmented sage grouse habitats across middle to lower elevations, and many are in very poor condition and have rampant cheatgrass, halogeton and other problems – as well as loss of forage.

Yet, in Burley,BLM persists in promoting the killing of native vegetation (junipers, mountain big sagebrush, pinyon, and other species) in the Jim Sage and other areas, while ignoring the habitat loss, and weed and fire risks, posed by the crested wheatgrass and other purposefully altered lands, including those BLM itself “treated” with fire and which have become weedlands. The Weed EIS/PER continues blindly down this same path.

BLM, simultaneously with the Weed EIS/PER is developing other EISs – such as the Upper Snake River District Fire, Fuels and Related Vegetation Management Plan Amendment. We attended that EIS Scoping meeting held in Boise, and just like the Weed EIS, BLM had no sound basis for estimates of acres proposed to be treated in the information that was provided to the public. We were told that BLM asked land managers in each field office to come up with estimates. However, there was no protocol followed as a basis for these estimates, and it appears no scientific methodology was followed. Our review of the USRD Draft EIS confirms that a systematic method to assess treatment "need" has not been used. Thus, not only does the Programmatic Weed EIS/PER not rely on, or provide, current ecological information necessary to make science-based decisions on public lands, neither do the lower level EISs that will tier to it.

Fire's Natural Role. The EIS must base its analysis on science, and not the mis-begotten hope that fire/other treatment disturbance will not result in harmful outcomes in many of the highly disturbed systems here. This is key to understanding that many of the predicted results are not attainable – especially if large-scale chronic disturbance factors like grazing continue unabated, and spread cheatgrass and weeds in their wake.

The EIS's discussion of vegetation communities and treatments ignores honest assessment of alterations in ecosystem composition, function and structure that exist in the real world as a result of livestock grazing and other disturbances, past vegetation treatments followed by livestock grazing, etc.

ECOLOGICAL RISK ASSESSMENTS FOR TREATMENTS MUST BE CONDUCTED

ICBEMP assessed lands and categorized them "at risk" to weed invasion. This EIS effort can build on that, and take a much more detailed look at the lands affected by this proposal. Shockingly, ICBEMP also found that only a very small portion of the entire Interior Columbia Basin had even "moderate" ecological integrity (PNW-GTR-385 at 118, Map 18). Large areas of lands are in "Low" ecological condition.

The DEIS/PER fails to provide information to tie proposed treatments to such land areas, and fails to assess the role (and ecological condition) of past treatments past and current livestock management (especially under out-dated paradigms and levels of use), and develop new goals, objectives and allocations that better address the pressing habitat needs of many important species and that address root causes of hazardous fuels problems, and thus provide better and more cost-effective protection from hazardous fuel and weed problems. What are the risks of treating wild lands, as BLM proposes, under the current alternatives, or under a new range of reasonable alternatives?

SUITABILITY OF LANDS FOR TREATMENT – WILDERNESS, ACECs, ROADLESS LANDS

We are very concerned about the lack of necessary analysis of the impacts of the various alternatives on: the integrity of ecosystem processes and natural values within WSAs, wilderness and other roadless lands; the relevant and important values of ACECs; the biotic integrity and values to society and watersheds of undeveloped and roadless lands; the values of Special Recreation Management Areas and all lands where the public seeks wild or untrammeled natural landscapes. BLM's proposal will cause irreparable harm to values ranging from recreational, spiritual and aesthetic values, to unroaded watersheds that do not release road sediment to streams.

CAPABILITY AND SUITABILITY OF LANDS FOR LIVESTOCK GRAZING

In many areas of BLM lands across the West, sheep AUMs have been converted to cattle AUMs, with no necessary reduction in AUMs, and no examination of the impacts of sheep vs. cattle use, and the often decreased capability of steep, rocky or other terrain for cattle use (vs. sheep).

This capability and suitability of lands for livestock grazing must be assessed as part of any treatment this process. Please see USFS methods used in development of the Boise, Payette and other recent southern Idaho Forest Plans.

BLM regularly fails to employ analytical procedures described by Professors Holechek, Galt and others, and which the Forest Service uses in its grazing management, in setting stocking levels by first determining the amount of land area that is both “capable” and “suitable” for grazing.

Under the “capability” analysis, an evaluation is made to determine the number of acres of lands that are “capable” of livestock grazing, based on specific slope, distance from water, rockiness, and other factors. Then, out of the “capable” lands, a further determination is made about which acres are “suitable” for grazing, based on considerations such as special management areas, fragile ecological resources, or other considerations. After this analysis is done, then the remaining lands that are both “capable” and “suitable” are assessed to determining grazing levels by setting proper stocking rates. This analytical process is central to ensuring a proper grazing management system that does not degrade resources, and must be considered as part of the determination under various alternatives of the impacts or effects of the outcomes of any of the many large-scale disturbance treatments of fuels or weeds across vast acres that BLM is proposing in the EIS.

BLM must determine if stocking of grazing lands that are not capable or suitable is a major contributing factor to fuels and weeds problems.

All alternatives must include provisions for regulation of livestock disturbance based on current science and current capability and suitability determinations. This includes science-based standards of use, such as 25% or less allowable utilization of upland vegetation, no grazing during critical growing periods for native species, no grazing during nesting periods for migratory birds and sage grouse, measurement of livestock trampling damage to native vegetation and microbiotic crusts and means to minimize trampling damage, no movement of livestock from lands infested with exotics to more intact communities.

BLM MUST EXAMINE USE LEVELS, AND THEIR ROLE IN FUELS PROBLEMS

BLM does not take into account the scientific literature – including that published in the Journal of Range Management – demonstrating that utilization limits historically followed by BLM (typically, 40%, 50% or 60% utilization limits) contribute to degradation of native vegetation, and plant community changes that result in fuel and weed problems, and other ecological problems affecting a host of important habitats. These ecological problems include disturbance and loss of soils and microbiotic crusts that results in extensive weed problems. See Anderson 1991, Anderson and Holte 1981, Anderson and Inouye 2001, Belnap 1995, Belnap and Gillette 1997, Belnap et al. BLM Tech Bull. 2001, Belsky and Gelbard 2000, Beymer and Klopatek 1992, Braun 1998, Connelly et al. 2004, Donahue 1999, Fleischner 1994, Freilich et al. 2003, Galt et al. 1999, Galt et al. 2000, Gelbard and Belnap 2003, Hockett 2002, Holechek 1996b, Holechek et al. 1998, Holechek et al. 1999 a and b, Holechek et al. 2000, Holechek et al. 2001.

FULL RANGE OF PASSIVE TREATMENTS MUST BE EVALUATED

Passive treatments primarily minimize site disturbance, and generally remove or minimize an environmental irritant that is affecting the health of the plant community. Thus, they have less risk of soil erosion, weed invasion or proliferation and other negative impacts associated with them. They also have a high probability of being beneficial to watersheds, native wildlife habitats and populations and the economic well-being of western communities that are increasingly dependent on tourism and recreational uses of public lands.

An array of passive treatments (provided to BLM in the RNEA) exist that will enable BLM to treat many of the affected lands. Such treatments, wrongfully ignored by BLM, includes:

Livestock grazing treatment: Livestock grazing treatments can reduce spread of flammable invasive species, heal damaged understories so that more natural, cool-burning fires can occur, and reduce the proliferation of doghair thickets of dense young trees which serve as ladder fuels. Treatments include significant reductions in livestock numbers accompanied by prudent utilization and trampling standards in plant communities found to have damaged understories vulnerable to invasion by flammable exotic species.

Closure of pastures with known invasive species infestations. Closure of lands to grazing that have known exotic species infestations is a prudent first step toward control of spread of flammable, watershed-altering exotics.

Closure of pastures “at risk” to weed invasion – such as any Wyoming big sagebrush, Basin big sagebrush, or juniper communities that still contain relatively intact understories. This EIS process should map and identify such areas, as well as all areas where cheatgrass already dominates the understory.

Livestock removal treatment: Grazing permit buyout and permit retirement using federal fire funds is a very reasonable treatment that will heal damaged lands, help restore natural fire cycles, minimize the spread of exotics and other hazardous fuels.

Livestock facility removal treatment: Livestock facilities (fences, artificial watering sites – especially troughs associated with pipelines and water haul sites, corrals, etc.) serve as zones of livestock concentration, and result in areas of severe disturbance readily colonized by highly flammable exotic species. Removal of these facilities and restoration of disturbed zones will limit spread of invasive flammable species, and help develop healthy understories necessary to carry cool, light fires in surrounding lands.

We are alarmed that BLM's Draft EIS casually casts aside Alternatives development based on a series of passive livestock treatments, and fails to adequately explain the ecological benefits of such treatments.

Road/ORV trail closure and rehab/restoration treatment: Closures and restoration treatments quell the spread of flammable invasive species from disturbed road and trail edges. Roads are known to serve as conduits for weed invasion (Gelbard and Belnap 2003). Then, domestic livestock spread weeds from road or trail margins crosscountry into wild land areas.

Road closure coupled with grazing reductions can have large-scale positive effects, as roads as weed conduits can be closed, and livestock reductions minimize spread of weeds already present within the area.

Allowing natural successional processes and healing processes to occur in plant communities that are still relatively intact is the most cost-effective method of attaining natural fire cycles, reducing buildup of hazardous fuels over time, etc. Natural mortality occurs in sagebrush, sagebrush-bitterbrush and other vegetation types. Allowing natural processes to play out, while removing or minimizing those agents that are disturbing natural ecological processes takes patience, but minimizes risks of exotic invasion that accompany aggressive intervention such as fire or mowing.

HAZARDOUS FUEL

If BLM plans on using this term in its analysis, we ask for a careful and scientific description of the basis for its use. For example, Idaho Falls BLM engaged consultants to prepare an EA for "hazardous fuels reduction" in Sands Checkerboard. We are uncertain just what the hazard is here. Who or what is threatened by the woody vegetation termed hazardous fuels? Is cheatgrass a "hazardous fuel"? We certainly think this term is far more apt for cheatgrass than it is for most other vegetation situation where BLM applies it. BLM must develop a methodology to prioritize any "treatments' of hazardous fuels. This is necessary to most effectively spend scarce taxpayer dollars, best protect habitations and areas that are truly "at risk". Instead of spending hundreds of thousands of dollars planning 6-10 million dollars or more of "treatments" in the Jim Sage Area, or drastic "treatment" of the entire Samaria Mountain Range, These projects are primarily aimed at killing woody vegetation to promote livestock grazing. BLM must use a sound methodology to determine needs for treatment – and focus should always be on the areas within approx. 1/8 mile of actual interfaces with human habitation.

RESTORATION

Restoration of native vegetation communities and ecological processes must be the goal of all treatments. Restoration means restoring and maintaining ecological integrity. Ecological integrity is the ability of an ecosystem to support and maintain a balanced, adaptive community of organisms having a species composition, diversity and functional organization comparable to that of natural habitats within the region.

Lands of primary focus for most active restoration should be: Lands that have been invaded by flammable exotics such as cheatgrass or medusahead; and Lands purposefully seeded to alien species such as crested wheatgrass following past agency vegetation manipulation, fire, livestock damage, etc. These should be prioritized for treatment on the basis of: Geographic location and continuity/connectivity of native habitats that restoration would provide for native species. For example, crested wheatgrass seedings in the Little Lost River Valley are located in an area of great importance to sage grouse. Restoring the native sage-steppe vegetation on these sites as habitat for sage grouse and pygmy rabbit should be top priority, as well as prevention of any further degradation to still-native communities.

BLM must focus significant treatment and restoration efforts and spending of federal fire funds on restoration of natïve species composition and function to crested wheatgrass that has been rampantly seeded as following ill-conceived sagebrush removal or as post-fire ”rehab”, and lands overrun by cheatgrass. The current abundance of federal fire funds should be used to follow-through on BLM **post-fire rehab actions that have failed** in the past (please evaluate all seedings and identify failures and causes of failure), or where crested wheatgrass and other exotics were planted as a first step in arid lands rehabilitation.

BLM should use this EIS/PER as an opportunity to complete post-fire rehabilitation that has failed or had poor results on likely tens of millions of acres across the arid West. As part of this EIS/PER process, BLM should identify all lands where post-fire rehab/”emergency” stabilization with crested wheatgrass, intermediate wheatgrass and other exotics was conducted, and prioritize treatment of these lands to return them to native vegetation and restore natural fire cycles.

Experimentation with new techniques should be limited to lands overrun by cheatgrass and crested wheatgrass seedings.

For lands still in reasonable health with reasonable ecological integrity, passive treatments should primarily be applied. Techniques which minimize soil and native vegetation disturbance should be the first steps taken. Try these first. See if they work.

As the result of past proliferation of purposeful seedings of exotic species by BLM in te wake of past treatements or wildfire/ESR, huge sterile monocultures of exotic species dominate millions of Idaho BLM lands. These seedings, a result of activities to produce forage, sometimes under post-fire ESR, have had disastrous consequences for native ecosystems. Plus, instead of restoring lands seeded immediately after fire to exotics, BLM instead has let these lands persist in a highly altered and unnatural condition. BLM now manages these seeded lands as permanent BLM sacrifice zones to the livestock industry – issuing TNR, converting TNR to permanent AUMs, etc. It is these post-fire seedings, a direct result of BLM's short-sighted livestock forage or ESR efforts of the past, that have been used as the basis for massive AUM increases to wealthy permittees, in the Jarbidge Field Office.

BLM must fully assess the impacts of these past actions in order to understand the context of your current decisionmaking process, as well as to assess environmental impacts and reasonably foreseeable outcomes.

As part of this EIS, BLM must consider restoration of native vegetation on all lands initially seeded to exotics in past or future ESR activities. This NEPA document should include a timetable for accomplishing this.

PREVENTION

Arid lands may become so degraded that they can never recover. These communities have been described (Archer and Smeins 1991) as crossing a "transition threshold" –with loss of topsoil, dominant species that have become locally extinct, and introduced species that have become so dense that weedy annuals become the climax species. All efforts must be made to keep plant communities from crossing this threshold, and thus requiring massive amounts of funds and elaborate treatments to attempt restoration.

Moderately degraded communities can become severely degraded if preventive action is not taken, or if new disturbance accelerates degradation or weed invasion.

Pristine and near-pristine lands should be protected using all possible techniques, especially passive restoration techniques such as immediate removal or reduction of livestock disturbance. Such lands typically serve as important habitats for native species and protection of biodiversity. Economically, it is a lot more cost-effective to keep lands from becoming degraded than it is to conduct wide-scale treatments after they have become degraded. It is critical that a BLM Weed EIS do so.

Prevention is especially important in upland communities, as they are less resilient to recovery following site disturbance than are riparian areas. Plus, the greater the aridity, the greater the difficulty of recovery. This may even vary within the same geographic area, as south and west faces are more likely to face cheatgrass invasion following treatments.

Almost universally, wetlands (springs, seeps, streams, playas, etc.) have been heavily damaged by livestock grazing and trampling activity. This has altered their morphology, areal extent of water tables/wetted soil areas, plant and animal species composition, plant and animal ecology. However, the current path of agencies shifting livestock use onto upland sites to take pressure off riparian areas is an ecologically destructive path, and prevention must be conducted in an integrated way. Both the riparian and upland areas are undergoing desertification processes, which ultimately make them less resilient, and less likely to be able to be restored to native systems.

ROLE OF DESERTIFICATION IN FUELS AND FIRE PROBLEMS AND ECOSYSTEMIC CHANGE

Please see our "Additional Comments" explaining the role of desertification caused by livestock grazing and other activities in causing fuel and weed problems.

WEEDS AND INVASIVE SPECIES

Exotic species are invading lands in the Interior Columbia Basin and across the arid West at an alarming rate. Exotic species alter western ecosystems by increasing fire frequency, disrupting nutrient cycling and hydrology, increasing erosion, altering soil microclimates, reducing biodiversity, and reducing wildlife habitat.

Disturbance related to livestock grazing, livestock grazing facilities, ORVs and extensive road networks are causes of weed invasion. Removing these sources of disturbance from "at risk" lands, and any lands that have been treated is a vital and integral part of any treatment, as well as prevention and restoration.

Livestock and ORVs are weed seed vectors. Livestock carry weed seeds in fur, feces, mud on hooves, etc. They also disturb soils and created ideal sites for weed seed establishment (Belsky and Gelbard 1999).

Recent observations show that exotics like cheatgrass and medusahead may be only the first in a wave of exotics and that new infestations of aggressive species such as white top or knapweed occur in areas overtaken by cheatgrass and medusahead. Thus, BLM's current practice of using these weeded areas as "sacrifice zones" for excessive levels of livestock use, issuance of TNR, etc. only increases chances of invasion by new and even more aggressive exotic species, and continues to cause large-scale fires – Jarbidge BLM lands 2005 Clover Fire serves perfectly to illustrate this.

REMOVAL OF LIVESTOCK

Livestock grazing and trampling is the major cause of damage to upland plant communities and western ecosystems, and the major factor preventing recovery of these systems.

Removal of livestock, including through use of federal fire funds to permanently buy out grazing permits, must be a treatment that is evaluated under all alternatives. Lands should be prioritized for buyouts, based on the need for passive and active treatment measures to be applied.

It makes no sense to spend hundreds of dollars an acre on “restoration”, or $40 an acre on a “prescribed” fire treatment if livestock grazing disturbance is then to again occur. Livestock are the primary cause of vegetation/fuels problems. Allowing the primary causal agent of weeds or fuels problems to then again be allowed to graze and trample these same lands, and cause a “need” for future treatments, makes no sense at all. BLM typically receives around 13 cents an acre annually for livestock grazing on these lands, so the economic folly of returning livestock to treated lands is extreme – just like the ecological folly.

REST FROM LIVESTOCK

BLM’s EIS and the “updated” EFR plans are woefully deficient in providing adequate periods of rest from livestock grazing following treatments. In order to determine necessary rest periods, BLM must understand the condition of the community pre-treatment (see, for example, Eddleman et al 1994 describing poor or fair condition lands requiring signifcant periods of rest post-treatment). Specific time periods must be applied (5-10 year minimum), along with measurable recovery standards for soils, microbiotic crusts, herbaceous and woody vegetation recovery before livestock grazing can resume.

FIRE

BLM can not use “natural fire regimes”, historical ranges of variability and other models as a basis for any fire planning. The potential for anything resembling a ”natural ”fire regime has been drastically altered by 150 years of livestock grazing and other disturbance so that natural fire regimes no longer exist in many areas. The imposition of the disturbance that would mimic a natural fie cycle is likely only to further degrade values of public lands – soil water, watershed, wildlife and important and T&E species habitats. As part of its assessment, BLM must first determine the current condition of all the vegetation communities in the affected lands. This information must be newly collected as part of this process, since most BLM inventories, especially in these lands with ancient LUPs, are nearly 25 or more years old. This necessary is critical to understanding the risks of any treatment disturbance to these lands.

We believe that until effective answers are found for the vexing problems of invasive weeds such as exotic annual grasses, a cautious and prudent fire suppression plan must be in place across arid lands of the Project area. This is also necessary because of the unnatural and unstable condition of many sites caused by 150 years of livestock grazing.

FUELS REDUCTION

Shrub-Steppe Communities: Livestock grazing has fundamentally altered (and continues to alter and degrade) native understories, by killing and weakening native grasses and forbs and harming microbiotic crusts. As native bunchgrasses have been replaced by cheatgrass and other exotics in the wake of livestock grazing, plant communities are now subject to hot, early season fire instead of cooler, late-season fires. Cheatgrass provides dense, continuous fuel that causes fires to flash across the landscape. Cheatgrass results in frequent re-occurrence of fire, preventing regrowth of native vegetation. Plus, cheatgrass litter chokes soil surfaces, preventing germination of native shrubs (sagebrush, rabbitbrush). Fuels reduction in sage-steppe communities should focus on restoration of these cheatgrass-invaded sites and damaged understories. This is the primary active restoration measure/treatment that needs to be taken to fundamentally alter the nature of fire in these arid lands.

Low Elevation Forests: Here too, livestock grazing has fundamentally altered (and continues to alter and degrade) native plant understories. By creating abundant areas of bare soils, it creates ideal conditions for increased densities of young trees. These become the fire-prone doghair thickets of young trees that create ladder fuels and other incendiary conditions in arid forests.

Before Euro-American settlement, periodic fire cleared Ponderosa pine and Douglas fir understories, and the build-up of fuels was too slow to create hot canopy fires. With Euro-American settlement, and continuing to the present: 1) Selective logging of large trees occurred, and small, highly flammable trees were left; 2) Fire control was instituted; 3) Domestic livestock consumed grasses that carried low-intensity fires, and such fires became less frequent, and woody fuels built up.

Hot fires occurred in the past, and were a part of natural forested ecosystems. In many areas away from human habitation, fuel reduction may not be necessary.

To prevent buildup of woody, highly flammable fuels in arid forests at times need to be let burn under carefully controlled conditions. This should only occur in lands that are not at risk to exotic species invasion in the post-fire environment. Selective logging of old, fire-tolerant trees must be halted. Domestic cattle and sheep grazing must be decreased or ended.

JUNIPER, PINYON-JUNIPER

Juniper and other woody vegetation throughout the West have been vilified by the ranching industry. Pinyon-Juniper and juniper on many BLM-managed lands have been greatly fragmented by purposeful fire, escaped prescribed fire and wild fire. BLM has not demonstrated that it can fix the cheatgrass mess it has made in juniper habitats, as with prescribed-fire on lands such as Rice Canyon in the Burley District. Until BLM shows it can show restoration of the many already treated arid sites and return them to good or better ecological condition, BLM should not set out on a course of new disturbance.

Juniper removal should be highly selective, individual tree cutting of smaller-sized trees. Fire or extensive soil disturbance paves the way for weedy species invasion in juniper communities. Grazing causes juniper expansion by destroying and weakening native understories, and altering natural cool burning fires and fire cycles.

A CRITICAL AND METHODICAL EXAMINATION OF SUCCESS/FAILURE OF PAST BLM TREATMENT PROJECTS IS NECESSARY

A careful scientific evaluation and assessment of past BLM "treatments" must be prepared. How many acres have been burned in prescribed fires? What post-fire management was done by BLM? What were the results? What are their current vegetative communities? What past herbiciding has been done by BLM? Where? How many acres? What were the results? How many acres, and where, was post-fire rehab. done? What is the current condition and vegetation of these lands? Please provide maps that adequately depict the above information.

FIRE SUPPRESSION

Fire suppression is critical in areas of high ecological value habitats that are "at risk" to exotic species invasion following fire, areas where irreplaceable ecological values, human life, or cultural resources are at stake. Effective fire suppression plans must be in place for these lands. This is a critical component of minimizing rapid weed dominance.

BLM must provide information on the risks of prescribed fire escape, or raging out of control. This has happened repeatedly on Ely BLM lands, including near Cherry Creek in 2005.

Minimum impact suppression tactics should be followed.

PRESCRIBED FIRE

Prior to conducting any prescribed burn, BLM must establish a methodology to thoroughly consider and analyze, in an open NEPA process with full public comment and review periods, the following:

Long-term damage to microbiotic crusts, soil erosion through wind and runoff events, long-term loss of nutrients from already nutrient-deficient landscapes, loss of native species, radionuclide levels in surrounding vegetation, interrelation between prescribed burns and other "treatments" on neighboring federal/state/private lands, increased risks of exotic species invasions, impacts on habitat for native wildlife, indigenous uses of plants that may impacts, air quality impacts.

We are very concerned that BLM may initiate a program of widespread "prescribed" burns on lands that have been, and continue to be, seriously damaged by livestock grazing and other abuses, and which will are very vulnerable to exotic invasions in post-fire environments.

All fuels reduction projects must be based on comprehensive restoration assessments before any reduction takes place.

USE OF LIVESTOCK AS A "TOOL"

Livestock (cattle and sheep) should not be used as a "tool" or termed a "biological control". They are only a temporary, stop-gap measure and simply mowing weeds to ground level does not address the fundamental problem of eliminating weeds, and getting native species to grow. Native species will not recover if sites are grazed by livestock. In fact, the extreme disturbance caused by livestock will make sites MORE fire prone, harm remaining native species, increase likelihood of new or accelerated weed invasions, and increase disturbance to, or competition with, native wildlife.

In most instances, it would be just as effective to mow weeds as to use livestock, and would have far less impacts to soils. Plus, the possibility of introduction of new weedy species as a result of livestock disturbance would be minimized. BLM should examine the appalling fire history of the Jarbidge FO and assess how seeding of crested wheatgrass, harmful levels of livestock use, high stocking rates, etc. – have resulted in extensive and large acreage fires.

USE OF HERBICIDES

Herbicide use should be kept to an absolute minimum under all alternatives. Herbicides are known carcinogens. Many herbicides migrate in soils and infiltrate water supplies. Upper Snake River District's disastrous experience with the herbicide Oust demonstrates the dangers of herbicide use in wild land settings, and how despite reassurances in EAs, things can go very wrong. Here, Oust blew on soil particles into neighboring fields, and inhibited crop germination. We have seen wild settings where application of Oust has likewise had disastrous results – including in the "dead zone" it created in Rice Canyon in the Burley Field Office, and in the Jarbidge WSA Middle Butte fire area. For several years prior to the Oust drift onto ag. crops disaster, the corporation that manufactured Oust aggressively marketed its use at weed seminars attended by federal agencies. We are quite suspicious of the role of chemical corporations in pushing the use of herbicides, and are alarmed that this harmful chemical is now being proposed by BLM for use.

At the best, herbicide use is only a temporary measure or intermediate step to be used, and it does not address the basic causes of weed problems. A range of alternatives without use of sulfonylurea and acetolactate synthase-inhibiting herbicides should not be developed. This is essential due to the demonstrated ability of these chemicals to damage off-site plant species.

We often encounter areas on public lands – such as leafy sprurge spraying in the Lost River Area or white top spraying near Battle Mountain or on the Owyhee Front – where all native veg. has been killed by herbicides, and leafy spurge continues to thrive. The role of continued livestock grazing post-treatment in continuing weed invasion must be addressed – and the EIS does not do this.

MECHANICAL TREATMENTS

BLM should focus on use of mechanical methods of weed control that have been identified as effective in current scientific literature (mowing, spot fire (flamer), weed eaters, mulching).

Any mechanical removal of woody vegetation must be carefully conducted, and the current BLM mania to mow sagebrush sharply curtailed. Any removal of trees must be based on individual tree marking.

All off-road travel should be minimized during any mechanical treatment. The DEIS/PER fails to take necessary measures to do this.

All fuels reduction projects must be based on comprehensive restoration assessments before any reduction takes place. The DEIS/PER fails to provide any methodology to do so, and completely ignores restoration assessments.

MIGRATORY BIRDS/CRITICAL PERIODS/SAGE GROUSE

No treatments of any kind should be allowed during nesting periods for migratory birds, or in important or critical wildlife habitats during sensitive times of year such as winter in sage grouse wintering areas. The role of all past and proposed treatments on habitat fragmentation must be assessed. See Knick et al. 2003, Connelly et al. 2004 to understand the tremendous fragmentation that exists.

BIOMASS PROBLEMS

Use of material for biomass fuels should not be allowed. Biomass projects export nutrients from often nutrient-deficient sites, and reduce litter and ground cover, leading to greater site aridity. Biomass removal results in removal of woody debris and other important habitats for native wildfire, or plant materials that may be important for watershed stabilization, and that ultimately provides in-stream habitat structure for aquatic species, including TES fish species. Biomass use is an extractive, commercial use of public lands with widespread harmful ecological impacts.

Nowhere does the EIS/PER address the acreage, location or expected impacts of biomass under the proposed actions.

PREVENTION

BLM's vegetation efforts can not be limited to disturbance-style treatments alone. Plant communities which are still healthy should be managed in a way to effectively: 1) prevent their conversion to weed-dominated communities; 2) prevent loss of biodiversity;

3) prevent changes in their fire frequencies and intensities; 4) prevent the conversion of shrub lands to woody thickets.

BLM's DEIS/PER ignores analysis of a range of prevention-based Alternatives.

EIS/PER ASSESSMENT

An independent assessment of the "need" for the proposed actions, and the risks of undertaking new disturbance must be conducted as part of this process. We would like to be involved with this effort, and would be happy to provide you with a list of names of scientists that could be involved in this. This should be conducted by qualified ecologists not tied to Western Land Grant universities.

A component of this should be an assessment of risks of new, additive or cumulative disturbances associated with the projects on top of existing disturbances. For example, if an area unrelentingly subjected to livestock grazing has previously been "thinned" by old herbiciding, or fire, what will the impact of a new treatment disturbance be on soils, vegetation, watersheds, water quality, native wildlife, etc.?

We urge you to focus on actual Interfaces with habitation, and not the large-scale wild land disturbance you propose.

ADDITIONAL SPECIAL STATUS, T&E SPECIES CONCERNS

The actions of the EIS will have large-scale effects, ranging from increased sedimentation of bull trout and redband trout streams to major fragmentation of sage grouse, Brewer's sparrow, pygmy rabbit, pinyon jay and other declining species habitats. The EIS fails to address this fragmentation, on top of the fragmentation that already exists – see, for example, the analysis of fragmentation on the Sage Grouse Conservation Assessment (Connelly et al. 2004). The EIS is lacking in basic information on soil stability, erosion hazard, wind and water erosion risks, etc. related to lands proposed for treatment.

This is critical for understanding likely sedimentation into streams, site soil stability post-treatment, likelihood of increased gullying, and other factors. Special status species habitats are faced with a broad array of escalating synergistic and cumulative impacts to habitats and populations – ranging from development of new livestock infrastructure and expanded water-hauling to energy developments such as wind or geothermal and associated roading and disturbance across public and private lands of southern Idaho.

MONITORING AND MITIGATION

We are extremely concerned that monitoring and mitigation in the DEIS/PER are not adequate and do not even begin to address the large-scale disturbance of plant and animal community composition, function and structure that undertaking the large-scale treatments will affect.

Monitoring. The EIS fails to provide necessary monitoring, and decisive actions that will occur post-treatment if treatment protocols, livestock rest, etc. is violated. BLM should establish specific post-treatment criteria for monitoring for livestock trespass, sound studies of soil health, stability and recovery, etc.

Mitigation. Large blocks of land (> 10,000 acres) should be established within watersheds where no grazing or treatments are conducted, as reference areas for the outcomes/effectiveness/damage of the treatments that are proposed. Other mitigation includes termination of grazing disturbance on reference areas.

POST-TREATMENT ACTIONS

BLM current enforcement of grazing closure restrictions is incredibly lax – we have documented burn trespass after burn trespass where BLM has failed to administer more than a handslap - or simply ignored – permittee trespass of burns. For example – Rice Canyon – Burley BLM; Diamond A – Simplot livestock – Jarbidge BLM. Thus, we have no assurances that any livestock-related post-treatment measures will be followed, and these can not be used as "mitigation" for treatments.

MITIGATION AND MONITORING

BLM must develop adequate mitigation for activities carried out under this EIS. For example, if BLM wants to burn or thin 10,000 acres of sage grouse habitat, it should be removing livestock use from 10,000 acres of suitable habitat in order to provide better quality nesting and wintering habitat, not allowing livestock use to continue on neighboring lands.

BLM must develop a comprehensive monitoring plan with specific schedules, with all monitoring to be funded as part of the original "treatment" cost. Otherwise, timely and necessary monitoring will never occur.

USE OF NATIVE PLANTS AND LOCAL ECOTYPES

BLM must commit to mandatory use of native species, and local ecotypes not over-s9zed cultivars, in all post-treatment plantings. BLM cannot rely on the old excuse of seed being unavailable or too expensive for use. Use of all native seed with commitments to reseed repeatedly must be part of the planning and funding for all projects. Planned development of reliable supplies of native ecotype seed sources is essential.

WILDLANDS-URBAN INTERFACE

Any habitation interface projects must focus on projects at the actual interface with inhabited lands. This is an area of 1/8 mile or less. Any interface projects must be tied to private landowners taking strict efforts to control any fire danger on their own private lands. Intensive wildland-urban interface treatments include thinning, pruning, mowing, roof cleaning, replacement of flammable landscape and building materials). These actions should be limited to the interface, and the private property, and be use to create 1/8 mile of defensible space.

In reality, the interface is to be the area where most federal fire funds are being spent. Instead, BLM across-the-board is roaming far from any real interfaces in projects being conducted.

As part of this EIS, BLM should provide detailed maps of all interfaces, and a list and report of all criteria used to determine the existence of an interface.

COST: BENEFIT ANALYSIS

BLM must provide an adequate cost: benefit analysis of all actions. For example, what are the costs vs. the benefits of spending $100 an acre to treat/restore lands where livestock grazing will again soon resume?

What are the costs to recreational uses of public lands of large-scale treatments? We have been repeatedly contacted by hunters, hikers and birdwatchers who have had recreational outings – or favorite recreational sites - ruined by BLM "treatments". What impact do such losses have on the local and regional economy?

For example, in BLM's flawed Burley FO Jim Sage EA, BLM planned to spend 6 million dollars to kill junipers "hazardous fuels" across an entire mountain range, despite widespread weed problems throughout the lower and middle elevations, and BLM grazing proposals underway would have increased grazing on the "treated" lands. Thus, taxpayers would have been funding increased livestock forage under the guise of fuels projects, while receiving only tiny amounts of grazing fee dollars in return. This is just the type of thing that we fear will occur under EIS/PER.

BLM must adequately analyze a full range of alternatives based on sound economics. All alternatives should include use of federal fire funds to purchase grazing permits and permanently remove livestock from degraded lands, as this is a very foreseeable action during the life of this plan. We support an alternative that uses preventive measures and passive restoration techniques, addresses causal agents of fire/fuels/vegetation problems such as livestock and ORV use, and which minimizes risks of invasive species spread stemming from any treatment that is applied.

WIND AND WATER EROSION

Actions under the Alternatives of the EIS/PER will bring about widespread soil erosion and relocation in wind and water. In order to understand the impacts of the actions, the current condition of all lands (soils, veg, microbiotic crusts, etc.) must be thoroughly assessed. The EIS fails to assess effects of multiple or overlapping treatments. For example, how will herbicide runoff be accelerated in burned landscapes? This also relates to air quality problems, and possible increased air or water pollution on top of other pollutants. Recently discovered mercury contamination of Idaho waters and lands from gold roasting in Nevada must be considered in this analysis, also as these substances will pollute waters on top of the chemical, sediment or other substances from treated lands.

RELATED ACTIONS

BLM and the Forest Service often embark on fire-related/treatment projects. The interrelationships of all ongoing or planned activities in this region, including across ownership boundaries, must be fully explored.

COMMITMENT TO OPEN NEPA PROCESS

The BLM must require as part of the EIS/PER ROD that all future projects that are tiered or related to this EIS undergo, further environmental review at the level of an EA or EIS with full and open public comment and participation in the process. At present, agencies (such as Ely or Elko BLM) are conducting CEs, or closed door EAs (Spruce Mountain) for Treatments of every ilk, and barring the door on effective public input, and necessary environmental effects analysis. BLM just proposed changes that would allow grazing permit renewal to be conducted under CEs – thus there is no certainty that any environmental problems related to grazing will be fixed, or their impacts adequately assessed, on the lands where EIS/PER treatment would occur.

POST-TREATMENT, EFR

Idaho BLM’s recent ESR/EFR updated protocols were big disappointments and relied on limited, outdated, or no science and ignored many actions necessary to ensure site recovery. BLM should use this EIS process to set science-based post fire/treatment standards to be incorporated in all ESR agency plans.

Use of Native Species: BLM must commit to use native species in all restoration seedings in all instances. In the past, BLM has used exotic, soil depleting crested and Siberian wheatgrasses, and aggressive, invasive, weedy forage kochia and intermediate wheatgrass. Instead of focusing on larger exotic plants (primarily because they produce livestock forage, no matter how limited its palatability), BLM must use natives, especially species like *Poa sandbergii*, bottlebrush squirreltail and Indian ricegrass in lower elevation sites. In the past, BLM has failed to rest lands for sufficient periods of time to allow successful establishment of seeded native species.

As part of this EIS, please provide a science-based (not livestock-forage-based, but ecological science-based) assessment of predicted establishment times for seedings or recovery of native vegetation under the various environmental settings, and include in this predictions of “success” with specific livestock rest periods much greater thanare now applied. Please also thoroughly describe and assess the ecological impacts of the exiting seedings – impacts on soils, waters, vegetation, weeds, native biota, recreational and cultural concerns.

BLM must closely study the lessons provided by the bluebunch wheatgrass seeding in an ungrazed area near Kuna Butte in the Four Rivers FO – and any examples the agency may have across the West. Due to no grazing occurring for a decade, seeded bluebunch wheatgrass was surviving and thriving at low elevations. In addition, please use existing exclosures as reference areas for comparison of effects of no grazing for several years following a fire, vs. BLM's typical woefully inadequate 2 growing season's rest. There are also exclosures in the Jarbidge FO that can serve as reference sites and comparative examples. One is located north of Winter Camp Butte, others are near Roseworth. Please visit these sites, and quantify the differences between vegetation inside and outside these exclosures, and use this information in developing a realistic time frame for livestock exclusion from seeded lands.

Sagebrush and other appropriate native shrubs (winterfat, shadscale, rabbitbrush) must be included in all post-treatment seedings, and repeated efforts must be made to establish native shrub cover, due to its importance to many native wildlife species.

BLM must use some of its burgeoning fire funding to set up a reliable network and system for supply and storage of native seed, including locally adapted ecotypes, so that this native seed is readily available in the wake of fire. BLM will then no longer have the time-worn excuse that "we couldn't get native seeds, so had to plant cwg". It is time to act responsibly, and apply federal fire funds to setting up a reliable system of seed supply.

BLM must also commit to re-seeding of natives in subsequent years, if initial seeding attempts are not successful due to drought or other factors. This must be factored into any

No Need to Seed Herbaceous Species in Many Higher Elevation Sites

Many higher elevation sites require NO seeding of herbaceous species post-fire. Only sagebrush or other native shrubs should be seeded in these lands. It is essential, however, that these sites receive adequate rest from livestock grazing so that understory components, including microbiotic crusts, can recover – this is essential to prevent new weed invasion. The two grazing season's rest is not sufficient.

BLM claims it may reseed or replant areas with "desirable" vegetation when the plant community cannot receive and occupy the site sufficiently. BLM provides no methodology or protocol used for making such determinations.

Livestock Trespass, Other Post-Fire Non-Compliance: As part of this NEPA process, BLM must review records of livestock trespass or non-compliance, and assess its frequency and impacts to treatment outcomes. What are the impacts of trespass on outcome of rehab efforts? BLM must also provide strict penalties for post-fire trespass by livestock on burned areas. As taxpayers often have spent hundreds of thousands of dollars on post-fire rehab and other ESR activities, accountability and effectiveness of rehab is essential. Please describe how trespass may harm any site recovery. For example, trespass has been a tremendous problem in Burley BLM lands, and documented by Miriam Austin of WWP and others over the years. The trespassed public lands at Rice Canyon and in the Goose Creek watershed of Burley BLM provide a perfect example of BLM Post-fire failures to control livestock.

Livestock Facilities: Post-treatment actions/EFR must sharply limit the use of federal fire funds in construction of post-fire livestock facilities. BLM's typical response to fire/treatment is to place a fence, often permanent, around the perimeter of the disturbed area, and often to develop additional water facilities outside the fenced/treated/burned area. These actions (fences that often become permanent, new water facilities) are NOT part of post-fire/post-treatment rehab, they are part of livestock management on surrounding lands. Such projects inflict, in an unplanned and unnecessary manner, a new array of disturbances to wildlife habitats already impacted by fire disturbance. Existing pasture fences should be used, and new fences should not be built.

There are many harmful impacts of barbed wire fences and other livestock facilities – posts serve as perches for predators, observation points for brown-headed cowbirds. Plus, fences cause avian mortality from collisions. New water sources lead to rapid disturbance and depletion of lands in the areas surrounding them, placing additional stress on native ecosystems and dependent species.

WWP strongly supports using existing unburned pasture or allotment boundary fences as the structures that restrict livestock from burned or treated lands. By closing these somewhat larger land areas to livestock grazing, BLM will also provide some better grass cover and habitat for species like sage grouse, that face habitat loss and fragmentation as lands burn. A 4-5 year closure of the pasture or allotment will result in ungrazed areas that help to provide grasses of sufficient height, or other necessary habitat components, for sage grouse and other native wildlife. Only temporary facilities should be allowed, if any are used at all – primarily electric fences. All post-fire rehab plans must specify removal dates for any livestock facilities that result from fire rehab activities. However, temporary electric fences have a long track record of failure – please review information in Burley and Challis BLM files concerning woeful trespass of burned areas or sensitive riparian areas that resulted from the use of temporary fences, rather than removing livestock to existing pasture or allotment boundary fences .

AUMs Should Not Be Shifted Elsewhere: BLM should not shift AUMs from treated lands to other areas. All AUMs from burned lands should be placed in temporary suspension until rehab, or restoration, success occurs.

Regrettably, in some recent post-fire documents, BLM has merely been shifting livestock use elsewhere, and thus impacts of livestock on watersheds, wildlife, habitat, etc. are magnified and amplified to the detriment of native species and the ecosystems upon which they depend. BLM has never assessed the impacts of these shifted AUMs.

Area of Rested Lands Must Provide Habitat for Native Wildlife: BLM must protect land areas sufficient to provide habitat for sustaining viable and healthy populations of native wildlife as part of all treatment or ESR activities and decisions. This is particularly important for declining shrub-steppe species that are facing accelerated habitat loss and fragmentation (Knick et al. 2003, Connelly et al. 2004). BLM must assess the status of populations and habitats within the larger landscape area, and determine the likely effect of a fire on special status species and other important biota. BLM must also act to take protective measures – not only on the fire-affected allotments, but also on surrounding lands, and to buffer habitat loss until the habitat that has been lost can be restored.

Watersheds/Water Quality: Resting sufficient areas – burned and unburned, treated and untreated - is essential for watershed protection.

Risk Assessments: BLM must conduct assessments of the risks of seeding failure/loss, increased depletion, weed invasions, under various post-treatment grazing strategies and across a broad range of alternatives. What are the risks of seeding weakening and depletion if grazing is allowed to resume too soon?

Minimal Use of Chemicals: BLM must strive to minimize use of chemicals in wild land settings. An increasing segment of the public has health problems related to chemical sensitivities. Chemicals may leach into water, blow on eroding soils into other sites. Wind erosion is far more significant in post-fire environments, as dark bare soil surfaces heat up, with the result of funnel-cloud erosion/dustdevils blowing soils away. Cancer, respiratory problems and many other human health effects of herbicides and other treatment chemicals are well-known.

If BLM chooses to use chemicals, the treated lands, and surrounding areas, must be posted with signs IN ADVANCE that warn the recreational public of chemical use and possible exposure. BLM's disastrous use of Oust demonstrates the uncertainty associated with use of chemicals in wild land settings, where wind erosion or water runoff may transport chemicals to unintended areas with unintended consequences.

Periods of Rest: BLM must require adequate periods of rest from all livestock grazing to ensure that full recovery, or establishment of seeded vegetation, occurs. This time period is much longer than BLM ever requires, and is often dependent on the condition and health of vegetation communities pre-fire. Eddleman et al. (1994) described 4-5 year periods of rest as necessary for degraded western juniper communities.

Low elevation sagebrush-steppe communities may require a decade or more, and repeated seeding efforts during periods of favorable weather, to allow re-establishment of native vegetation. The EIS plan must address these necessary periods of rest, and not base its actions on the convenience of the livestock industry.

Commitment to Rehab. Time periods sufficient to achieve adequate and healthy native vegetation communities, must be mandatory. A reasonable time period would be 5-10 years, given the vagaries of weather and drought cycles in depleted arid low elevation lands.

What About Restoration? “Rehabbing” in the BLM sense, is vastly different from restoration to a full component of native vegetation and ecological processes. Under what circumstances will BLM undertake Restoration?

Analysis of Past EFR/Rehab/Restoration Actions. As part of this NEPA process, BLM must assess all its post-fire rehab herbicide use efforts and seedings in the past 30-40 years, or however long records have been kept. For example, which cwg seedings in the Jarbidge were planted, when? With what species? What is their current condition?

Following this, BLM must collect site-specific data on the current condition, health, wildlife, recreational and other values of these areas seeded post-fire. How many new fences, pipelines, troughs, etc. have been built using ESR funds, or federal fire funds? What impacts have they had? A complete analysis must be presented in this NEPA document.

Economics: A complete analysis of the costs and benefits of spray/treatments must be provide. What is the per-acre dollar cost of all actions under all alternatives? What are the ecological costs/benefits of these actions?

BLM must also assess impacts of poor pre-fire land conditions and management on the outcomes of any post-fire recovery, and of the likelihood of success of any post-fire rehab.

We believe you must provide extensive analysis of the impacts of post-fire “salvage” logging or thinning. Is that contemplated under this EIS/PER? If so, what are its impacts to soils, vegetation, weed invasion risks, wildlife habitats, fisheries, recreational and other uses of the affected lands? What have been the impacts to, and what is the condition of, lands where this has occurred in the past?

Sincerely,

Katie Fite
Western Watersheds Project
PO Box 2863
Boise, ID 83701
208-4291-1679

(809)

Western Watersheds Project
P.O Box 2863
Boise, ID 83701
Tel: (208) 429-1679
Web site: www.WesternWatersheds.org

Western Watersheds Project

Working to protect and restore Western Watersheds

RECEIVED

DEC 02 2009

November 30, 2009

Vegetation Treatment EIS
PO Box 2965
Portland, OR 97208-2965

RE: Vegetation Treatment EIS

The contents of this cd are intended to accompany Western Watersheds Project comments related to Oregon Vegetation Treatment EIS.

Kenneth Cole

Ken Cole

Western Watersheds Project
PO Box 2863
Boise, Idaho 83701
208-429-1679

Attachments to Public Comment #809 from Western Watersheds Project

Please see the folder titled “Public Comment 809 Attachment” on this CD to view the attachments to comment #809 from Western Watersheds Project.

(810)

Comments res "Vegetation Treatments Using Herbicides on BLM Lands in Oregon" Draft Environmental Impact Statement

To: Vegetation Treatments EIS Team
P.O. Box 2965
Portland, OR 97208-2965

November 25th, 2009

From: Blue Mountains Biodiversity Project,
League of Wilderness Defenders
by Karen Coulter, Director, BMBP
27803 Williams Lane
Fossil, OR 97830
(541) 385-9167 voicemail

RECEIVED
DEC 02 2009

We incorporate by reference and enclosure as part of these comments our previous comments on the 2007 "Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States" Programmatic Environmental Impact Statement, (PER) to which this Oregon EIS is tiered, and our appeal of the Region 6 Forest Service PEIS on Invasive Plant Management, which was used for risk assessments for this Oregon BLM Draft EIS (DEIS), as well as all handwritten, typed, or computer-printed comments on this DEIS enclosed, including copies of pages of the DEIS with our handwritten comments and * marks pointing out places in the DEIS text that support our concerns or cause our concern.

Purpose and Need:

How is toxic herbicide use consistent with FLPMA directing the BLM to "protect the quality of scientific, scenic, historic, ecological, environmental, air and atmospheric, water resources and archeological values"? (see EIS p. 4) If the BLM emphasis is on prevention not just those deemed to have moderate or high risk, should be required to include strategies to prevent invasive plant introduction and dispersal, not just "reduce" ~~#~~ risk. (see EIS p.6)

Analyzed alternatives also should have considered limiting the toxicity and dispersal of herbicides used - eg. alt.s eliminating the use of the most toxic herbicides and prohibiting aerial spraying and most or all broadcast spraying. There is not a full range of alternatives to address public concerns and better protect species, human health, and ecological processes from toxic chemical poisoning. The "No Herbicide Use" alternative is admitted to have been included "for comparison purposes" - i.e. not being considered seriously - and the other alternatives fail to respond to viable and sensible public suggestions for better protection from herbicide impacts. The need and purposes are so narrowly construed as to fence out consideration of relative impacts of the herbicides (eg. within alt. 3) as a factor in decision-making.

Re: the Purposes for action given: Purpose #2 is simply not a compelling reason for herbicide use. Public lands should not be manicured into "safety" zones from native plants, and manual control is already being effectively used. Re: #3: This discussion of juniper expansion fails to acknowledge historic natural cycles of juniper contraction and expansion (see Belsky), and most significantly, the root causes of livestock grazing and roads in sage grouse habitat loss.

Alternatives:

We are strongly opposed to aerial herbicide application east of the Cascades as well as West of the Cascades as aerial use tends to disperse herbicide more widely on non-target plants, water bodies, wildlife, and humans. Analysis of alternative 1 is ridiculously inadequate, failing to explain why it would not meet the Need or to assess the benefits of Alt. 1 or how it could be adapted to better meet the Need and Purposes—three sentences is inadequate analysis! Re: alternative 3, we are concerned that the two additional herbicides proposed for use east of the Cascades - chlorsulfuron and sulfometuron methyl - are very potent and can have highly toxic effects. (See our PEIS comments & further in these comments for details.) Re: alternative 4 - We object to the inclusion of more toxic herbicides (than in alt. 3) - diuron, bromacil, and tebuthiuron and to consistently more herbicide use and risk planned for the Eastside than the Westside. The list of acres where herbicide use would be permitted under alt.s 4 + 5 is huge under administrative sites, recreational sites, and rights of way (see DEIS p. 19) and would affect a tremendous amount of land with toxic chemical contamination, including rapidly expanding renewable energy sites and cell phone transmission sites, widespread fire suppression sites, and many public sites with highly vulnerable people (children, elderly, chemically sensitive people, etc.) such as schools, parks, campgrounds, picnic areas, overlooks, OHV areas, boat facilities, etc. We strongly oppose this increased risk to the public, native plants, wildlife, fisheries, soil, water, and air quality. We are opposed be used to control them? The positive examples of requiring less herbicide use are only given for imazapic and imazapyr, with other ALS-inhibitors such as metsulfuron methyl being redundant and not really necessary, as well as apparently more toxic. (See EIS p.22 par 1) In general, the ALS-inhibiting herbicides are very potent and should not be used in aerial or broadcast spraying. (See analysis in the Region 6 Forest Service PEIS and our comments on the R6 FS PEIS and the BLM PEIS.)

Again, we adamantly oppose aerial spraying with herbicides East of the Cascades - We also have on the Eastside many streams, seeps, and springs - many of which are unmapped or undectable from the air - that could be affected, tall trees that could increase drift height, checkerboard land patterns, and vulnerable fish, amphibians, plants, other wildlife, humans, crops, and soils.

There needs to be a large net reduction in soil disturbance activities and invasive plant vectors for introduction and dispersal across all land ownerships to ever control and reduce the spread of invasive plants. This critical issue is completely neglected - and thus de-prioritized - in the DEIS. Obviously most grazing permittees don't have enough incentive or awareness to stop the spread of invasives by livestock, given the evidence of livestock as a vector (eg. we have seen Dalmatian Toadflax growing only in cowpies along the John Day River), and the same can be said for public vehicles on public lands methods are less harmful than herbicide use or that increasing funding for them is outside the scope of the DEIS. (See DEIS p.23)

Comparison of Effects of the Alternatives:

Future climate change-related increases in temperature and changes in precipitation are actually very region and sub-region specific and may not favor invasive plants on the Westside. Eastern Oregon changes are also speculative. (Re: DEIS p. 25, last par.)

Herbicide use should not be a means of supporting a destructive industry (herbicide manufacturing) and must be phased out as soon as possible, not used as a convenient and cheap false solution. Herbicides alone will not cure the problem and don't address root causes of the problem.

Non-herbicide control methods should be prioritized over herbicide use in a decision tree and used to the full extent feasible. A timeline should be developed for the definite and planned phase-out of herbicide use. (Eg. the baseline starting point is current use now, w/ objectives of 10% reduction from that by year X, 25% by year Y, 50% by year Z, and after that 80% by a year closer in time that previous time spans (which should be getting progressively shorter) and hopefully 100%, stopping herbicide use, by 20 years out, or sooner if possible. This kind of timeline allows for fluctuation in herbicide use from year to year to allow for variation in occurrence or detection of invasive plant populations, but gives definite benchmarks for meeting the goal and adaptive management.

bromacil, diuron, and tebuthiuron. Heaven forbid you use something else for development fire protection as benign and permanent as rock! (re: DEIS p. 29 par. 3) Native vegetation is a natural component of ecological diversity and should not be targetted for herbicide use. Using herbicides for timber and livestock production are commodity uses that should not be under consideration. We are wary of automatically dousing post-wildfire landscapes with herbicides - imazapic - as proposed. What would be the effects to other plants and wildlife re-colonizing the area or surviving the fire? Allowing for natural recovery after fire is recommended by scientists as there are few post-fire areas allowed to follow natural patterns of nutrient recycling and large down wood and snag retention, as well as other natural ecological processes.

The whole discussion of livestock (DEIS pp. 29-30) ignores the role of livestock as vectors for introducing and dispersing invasive plants and shutting down ranches and allotments - shutting down degraded and infested allotments to allow restoration to take place would help! The discussion of wild horses and burros fails to acknowledge greater risks to grazing animals of herbicides (see the Forest Service Region 6 PEIS.) Native people's traditional and subsistence plant and wildlife gathering areas should be off-limits to herbicide use. Alt. 4 additional herbicides should not be used because of acknowledged increased of the Cascades" as we live, work, gather medicinal and edible plants (berries, mushrooms, arnica flowers, nettles, Arrowleaf balsamroot, etc.) and recreate on BLM lands east of the Cascades – as do many other people, including a higher percentage of hispanic workers, Asian mushroom pickers, Native people, and low income people than may be on the West side of the Cascades.

There is not just a <u>perception</u> of unguarded exposure and the possibility of direct contact and/or ingestion of sprayed native plants along public roads – this threat is very real – and not just relevant West of the Cascades. We are tired of being treated as if we are expendable east of the Cascades! The environmental risks of herbicide use are not necessarily lower for the East side, just different. Have you really polled a broad section of the Eastside public regarding their acceptance of herbicide use? Of course not. Most of the Eastside public has no idea this planning is even taking place. You're mostly talking to ranchers, farmers, and other agency staff familiar with and working with the BLM on a regular basis, not those without vested economic interests in removing invasive plants or using herbicides.

Both alternatives 4 and 5 plan excessive herbicide use (alt. 3 is also higher than should be necessary.) <u>Increasing</u> the use of 2,4-D and other more toxic herbicides over such high acreage is unacceptable. Alt. 5's lack of specificity determined for wells and springs? Are these adequate? There should be no herbicide spraying in or near hydrologically connected ditches and roads (wet or dry).

Don't use herbicide spray near water and restrict herbicide use in dry riparian buffers to the winter hibernation or estivation period to more fully protect amphibians and sensitive mollusks—or preferably, use non-herbicide control methods in these areas. Amphibians are in sharp decline world-wide in part due to herbicide and pesticide use. The other mitigations for herbicide use during active amphibian periods are far more likely to fail due to their complexity.

Not using herbicides on native plants would help reduce ~~to~~ risk to ungulates and other wildlife. Herbicide impacts to listed and sensitive species should be completely avoided. Maximum application rates should be prohibited as with the Forest Service Region 6 PEIS and ROD. This would help reduce risk to grazing mammals such as wild horses and burros, deer, elk and Pronghorns. Wild horses have unrestricted access to most of their habitat. Therefore, stop using 2,4-D, clopyralid, diflufenzopyr and dicamba, diuron, glyphosate, hexazinone, picloram, or triclopyr in areas used by these species, as well as by Bighorn sheep. Herding the horses out of spray areas simply isn't going to happen, and doesn't protect other grazing mammals.

Blue Mtns Biodiversity Project Comments on the BLM Herbicide Use EIS

An alternative that could greatly reduce risks while allowing for some herbicide use

* Note: This alternative is contingent on much greater prioritization of prevention measures to control introduction and dispersal of invasive plants, on prioritization of non-herbicide control methods over herbicide use whenever feasible, setting a definite time-table for phasing out herbicide use completely, and on not using herbicides on native plants or for additional uses proposed in alts. 4+5.

Based on our assessment of Table A9-2 on DEIS p.542-547, restricting herbicide use to some of the least toxic and least persistent and mobile herbicides (clopyralid, glyphosate*, imazapic, imazapyr, and very limited uses of fluridone for aquatic invasives) would enable effective control by either non-herbicide or herbicide means for all but 17 of the 226 invasive (and native plants) proposed for control. Of these, at least 4 appear to be native plants, which we are opposed to controlling with herbicides, (Giant horsetail, Bouncing Bet?, Evergreen huckleberry, and Pacific Rhododendron + Western Water hemlock) and three have commercial value (St. John's Wort, Baby Breath, and Horehound), so permits could be issued for complete gathering of those. We only know of one of those remaining that poses significant problems in our area – Dalmatian Toadflax. Either more effort and consistency could be devoted to its non-herbicide control or exceptions could be made for only these invasives if non-herbicide control is not working after more consistency and effort and/or other non-toxic methods tried.

* non-POEA formula only

(*) The whole discussion under "Additional Effects by Resource" is heavily biased toward herbicide use, sometimes w/no mention of impacts of increased herbicide use or w/very toxic herbicides.

(*) We don't appreciate the stated

reasons for using more herbicides, a greater increase in herbicide use, + more

generating less waste material. toxic herbicide use on the East side - just because there are less people + is less water doesn't mean we + wildlife, water quality, native plants, soils, etc.

Administrative Sites, Roads, and Rights-of-Way – Meeting safety and protection requirements in these areas already requires non-herbicide control of native vegetation. Tractor-mounted mowers are the most common vegetation control along roads west of the Cascades, and chain flailers are more common east of the Cascades. Treatments around other sites may involve hand tools, extra site protection with rock or weed barriers, or other equipment. Weeds encroching into pavement edges are difficult to control without herbicides. Under Alternative 4, herbicides would be available to do a portion of these treatments – replacing current non-herbicide treatments at a ratio of about 1:1. Benefits include lower cost, control of unidentified invasive weeds, and not using equipment prone to picking up seeds and moving them to other locations. should be more subject to increased herbicide risk east of the Cascades - we refuse to be a sacrifice zone.

Comments, Continued — on BLM Herbicide Use DEIS by Blue Mtns Biodiversity Project

Social and Economic Values – The analysis is structured around three social values identified during scoping: concern about weed spread from BLM lands; concern about herbicides as a threat to resource values, and; feelings that herbicides would provide benefits to resource values. The concerns/feelings are not mutually exclusive; several comment letters expressed two or even all three of these points. However, concerns about the use of herbicides were far more likely to be expressed by people west of the Cascades and there are a number of reasons. Population density is 14 times higher west of the Cascades; most of the west side is covered by domestic source water drainages; there are more water courses; the effects of invasive plants are less apparent to the average west side resident because vegetation density keeps them hidden; and fewer livelihoods are directly linked to the productivity of the land. These differences between the east and west side, the species of weeds themselves, the differences in topography and climate, and the concerns of local citizens, are the main reasons for the differences between the alternatives east and west of the Cascades. For example, aerial application would not be conducted west of the Cascades under Alternatives 3 and 4, and proposals to aerially spray would be rare under Alternatives 2 and 5. In addition, herbicide acres treated west of the Cascades are projected to increase only 45 percent between Alternatives 2 and 5, while east of the Cascades, Alternative 5 acres are projected to be 310 percent more than Alternative 2. Also, the three Alternative 4 herbicides that are of concern to water-related resources are mostly available only on east of the Cascades. There are citizens concerned about the west of the Cascades as well. Productivity of the land is also impaired by herbicide use.

In any event, there is a high degree of agreement on both sides of the Cascades that invasive plants are a serious problem, and that the effects of their spread will be more harmful than the use of herbicides. However, some people may be less supportive of Alternatives 4 and 5 where native vegetation control is an additional focus, even though treatments are limited to non-commodity objectives and there are secondary invasive plant control benefits.

(*) Where did you get support for the conclusion of agreement that invasives are more harmful than herbicide use?

quote

Environmental Justice – There is a potential for Hispanic or other minority crews to apply some herbicides under some scenarios, and those crews' access to written instructions, warning labels, or even recourse if asked to do something unsafe, may be limited. Also, low income people and American Indians may be more likely to be gathering wildland products including blackberries than the public as a whole, resulting in a higher exposure and risk for these groups. (*) So why are these people also sacrificed? Why is there no alternative or provisions to better protect Hispanics, Natives, + low income people - all of whom exist on the East side.

Costs – The gross cost for treating the noxious weeds and other invasive plants varies across the alternatives from \$6.5 to \$8.9 million, being more expensive if non-herbicide methods are used, and more expensive as total acres go up (Table 2-4). Since there is a *current budget trend* assumption for all alternatives, the increase assumes some level of additional funding would become available from cooperators, partners, or other resource programs as treatments become more efficient because of additional herbicides, or as herbicides become available for additional resource program objectives such as fuels management or rights-of-way management. When the effectiveness of each alternative at eliminating weeds on the treated acre is factored in, the costs become substantially different in favor of increased herbicide use. (*) There seems to be an automatic assumption across the board that non-herbicide control is always more expensive

For treating vegetation in rights-of-way, administrative sites, and recreation sites, project costs are \$217 per acre

regardless of plant type, volunteer crews, etc. externalizing the hidden costs of herbicides to water quality, fisheries, edible plants, cultural native plants, human health, TES wildlife species, soil fertility, etc.

(*) The absence of toxicity information and risk assessments for formula adjuvants with the exception of NPE throws a great deal of uncertainty into the risk assessments for the different herbicides. (see EIS p. 41)
Adjuvants are not always only small portions of the volume of herbicide applied -

purpose or utility modifiers). Surfactants are one type of adjuvant that makes the herbicide more effective by increasing absorption into the plant, for example.

Adjuvants (including surfactants) and other ingredients are not under the same registration guidelines as are herbicides. The EPA classifies these compounds into four lists based on the available toxicity information. If the compounds are not classified as toxic, then all information on them is considered proprietary and the manufacturer need not disclose their identity. Therefore, adjuvants and other ingredients generally do not have the same amount of research conducted or label disclosure on their effects as do active ingredients. In general, adjuvants compose a relatively small portion of the volume of herbicide applied. NPE due to the estrogenic properties
(*) Prohibit use of surfactants containing NPE or NP high toxicity to fish.

A risk assessment has only been completed for one commonly used non-ionic surfactant type, nonylphenol polyethoxylate (NPE) (Bakke 2003). NPE is found in these commercial surfactants at rates varying from 20 to 80 percent. NPE is formed through the combination of ethylene oxide with nonylphenol (NP), and may contain small amounts of un-reacted NP. NP and NPE are weakly estrogenic in aquatic and terrestrial organisms (1000 to 100,000 times weaker than natural estrogen). NP and NPE are not toxic to soil microbes. NP is highly toxic to many aquatic organisms at low concentrations (EPA 2007b).
(*) The BLM discontinued its use of R-11 adjuvant due to similar impacts (EIS p. 41)

The adjuvant R-11 is a nonylphenol ethoxylate that is acutely toxic to aquatic life (Stark and Walthall 2003) and is suspected to be an endocrine-disrupting chemical (Bakke 2003). The BLM has decided to suspend the use of R-11 in its herbicide applications and it is not evaluated further here.

Differences in the Number of Herbicides Proposed East and West of the Cascades

Under Alternatives 3 and 4, districts east and west of the Cascades identified different program needs. Differences in the number of herbicides available on the east and west of the Cascades under these alternatives are likely based on differences in native vegetation types and invasive plant occurrence. (*) This is contrary to earlier statements re: population density + public acceptance.
Aerial application is prohibited under Alternatives 3 and 4 west of the Cascades due to higher population and stream densities.

Provision for Adding Herbicides in the Future

(*) This is not reassuring given current EPA + BLM acceptance of 2,4-D, Diquat, etc. Need independent review.

Additional herbicides beyond the 18 included in the Record of Decision for the PEIS could become available for BLM use in the future if: 1) they are registered by the EPA for use on one or more of the Oregon land types[1]; 2) the BLM (nationally) determines that the benefits of use on public lands outweigh the risks to human health and the environment; 3) they meet the evaluation criteria to ensure that the decision to use the active ingredient is supported by scientific evaluation through human health and ecological risk assessments and NEPA documentation; and, 4) they are included in appropriate site-specific NEPA analysis. These evaluation criteria and how they are processed at the national level are discussed in more detail in Appendix 4. No "future" herbicide is assumed or analyzed in this EIS.

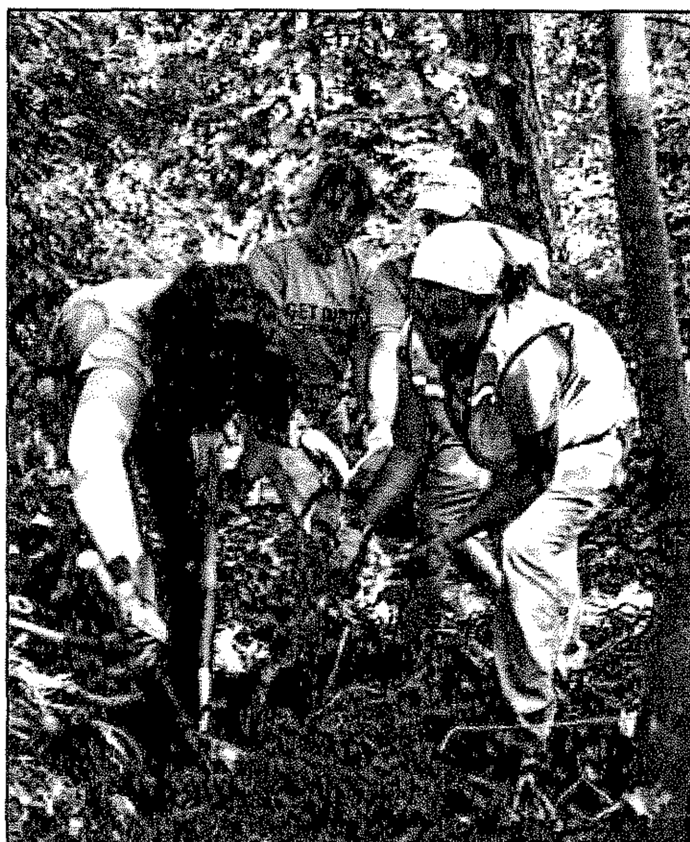
1 Forestland; rangeland; riparian or aquatic; oil, gas, and mineral sites; rights-of-way; and, recreation and cultural sites.

An indeterminate (small) percentage of treatments might be done by horseback. This would likely occur in areas where ATV access was not practical (e.g. susceptible habitat, wilderness areas, areas with steep terrain), but where a larger tank size was needed.

* Herbicide application from horseback tanks seems highly dangerous + should be prohibited. What happens if the horse spooks + runs off + the tank breaks or leaks? We are also concerned about the horses' health.

Non-Herbicide Treatment Methods

This EIS addresses making various herbicides available to BLM's existing vegetation management program. Non-herbicide treatments are already addressed in Resource Management Plans and related project NEPA analyses, and discussed in the National Vegetation Treatments Programmatic Environmental Report (PER). However, to assist in cumulative effects analyses, descriptions of non-herbicide treatment methods are included here. (Non-herbicide treatment acres for invasive plants are included on Table 3-3)



As with herbicide application methods, the type of non-herbicide treatment method chosen depends on the treatment objective (eradication or reduction); accessibility, topography, and size of the treatment area; characteristics of the target species and the desired vegetation; location of susceptible areas and potential environmental impacts in the immediate vicinity; anticipated costs; equipment limitations; meteorological and vegetative conditions of the treatment area at the time of treatment; and, other factors.

* The synergistic +combined effects of complete herbicide formulas (not just single active ingredients) + tank mixes of more than one formula or active ingredient have not been adequately analyzed.

For Alternatives 4 and 5, the number of road and power line rights-of-way miles, BLM road miles, and the number and nature of other BLM and cooperator developments were compiled, and existing NEPA and other planning documents for these developments, as well as maintenance histories and needs for these developments, were examined. These helped guide district estimates of acres of treatment needs for these two alternatives. Once treatment acres had been estimated, district experts determined which herbicides could be used for those treatments. For example, 700 acres of road might be treated with triclopyr, glyphosate, or 2,4-D (or a tank mix that would include some mixture of these three). For analysis purposes, Table 3-3 reflects this by reporting a weighted average of these acres under each herbicide; Table 3-4 shows the estimated range and weighted average of those acres.

Table 3-4. Estimated Annual Acres Treated in Rights-of-Way, Administrative Sites, and Recreation Sites

Herbicide	Management objective: vegetation treatment in ROWs, admin. sites, and recreation sites under Alt. 4 (*weighted average*)	Alt 4: Use 12-16 herbicides to control invasive weeds, pests and diseases, and meet other management objectives (*weighted average*)	Alt 5: Use 18 herbicides to control vegetation (*weighted average*)
2, 4-D	0 - 5,900 (*1,300*)	4,700 – 10,400 (*5,700*)	6,700 - 12,400 (*7,900*)
Dicamba	0 – 3,800 (*800*)	1,100 – 4,700 (*1,700*)	1,100 - 4,700 (*1,700*)
Glyphosate	0 – 7,100 (*1,500*)	3,000 – 9,700 (*4,200*)	3,100 - 9,800 (*4,300*)
Picloram	0 – 3,200 (*700*)	2,800 – 5,900 (*3,400*)	2,800 - 5,900 (*3,400*)
Bromacil	0 – 3,500 (*700*)	0 – 3,700 (*700*)	100 - 3,800 (*800*)
Chlorsulfuron	0 – 4,100 (*800*)	3,300 – 7,400 (*4,100*)	3,400 - 7,500 (*4,200*)
Clopyralid	0 – 3,200 (*600*)	1,800 – 4,800 (*2,300*)	1,800 - 4,800 (*2,300*)
Diflufenzopyr + Dicamba	0	0	200
Diquat	0	0	200
Diuron	0 – 3,700 (*800*)	0 – 3,800 (*800*)	0 - 3,800 (*800*)
Fluridone	0	300	300
Hexazinone	0 – 1,000 (*300*)	300 – 1,000 (*400*)	300 - 1,000 (*400*)
Imazapic	0 – 2,800 (*600*)	13,900 – 16,400 (*14,100*)	15,900 - 18,400 (*16,200*)
Imazapyr	0 – 1,800 (*500*)	2,200 – 3,800 (*2,500*)	2,200 - 3,800 (*2,500*)
Metsulfuron methyl	0 – 4,500 (*1000*)	2,600 – 6,800 (*3,300*)	2,700 - 6,900 (*3,300*)
Sulfometuron methyl	0 – 3,800 (*800*)	500 – 4,300 (*1,200*)	700 - 4,500 (*1,400*)
Tebuthiuron	0 - 100 (*100*)	100 - 700 (*100*)	400 - 1,000 (*400*)
Triclopyr	0 – 5,000 (*1200*)	3,000 – 7,900 (*3,900*)	3,300 - 8,200 (*4,300*)
Total Herbicide[1]	9,400	45,100	50,000

[1] Acres are gross project acres rather than net acres.

(*) The wide range of potential acreages for herbicide use in Table 3-4 for alts 4 + 5 is ridiculous and displays the illegality of both of these alternatives in that it is impossible to know how many acres would have herbicide applied for each herbicide and thus impossible to make any reasonable estimate of potential impacts to species, ecological processes, workers, the public, etc.

* We reject the shift away from avoidance of herbicide impacts on non-target + native plants w/alts 2 + 3 to use of non-selective herbicides & removal of most or all plants in additional scenarios under alts 4 + 5.

Under Alternatives 2 and 3, herbicide application would happen with methods that would seek to avoid all non-target vegetation; that is, native (non-invasive) vegetation would be avoided with the use of selective herbicides or selective application methods. Under Alternatives 4 and 5, some applications would be to control all vegetation in administrative sites and recreation sites, which would likely change application selectivity. Under power lines west of the Cascades, a goal is to establish low growing vegetation and to prevent tree re-sprouting. This would most likely be done with spot or selective treatments. However, on roads, application would likely be performed by a truck with a mounted sprayer, as the goal would be to remove most vegetation, including vegetation invading pavement edges and vegetation that limits visibility. Most treatments on administrative or recreation sites would be spot treatments; however, some would use application methods and herbicides that would remove all vegetation. Habitat improvements, allowed under Alternatives 4 and 5, would be selective in order to keep desired vegetation.

Total treatment acres are similar under Alternatives 1 and 2; most acres that would be treated with herbicides under Alternative 2 would be treated through other methods under Alternative 1. Fire would increase by more than 300 percent and manual and mechanical methods would increase by about 150 percent.

Herbicide treatment acres increase by 13,600 acres annually (nearly double the acres) between Alternatives 2 and 3, but use of the four herbicides available under Alternative 2 would decrease 52 to 83 percent under Alternative 3. A majority of the increase in Alternative 3 is because of the availability of imazapic, which would be used on 11,500 acres, primarily east of the Cascades, to control monocultures of invasive annual grasses such as cheatgrass and medusahead. These acres are shown as an estimated annual average; at least some of the imazapic use would be to prevent invasive grass reinvasion after major fires and a 50,000-acre treatment every 6 or 8 years would be a possible scenario. It would also be used to reduce invasive grass fuels hazards in the wildland-urban interface around rural communities, and as part of a fire-imazapic-seeding restoration treatment. Only monocultures of invasive plants would be treated with a boom; the majority of the treatments under Alternative 3 would be done with selective methods. Seeding and planting and prescribed fire would increase significantly between Alternatives 2 and 3. These acres would often be duplicative to acres of herbicide treatments and would be part of restoring invasive weed monocultures to native vegetation.

Alternative 4 (the proposed action) would, in addition to invasive plant treatments, add 2,000 acres annually west of the Cascades and 12,800 acres annually east of the Cascades. One-third of this would be for habitat improvements in Conservation Strategies; the remainder would be for administrative site, right-of-way, and recreation site treatments. Right-of-way treatments would usually be accomplished by the permit holder (e.g., the power or pipeline owner). * This is an ~~unaccepta~~ unacceptably large increase in herbicide use for less important uses now met without toxins

Alternative 5 allows the use of herbicides for any non-commodity use. The acres (200 acres annually west of the Cascades and 4,700 acres annually east of the Cascades) that could be treated under Alternative 5 but not under any other alternative are primarily additional habitat improvement projects (e.g. reducing Western juniper encroachment into important sagebrush habitat). Juniper can be controlled without herbicides & the BLM's true motivation for its control is questionable

Under all alternatives, about 50 percent of the 2,4-D acres shown on Table 3-3 would be at low doses (oz. per acre) in a tank mix with other herbicides. Livestock pasture? Livestock to a large extent (along w/fire suppression) could have caused juniper expansion,

Are you merely creating more

Non-Invasive (Native) Vegetation Management

In addition to invasive plant treatments listed for Alternative 3 on Table 3-3 (and footnoted to apply to Alternatives 4 and 5 as well), Alternative 4 would permit the use of herbicides for native vegetation treatments for rights-of-way, administrative sites, recreation sites, and limited habitat improvement treatments. Alternative

if not natural periodic climate-related expansion.

* Rights of way for pipelines & utility lines are arguably commodity purposes.

TABLE 3-9. ESTIMATED CHANGE IN NATIVE VEGETATION ANNUAL TREATMENT ACRES

	Total Native Vegetation treated under **Alternatives 1-3 (no-action)**		Treatment of native vegetation on rights-of-way, administrative sites, and recreation sites under Alternative 4		Treatment of native vegetation for habitats as described in Conservation Strategies and Conservation Agreements under Alternative 4		Total Native Vegetation treated under **Alternative 4**		Treatment of native vegetation for healthy ecosystems under Alternative 5		Total Native Vegetation treated under **Alternative 5**	
Method	**WS**	**ES**	**WS**	**ES**	**WS**	**ES**	**WS**	**ES**	**WS**	**ES**	**WS**	**ES**
Herbicides	0	0	1900	7500	200	5500	2100	13000	200	4700	2300	17700
Mechanical	NA	NA	-1710	-6750	-42	-1155	-1752	-7905	-42	-987	-1794	-8892
Manual	NA	NA	-190	-750	-28	-770	-218	-1,520	-28	-658	-246	-2178
Net change in total native vegetation acres treated	-	-	0	0	130	3575	130	3,575	130	3055	260	6630

(*) Again the impacts to Eastside ecosystems from toxic herbicides would be disproportionately and unacceptably high-esp. under alts 4 + 5 for non-essential purposes. Almost doubling herbicide use under Alt 3 is too high & reflects a preference for convenience & lower cost over safety & naturally functioning ecosystems.

Applicator Certification

Per BLM Policy, all herbicide application is carried out by certified applicators or under the direct supervision of a certified applicator. Certified applicators must attend pesticide training and successfully complete a comprehensive certification exam to receive a three-year certification. Certification is issued by the BLM's Washington Office, and a roster of certified pesticide applicator personnel is maintained in the Washington Office (USDI 1992c). In addition, the Oregon BLM hires contractors that are certified and licensed by the Oregon Department of Agriculture, Pesticides Division, which requires similar training and certification.

(*) This purpose is not being met by substituting toxic herbicide use for existing non-toxic methods in rights of way, admin. and recreation sites & allowing unnecessary increases in herbicide use & use of unnecessary highly toxic herbicides.

Risk Assessments

> **Acute toxicity:** The quality or potential of a substance to cause injury or illness shortly after exposure through a single or short-term exposure.
>
> **Chronic toxicity**: The ability of a substance or mixture of substances to cause harmful effects over an extended period, usually upon repeated or continuous exposure sometimes lasting for the entire life of the exposed organism.

(*) One of the *Purposes* identified in Chapter 1 is: *6. Prevent herbicide control treatments from having unacceptable adverse effects to applicators and the public, to desirable flora and fauna, and to soil and water.* To help address this *Purpose*, this EIS relies on BLM and/or Forest Service-prepared human health and ecological risk assessments for the 18 herbicides analyzed in this EIS. These risk assessments are included in this EIS as *Appendix 8: Risk Assessments*, and total over 6,000 pages. The risk assessments are used to quantitatively evaluate the probability (i.e. risk) that herbicide use in wildland settings might pose harm to humans or other species in the environment. As such, they address many of the risks that would be faced by humans, plants, and animals, including Bureau Sensitive and Federally Listed species, from the use of the herbicides. The level of detail in the risk assessments for wildland use far exceeds that normally found in EPA's registration examination.

(*) Regardless of the # of pages, risk assessments are recognized to have a high degree of uncertainty, to be incomplete, and not to incorporate the complexity of natural environments or the combined & synergistic effects of full herbicide formulas + tank mixes. EPA weak standards reflect their corporate polluter revolving door syndrome.

* There appear to be risk assessment data gaps for: bromacil (only 1991 data on human health risks), "Overdrive" (no human health risk assessment listed), ~~diquat~~ diuron & tebuthiuron, based on Table 3-10. Why wasn't the missing data sought out & updated information provided?

Table 3-10: Human Health and Ecological Risk Assessment Sources

Herbicide	Ecological Risk Assessments (ERA)		Human Health Risk Assessments (HHRA)	
	2007 BLM PEIS[1]	2005 FS EIS[2] (Ecological & Human Health)	2007 BLM PEIS[1]	1991 BLM EIS[3]
2,4-D		√[4]		
Bromacil	√			√
Chlorsulfuron	√	√		
Clopyralid		√		
Dicamba		√	√	
Diquat	√		√	
Diuron	√			√
Fluridone	√		√	
Glyphosate		√		
Hexazinone		√		
Imazapic	√		√	
Imazapyr		√		
Metsulfuron methyl		√		
Overdrive *(Diflufenzopyr + dicamba)*	√			
Diflufenzopyr	√		√	
Picloram		√		
Sulfometuron methyl	√		√	
Tebuthiuron	√			√
Triclopyr		√		

[1] 2007 PEIS: Risk Assessments developed for the 2007 *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement.*

[2] 2005 FS EIS: Risk Assessments developed for the 2005 *Pacific Northwest Region Invasive Plant Program Final Environmental Impact Statement*. These risk assessments are both human health and ecological. For chlorsulfuron and dicamba, the BLM has a more recent ERA and HHRA (respectively), so only the remaining part of the FS Risk Assessment was used.

[3] 1991 BLM EIS: Human Health Risk Assessments adopted with the 1991 *Vegetation Treatments on BLM Lands Record of Decision*, and originally developed for the Forest Service's 1988 *Managing Competing and Unwanted Vegetation Final Environmental Impact Statement* as part of a HHRA that covers 16 herbicides.

[4] The 2,4-D Risk Assessment was replaced in 2006.

ARI is a formula for combining LOCs for all exposure avenues (oral, dermal, inhalation), each with different uncertainty factors, and comparing them with the exposure levels that would occur in the scenarios in the risk assessments. ARIs less than 1 indicate a concern from at least one of the exposure avenues (EPA 2001b:51-55).

Forest Service Risk Assessments

The Forest Service risk assessments are very similar to the BLM's. The Forest Service risk assessments established a Hazard Quotient (HQ) for every herbicide and established risk categories as follows:

0	No Risk	HQ < LOC for the species
L	Low Risk	HQ = 1 to 10 times the LOC[13] for the species
M	Moderate Risk	HQ = 10 to 100 times the LOC for the species
H	High Risk	HQ > 100 times the LOC for the species

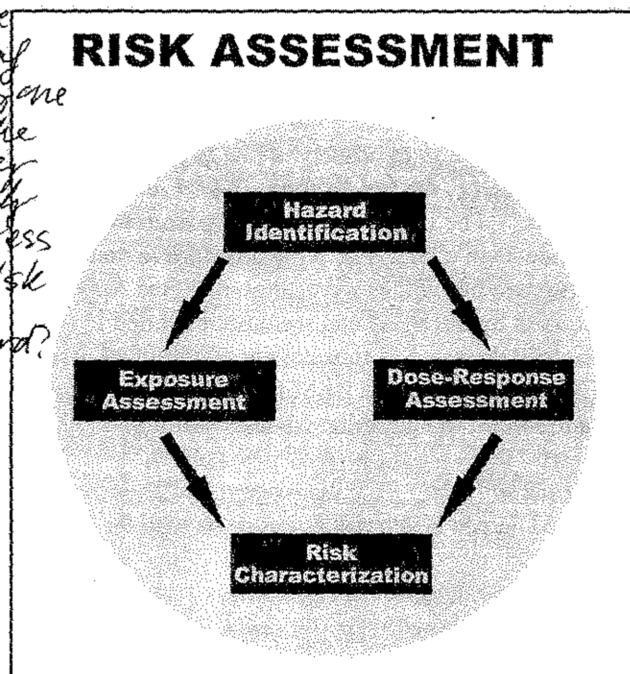
*The fallacy here is that it's possible for 5-10 times the LOC to result in reproductive failure, inability to avoid predators, or direct death to vulnerable species, let alone 100 x the LOC.

The HQ is calculated using the Reference Dose (RfD) and the Toxicity Index (TI). The RfD is the dose that an organism would be exposed to under the test scenario; the TI is the toxicity of the herbicide and the HQ is the RfD divided by the TI. An uncertainty factor can be brought in if it is thought that a species (or a particular individual within the species) is particularly susceptible to herbicide use, or that the single dose does not represent long-term exposure. *Are RfDs and TIs or EECs & TRVs expressed in comparable units of measurement & things measured so these calculations of dividing one by the other really express the risk or hazard?

Figure 3-1 shows the basis for risk assessments, which consists of the following parts:

- Hazard Characterization: what are the dangers inherent with the herbicide? (e.g. endocrine disruption, cancer causing, etc.)
- Exposure Assessment: who could come into contact and how much? (specific exposure scenarios)
- Dose Response Assessment: how much is too much? At what dose are observable effects observed?
- Risk Characterization: indicates whether or not there is a plausible basis for concern (HQ or RQ)

FIGURE 3-1. BASIS FOR RISK ASSESSMENTS



13 As noted in the previous discussion, LOCs are generally set at 1/10th of the LOAEL. Thus an HQ of 1 to 10 times LOC is equivalent to an HQ of 0 to 1 in the 2005 Forest Service Invasive Plant EIS (USDA 2005:4-73). The Forest Service EIS goes on to explain "The threshold is intended to help reviewers distinguish moderate risks (HQ=2 to 10 [HQ = 20-100 in this EIS]), which could in most cases be mitigated through exposure-reducing project design criteria from significant health risks (HQ>10 [HQ>100 in this EIS]) that could be difficult to mitigate if Worst-Case situations occur at the project level. For specific situations where a HQ>10 [HQ>100 in this EIS] is identified, the specific physiologic effect and the relationship between the NOAEL and the LOAEL may be evaluated to more precisely determine whether a toxic effect is actually likely to occur (Durkin, personal communication)." (USDA 2005:4-73).

(*) We are concerned by loopholes in application of protective measures such as mitigation and Standard Operating Procedures — these make for unsubstantiated conclusions of "few or no adverse effects" e.g. by adverse

effects identified by the PEIS being mitigated *only "where practicable" (EIS p. 74) and SOPs being implemented unless "a determination is made" that they are unnecessary. This gives broad latitude for rash decisions not to use SOPs or

- contact or ingestion of an herbicide;
- invasive plants; and,
- non-herbicide treatments.

Standard Operating Procedures, PEIS Mitigation Measures, Risk, and the Potential for Adverse Effects

needed mitigation because they are inconvenient (*not "practicable") or ~~costly~~ expensive. Thus assurance of few or no effects is weak.

The BLM has a long history with herbicides. As a result, numerous handbooks and other policy materials have been developed governing the use of these herbicides. For the PEIS, direction from these policies was gathered and labeled as SOPs (see Appendix 2). Effects described in the PEIS and this EIS are predicated on application of the SOPs or that a site-specific determination is made that their application is unnecessary to achieve their intended purpose and protection. (*) So the Standard Operating Procedures are voluntary, not mandatory, yet the effects described in this EIS + EIS are predicated on SOPs being followed

The PEIS examined (and the ROD selected) an alternative using 18 herbicides for a full range of non-commodity vegetation treatment objectives in the 17 western states. CEQ regulations require an EIS to identify mitigation measures for all identified adverse effects, if they are available. The various resource-specific effects sections in the PEIS all identify various levels of risk or adverse effects, and each section identified one or more mitigation measures. These were in addition to the SOPs. The Record of Decision for the PEIS adopted *all* of these mitigation measures. Like the SOPs, the PEIS Mitigation Measures are included in Appendix 2 and apply to all alternatives in this EIS. Since the alternatives in this EIS are subsets of the alternative selected by the Record of Decision for the PEIS, and all adverse effects identified by the PEIS were mitigated where practicable, there should be few or no adverse effects expected from implementation of any of the action alternatives in this EIS. That is essentially what the effects examination confirms. "Adverse effects" identified in this EIS for the use of herbicides are, for the most part, identifications of risks identified by the risk assessments and other literature without SOPs and PEIS Mitigation Measures applied. (*) Many adverse effects of herbicides may be unavoidable but we are given no indication of how serious those ↓ bottom

Potential adverse effects from the use of herbicides are, in many of the resource-specific sections in Chapter 4, expressed as zero or no, low, moderate, and high *risk*. These are quantified terms (see *Risk Assessments* earlier in this Chapter) summarizing the results of scenarios modeled by the risk assessments and summarized on Tables 3-12 through 3-21. Where risk assessment scenarios resulted in a moderate or high risk, that risk is reported in Chapter 4 as a *potential adverse effect*, or *risk*. It is important to understand, however, that such risks almost always generated corresponding PEIS Mitigation Measures during the PEIS process (if there were not already SOPs designed to avoid the adverse effects). Therefore, most of the potential for adverse effects discussed in Chapter 4 are followed by the conclusion that implementation of the SOPs, PEIS Mitigation Measures, and site-specific analysis (during which the risk assessments will be specifically consulted) should make the risk of adverse effects negligible, de minimus, or at worst "minimized". (*) These rubberstamping assumptions of negligible or minimized risks depend on 100% effectiveness & implementation of mitigation.

Occasionally the effects discussions will use unquantified comparison terms like less than, slightly, lower, greater, and so forth. These are typically relative statements *within* the risk assessment-defined terms of low, moderate, and high.

Cont. allowed under loophole wording such as "for the most part" (p. 74 par 2) would be. Apparently "low" risks are not reported in Chapter 4 as potential adverse affects or risks (see EIS p. 74 par 3) even though what actual impacts "low" risks would have for particular specie or values like water quality is not described — and for highly vulnerable species like amphibians could potentially be lethal. Cumulative effects over the long term of repeated herbicide use is apparently also not adequately assessed.

(*) cont. Certain herbicides obviously pose a higher risk to fish and aquatic life and should not be used near streams or waterbodies. These include (in addition to herbicides already mentioned that should not be used because of overall toxicity risks): glyphosate, imazapyr, metsulfuron, picloram, & clopyralid. Along with bromacil, diuron, & ~~and~~ tebuthiuron, and ~~diuron~~ 2,4-D, hexazinone use should be avoided due to higher risks to the public. This assessment was just based on presumed "high" risk with the exception of hexazinone but following logical conclusions of which herbicides not to use and to not use maximum application rates or aerial spraying would eliminate most "moderate" risk rating occurrences also, with the exception of, for example, an accidental spill of fluridone.

Chapter 4

Affected Environment and Environmental Consequences

yet the BLM fails to take these obvious precautions based on its own analysis.

In addition to considering the potential for adverse environmental effects from herbicides, the individual resource sections in this Chapter examine the environmental implications of the various levels of weed control that would be expected to be achieved by the different alternatives. To facilitate these discussions, the *Noxious Weeds and Other Invasive Plants, Vegetation, Pest and Disease Control, and Climate Trends* sections are presented first, in order to quantify differences between the alternatives in terms of native ecosystems protected or invasive plant spread reduced. In other words, the different number of herbicides available across the range of alternatives would result in different levels of vegetation control or site disturbances. These differences have implications to the subsequent resource effects-discussions.

Incomplete and Unavailable Information

Like the PEIS, this EIS is a programmatic document that addresses the broad impacts associated with the proposed action and alternatives to the proposed action. Environmental impacts are assessed at a general level because of the broad land area analyzed in this EIS. As noted during the public scoping meeting in Portland on July 18, 2008 "It will be hard to evaluate non-target impacts because they usually require specifics about application." Site-specific impacts will be assessed in NEPA documents prepared by local BLM offices and tiered to this document.

The analyses of impacts of the use of herbicides in this EIS are based on the best and most recent information available. As is always the case when developing management direction for a wide range of resources, not all information that might be desired was available. The Council on Environmental Quality (CEQ) Regulations provide direction on how to proceed with the preparation of an EIS when information is incomplete or unavailable:

"If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement: 1) a statement that such information is incomplete or unavailable; 2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; 3) a summary of existing credible scientific evidence

(*) Despite stating CEQ's requirements re: how to proceed w/an EIS w/ incomplete or unavailable information, the EIS section on this does not appear to meet reqs #3+4 stated on EIS pp. 85+86.

* = causes for our concern, reasons for a precautionary approach

* Knowledge is, and always will be, incomplete regarding many aspects of terrestrial and aquatic species, forestlands, rangelands, the economy, and society. However, central ecological, economic, and social relationships are well established, and a substantial amount of credible information about ecosystems in the project area is known. The alternatives were evaluated using the best available information. And while additional information may add precision to estimates or better specify relationships, new or additional information is unlikely to significantly change the understanding of the relationships that form the basis of the effects analysis presented in this Chapter.

* Locations of future projects are largely unknown, as they will be determined later in time. For this EIS analysis, acreage estimates have been separated between west and east of the Cascades, because both the spread of invasive weeds, and the likelihood of working near water and/or people, is substantially different between these two general areas of the State. Beyond that, local site-specific land use plans and activity plans will identify the priorities for each district.

One resource for which information is incomplete or unavailable is social and economic costs of invasive and noxious weeds. These costs are only now being understood and quantified by economists and vegetation scientists at local and regional scales. Related to this problem is the uncertainty in projecting invasive weed spread. As noted in the *Vegetation, Native Plants, and Plant Communities* section, the spread of individual species could have, in retrospect, been reduced to one or two percent of ultimate acreages within watersheds or other locally defined areas if they had been controlled when populations were only a few plants or acres. Expecting identification of many such opportunities is reasonable; many small populations are spreading now because the proper herbicide is not available. Estimating the ecological value of such control efforts is also possible at the species and small watershed scale. However, the translation of these opportunities to an overall description of long-term vegetation changes for each alternative and a resultant ecological gain for each alternative is necessarily qualitative.

As noted in the *Air Quality* section, the science is lacking to develop a complete carbon budget principally due
* to the lack of information on belowground carbon dynamics in all ecosystems and very limited information on aboveground carbon dynamics in rangeland ecosystems. Although carbon cannot be thoroughly analyzed, one of the known qualitative trade-offs are that activities that can restore healthy functioning ecosystems, including treatments to reduce invasive plants, tend to increase carbon sequestration. The analysis points out that Alternative 4's replacement of roadside mowing with herbicide use should decrease fossil fuel use. These factors point to the proposed action having favorable effects on climate change and long-term air quality when compared to the No Action Alternative, but the difference is qualitative and likely so small as to play little role in influencing the choice between the alternatives.

Accidental Spill

Spills happen when valves fail, when vehicles or handheld equipment tips over or falls into water bodies, when applicators forget herbicides are present in equipment, and so forth. SOPs, job hazard analyses or risk management assessments, safety and handling plans, designated travel routes, mixing rules, separated equipment, and other processes are designed to minimize spill occurrence, but the alternatives propose to treat thousands of acres in an area where there are thousands of streams and lakes present. Many of the invasive plants are in the riparian zones or even in water, so some amount of herbicide mix gets near water.

Forest Service's Invasive Plant Program

The Forest Service manages about 22 percent (14.5 million acres) of the land in Oregon. The Forest Service's Invasive Plant Program proposes to treat approximately 29,058 acres with herbicides in Oregon and Washington to control invasive plants. Herbicides available for use by the Forest Service include chlorsulfuron, clopyralid, glyphosate, imazapic, imazapyr, metsulfuron methyl, picloram, sulfometuron methyl, and triclopyr, all of which are analyzed in this EIS, and sethoxydim. The Region 6 (Forest Service in Oregon and Washington) Invasive Plant Program's EIS was finished in 2005 (USDA 2005) and the Record of Decision was signed October 2005. Forests are in the process of completing site-specific NEPA tiered to that decision.

Petition to Cancel all Registrations of 2,4-D

(*) There are all good health safety reasons to prohibit the use of 2,4-D

(*) On November 6, 2008, the Natural Resources Defense Council (NRDC) petitioned the EPA to revoke all tolerances[4] and cancel all registrations for 2,4-D. As a part of the petition, NRDC asserts that the Agency did not consider the full spectrum of potential human health effects associated with 2,4-D in connection with EPA's reassessment of the existing 2,4-D tolerances, and EPA's ecological risk assessment including:

- information on the endocrine disrupting effects of 2,4-D;
- information on the neurotoxicity related to 2,4-D exposure;
- information that products containing 2,4-D are mutagenic;
- data showing that dermal absorption of 2,4-D is enhanced by alcohol consumption, sunscreen, and DEET which the EPA's exposure assessment failed to include; and,
- information about adverse developmental effects at doses below those included in EPA's risk assessment for exposure of infants to 2,4-D in breast milk.

regardless of the EPA's final ruling (esp. as the EPA is often run by past CEOs of polluting corporations.)

[summarize list]

The EPA has sought comment on the petition, but a final decision has not been reached. However, EPA's risk assessment of 2,4-D and findings on whether the tolerances for 2,4-D comply with the safety standards are contained in a June 2005 Reregistration Eligibility Decision (RED) document for 2,4-D (EPA 2005a). The BLM will comply with the final decision.

Sulfometuron Methyl Reregistration Eligibility Decision (RED)

In the November 12, 2008 Federal Register, the EPA announced that its sulfometuron methyl RED was available for review and comment. In the RED, the EPA proposes to:

- prohibit sulfometuron methyl in counties with an annual rainfall of less than 10 inches;
- prohibit use within 100 feet of water; and,
- prohibit use on powdery dry soil or light sandy soil when it is predicted that there is less than a 60 percent chance of rainfall within 48 hours.

A final decision from the EPA has not been issued. A decision to adopt the proposed standards would particularly affect sulfometuron methyl application in Malheur County (in the Vale District) and Sherman County (in the Prineville District) where annual precipitation is 9.64 inches and 9.15 inches, respectively. Figure 4-1 shows average annual precipitation in the State.

(*) If this much caution is needed w/ Sulfometuron Methyl, it should not be used - especially not ~~within~~ near water (more than a 100 foot buffer seems advisable, not with aerial or boom spraying,

4 Tolerances are limits permitted in food or water.

& not in Eastern Oregon, where powdery dry and light sandy soils are common and there is often less than a 60% chance of rainfall & low annual precipitation. (See EIS p. 91)

(*) Reasons for not using particular herbicides: * ↓ below

site movement and/or accidental spills. Potential impacts include mortality, reduced productivity, and abnormal growth. Risk to off-site plants from spray drift is greater under scenarios with application from greater heights (i.e., aerial application) or when air temperature or movement is high. Risk to off-site plants from surface runoff and movement through soil (leaching) is influenced by precipitation rate and timing, soil type, and application area. Measures taken to limit exposure, such as selective application methods (e.g. spot spraying, or wiping), typical application rates-that are less than the maximum allowed on the label (Appendix 9), drift reduction agents, and application restrictions based on environmental conditions (wind, precipitation, temperature, etc.), reduce the off-target movement of herbicides. SOPs and PEIS Mitigation Measures are designed to minimize risk to non-target species.

Site specific project design can minimize risks to non-target plants. Design considerations include the abundance and distribution of invasive and native plant species, stage of growth (phenology) of plants, and the size of the treatment area, as well as physical features like soil moisture, presence of special status plants, timing of precipitation, air temperature, wind speed, and other factors.

Certain herbicides target specific types of plants (Table 3-1), so collateral damage to non-target plants will depend upon their sensitivity to that herbicide. For example, dicamba targets broadleaf plants, so damage to grasses would not be expected during normal use. Tables 3-12 and 3-13, the risk assessments (Appendix 8), and the following section summarize the potential effects to plants by active ingredient. The herbicides are grouped by their mode of action.

* Federally Listed species as well as those designated Bureau Sensitive are more at risk from herbicides because their populations may be limited in geographic scope, and thus damage to individual may have population implications. Although the ecological risk assessment vegetation risk ratings, Tables 3-12 and 3-13, apply equally to all vegetation and thus do not display this increased risk, PEIS Mitigation Measures (Appendix 2) provide for wider buffers for Federally Listed and Bureau Sensitive species. This coupled with required clearances for potentially occupied habitat would make herbicide risk to Federally Listed and Bureau Sensitive species negligible.

In any event, herbicides are designed to kill plants, so they will kill non-target plants if they contact them. The following section discussed the relative risks from drift and other avenues for contact with non-target plants[17]. Mortality or damage from such contact can be assumed.

* <u>ALS-Inhibitors</u> - *Chlorsulfuron*, *metsulfuron methyl*, *sulfometuron methyl*, *imazapic*, and *imazapyr* work by inhibiting the activity of an enzyme called acetolactate synthase (ALS), which is necessary for plant growth. These five herbicides are effective at low dosages. In some circumstances, an effective dose of this herbicides * could be more easily moved by drift or water runoff , and could damage non-target species more readily than the other groups of herbicides proposed.

<u>Synthetic auxins</u> - *Picloram*, *clopyralid*, *triclopyr*, *2,4-D*, and *dicamba* mimic naturally occurring plant hormones called auxins. They kill plants by destroying tissue through uncontrolled cell division and abnormal growth.

In the Pesticide Re-registration Fact Sheet–Picloram (1995), the EPA noted that *picloram* poses very substantial * risks to non-target (broadleaf and woody) plants. The EPA also noted that picloram is highly soluble in water, resistant to biotic and abiotic degradation processes, and mobile under both laboratory and field conditions.

17 However, most of the risk is within the plant group that the herbicide is effective against (e.g. broadleaf, grasses, etc. See Table 3-1)

* There doesn't seem to be any detail given to justify the use of toxic chemicals - including non-selective herbicides - on 5,700 acres of habitat under Recovery plans, Conservation Strategies, or Conservation Agreements for Federally listed or Bureau Sensitive species - which listed or Sensitive species? How would they

be affected by herbicide use in Alt 4 their habitat. Herbicide use to achieve what?

way, administrative sites, and recreation sites. In rights-of-way, treatment is more likely to be done by boom spray (or similar broadcast method) rather than applying herbicides to individual plants. The risk to non-target native plants from direct herbicide spray is moderate to high for almost all of the herbicides available under this alternative (Tables 3-12 and 3-13). Some of the herbicides available are non-selective (Table 3-1), and would kill all inadvertently treated plants in the treatment area. Diuron, glyphosate, hexazinone, imazapyr, and tebuthiuron would be used statewide, and bromacil and sulfometuron methyl would only be used east of the Cascades. However, the use of herbicides in rights-of-way, administrative sites, and recreation sites may have negligible effects on native plants as these habitats are currently managed in early seral condition (primarily by mechanical methods). That said, early seral Bureau Sensitive and Federally Listed species that are growing on roadsides and similar sites *because* they are maintained in an early seral condition with non-herbicide treatments such as mowing would be at risk of damage from herbicides. Required plant surveys and other clearances would mitigate some but not all of this risk. * There is inadequate analysis of this issue - not enough information given for informed decision-making.

Under this alternative, herbicides would be used on an estimated 5,700 acres annually to restore habitats as described in approved Recovery Plans, Conservation Strategies, or Conservation Agreements for Federally Listed or Bureau Sensitive species. While herbicides used could have risk to non-target plants, applications would be specifically designed to improve overall habitat conditions. Wouldn't herbicides killing non-target plants, contaminating soil + water, etc. degrade habitat quality for these species?

The effects of herbicide treatments on noxious weeds and other invasive plants under this alternative would be the same as described for Alternative 3. What about inadvertent direct spraying of these species, contamination of food or prey consumed & accidental spills?

<u>Effects of Invasive Plants on Native Plants:</u> Simply listing these species in an appendix is not enough.

In general, the loss of native plants would be proportional to the acres projected to become infested. Under Alternative 4, the rate of spread of noxious weeds is projected to decrease to 6 percent annually (down from the current 12 percent), and approximately 1/5-1/4 of all BLM lands in Oregon would be infested within 15 years (Table 4-6). This does not include the five million acres currently infested with other invasive plants that would continue to spread (presumably at a slightly reduced rate) under this alternative. The additional herbicides available under this alternative (1 west of the Cascades; 3 east of the Cascades) are generally designed for vegetation control in rights-of-ways and other developed areas. Because right-of-way treatments would inadvertently control noxious weeds and other invasive plants on primary spread routes, the benefit to native plant communities is higher than Alternative 3, with 300,000 fewer acres projected to be infested with noxious weeds in 15 years.

(*) The effects of herbicide use on rights of way, admin sites, etc. has not been adequately analyzed - What native plants + wildlife would be hurt, & to what extent?

<u>Effect of Non-Herbicide Treatments on Non-Target Native Plants:</u>

The amount of non-herbicide treatments projected to take place for the control of invasive plants, and their effect on native plants, is the same as for Alternative 3. However, this alternative would also make herbicides available to control native vegetation along rights-of-ways, administrative sites, and recreation sites. Such treatments would reduce non-herbicide treatments currently being done in those areas on an acre-for-acre basis (see Table 4-7 below, adapted from Table 3-9 in the *Non-Invasive (Native) Vegetation Management* section of the *Assumptions about Application Methods* section in Chapter 3). The alternative would also make herbicides available for certain habitat improvements, reducing current non-herbicide treatments by about 35 percent of the proposed herbicide acres. The assumed net change in treatment acres when compared to Alternative 3 is shown in Table 4-7. * There are still native plants within these areas that could be affected.

? For the rights-of-ways, administrative sites, and recreation sites, herbicide use does not reduce non-herbicide treatment risks to non-target plants, because current non-herbicide treatments are within the disturbed clearing limits for rights-of-way anyway. An exception might be thought to occur where a listed species occurs within one of these disturbed areas. However, such a site, if known, would be protected under all treatment scenarios, so there would be no effect.

*We are concerned by the overly brief mention of the threat of Sudden Oak Death prevention herbicide use to Coho + Chinook salmon. Would waterways be buffered from herbicide use? Is aquatic labeled glyphosate the POEA version the one that is more toxic to fish?

Why not use imazapyr near salmon habitat if it is less toxic to fish

Alternative 3 – Use 11 (W) or 13 (E) Herbicides to Treat Invasive Weeds and Control Pests and Diseases; Alternative 4 (Proposed Action) – Use 12 (W) or 16 (E) Herbicides to Treat Invasive Weeds plus Limited Additional Uses; and, Alternative 5 – Use 18 Herbicides to Treat Invasive Weeds and Meet Non-Commodity Vegetation Management Objectives or manual methods only within stream buffers?

Obviously alt 4 + 5 additional herbicide are not necessary for prevention

The herbicides imazapyr and glyphosate would be available for use in killing tanoaks and/or treating cut stumps within control areas on BLM lands. Under a proposed cooperative plan to step up efforts to eradicate the pathogen from Oregon, BLM treatments are estimated at 250 acres per year. Herbicide would be expected to be manually applied to frills chopped in the boles of tanoak trees, daubed or spot sprayed on cut stumps, and/or spot sprayed on sprouting foliage at cut stumps. If the infestation continues to spread, these acres would be expected to increase. if Sudden Oak death pathogen spread. We agree the problem is serious enough to warrant careful herbicide use – but only by injection

Herbicide treatments to prevent tanoak sprouting are more effective in eliminating *P. ramorum* from infested sites, because sporangia, zoospores, and/or chlamydospores remaining on site readily reinfect the sprouts and continue to occupy the site and reproduce. The estimated contract costs for injected herbicide treatment of tanoak stems is $200/acre. or spot spraying of sprouts.

Chainsaw control of sprouting stumps would be all but eliminated under these alternatives. Achieving the cooperating agencies' goal of removing the pathogen from Oregon is far more likely; and all agencies would be expected to more aggressively fund and pursue that goal if it is made more achievable. Site disturbances from the falling, piling, and burning of tanoak would be similar to such disturbances under Alternatives 1 and 2. These disturbances would be less under this alternative only to the degree that the acres in need of treatment would be less under this alternative in the long term.

Measures to reduce the potential effects of herbicides on fish (see Fish Section)

In July 2008, the BLM and Forest Service prepared a Programmatic Biological Assessment for submission to the National Marine Fisheries Service that described the potential for 2008-2013 control efforts to affect listed Coho and Chinook salmon within the Southwestern Oregon Province. That Biological Assessment determined the following treatments and protection measures would result in no effect to Federally Listed species.

> "Where allowed and feasible, all tanoak (*Lithocarpus densiflorus*) and other hosts with stems meeting minimum requirements suitable for injection (approximately 1 inch in diameter and greater) within the eradication zone would be injected with the chemical aquatic-labeled glyphosate using a method referred to as "hack and squirt." This method would employ a single tool that injects the herbicide directly into the stem with little to no chance for a spill. Once the tanoak is dead (approximately two weeks), it is cut. Only daily quantities of aquatic-labeled glyphosate would be transported to the project site. Aquatic-labeled glyphosate would not be applied if rain is likely to occur within 24 hours. Spill prevention, hauling, staging, mixing, loading, cleaning, application equipment, and storage requirements would be implemented.
>
> "An Oregon Licensed applicator with forestry, aquatic, and right-of-way categories would be utilized. All herbicide mixing would be done in the presence of an agency Project Inspector. Equipment cleaning and storage and disposal containers would follow all applicable state and Federal laws. The licensed herbicide applicator would prepare a written herbicide Spill Contingency Plan in advance of the actual aquatic-labeled glyphosate application, then submit it to the Authorized Officer prior to operations, and keep a copy with each crew. An agency approved Spill Containment Kit would be on-site during all stages of applications" (USDA, USDI 2008:20).

These measures are consistent with the treatment expected under Alternatives 3-5.

we are concerned about planned extensive use of herbicides east of the Cascades in part because of prevalent soil conditions of high clay content w/ low ability to break down herbicides, high surface runoff + wind erosion that could transport herbicides
& vulnerable

quote Important biological crusts directly damaged by herbicides (& livestock etc.)

"hydrolysis) may become the primary breakdown mechanism. Also, if noxious weeds have changed the soil chemical or moisture contents in a manner that changes the variety or overall amount of these organisms, herbicide persistence may be extended. Finally, disturbance from mechanical treatments or animal traffic particularly on wet soils, could compact the surface layer to a point that these organisms would lose their ability to degrade the applied herbicides." More reasons for concern re: Eastside herbicide use: dust storms, difficult growing conditions, low water flow, many unmapped *

Erosion and Compaction are closely related. Compaction decreases soil pore space and increases soil density, decreasing productivity and reducing the ability of the soil to infiltrate water. Without the infiltration of water into the soil, soil organisms or water bound to soil particles cannot interact with the herbicides to break them down. Decreased infiltration means more water running across the surface, eroding soils (particularly those particles loosened by raindrop impact) and potentially moving herbicides off site. Traffic on the surface, be it wheeled or tracked vehicles, animals, or human feet can cause compaction as well as disturbance of the soil. Bare or compacted soils can be colonized by noxious weeds more readily than native plants, as weeds tend to be more adapted to establishing on such altered sites. * streams, seeps, + springs, & many listed & rare native plant & wildlife species.

Vegetation is the most significant factor in controlling erosion because it intercepts precipitation, reduces rainfall impact, restricts overland flow, and improves infiltration. Noxious weed infestations have been shown to increase soil erosion in comparison to soil occupied by native grass species (Lacey et al. 1989). Weeds have less capacity to dissipate the kinetic energy of rainfall, overland flow, and wind that causes soil erosion, when compared to the native species on the site (Torri and Borelli 2000, Fryrear 2000).

East of the Cascades, wind is the primary element of erosion. Wind can remove soil particles under certain conditions of low vegetative cover, dry soil, high percentage of fine clays, and sufficient wind velocity. While wind erosion on rangelands is difficult to quantify, the presence of natural vegetation and soil crusts on most rangelands is generally sufficient to keep wind erosion from becoming a serious problem. Erosion selectively removes organic matter and the finer-sized soil particles that store nutrients for plant use, leaving behind soil with a reduced capacity to supply nutrients (Brady and Weil 1999). Herbicides bound to soil particles can be transported off-site by blowing soils, negatively affecting non-target areas.

Parameters that Affect the Fate of Herbicides in Soils – The ability of soils to hold and breakdown herbicides is affected by soil biological processes (organisms and plant uptake), physical parameters (adsorption, photo degradation, volatilization, hydrolysis, and leaching), and physical parameters (climate and vegetation cover). Characteristics of the 18 herbicides that influence the effectiveness of these parameters and processes are shown on Tables 4-14 and 3-1.

The rate at which a herbicide degrades is expressed as the half-life. The half-life is the amount of time it takes for half of the herbicide to be converted into other chemical components, or its concentration is half of its initial level. The half-life of an herbicide can be affected by its formulation, soil type, and environmental conditions (e.g., temperature, moisture). The fate of the herbicide before it degrades is affected by plant uptake, soil sorption, leaching, and volatilization.

Plant uptake is outside the scope of this discussion (see the *Vegetation, Native Plants, and Plant Communities* section earlier in this Chapter) and volatilization occurs when the herbicide releases into the air. Leaching is caused by movement in water, which is effected by how tightly the herbicide is bound to the soil particles. Herbicides degrade or break down into elements such as carbon, oxygen, hydrogen, and nitrogen. Some may form intermediate compounds. On the plant or soil surface, primary breakdown is by photolysis or volatilization. In the soil, micro-organisms metabolize the herbicide, it is broken down by water (hydrolysis), or it is moved through the soil in water-leaching.

systems, prolonged persistence of chlorsulfuron in the soil profile is possible. It is likely that in some soils dissipation rates could be slower than the reported average, including arid soils with high pH and low organic matter. Such longevity could occur on the slightly (pH 7.4-7.9) and moderately (pH 7.9- 9.4) alkaline soils within the Aridisols, Mollisols, Inceptisols and Entisols soil orders.

Clopyralid is unstable in soil and is considered moderately persistent based on its half-life. It will leach under favorable conditions such as wet, sandy soils like Inceptisols or Andisols as it does not bind to soil tightly. However, biodegradation is rapid in soil and thus the potential for leaching or runoff is low. Clopyralid can persist in plants and therefore can be introduced into the soil when plants die and kill other plants.

What organisms does diuron's breakdown product 3,4-DCA affect & to what extent?

Diuron is a highly persistent herbicide with low to moderate mobility in soil, depending upon the level of organic matter available for it to adhere to. Decomposition is principally through biodegradation and occurs in both anaerobic and aerobic conditions. As degradation occurs, the breakdown product 3,4-DCA also persists and exhibits higher toxicity to some receptors[31]. Waterfleas are negatively affected but it is unknown if it affects soil crustaceans. Bacteria and fungi have been found to degrade this herbicide and population levels within the soil may increase. Thus, effects to them may be positively correlated. One study found adverse effects on bacteria diversity at concentrations of 25 mg/L and diversity seemed to decrease in soil treated with diuron (Giacomazzi and Cochet 2004). What other soil organisms & other life might be affected by 3,6-dichlorosalicylic acid in addition to earthworms? Persistence time in soils?

Dicamba is moderately persistent in soil. The half-life of dicamba in soil is typically 1 to 4 weeks. Under conditions suitable for rapid metabolism, the half-life is less than 2 weeks. Metabolism by soil micro-organisms is the major pathway of loss under most soil conditions. The rate of biodegradation increases with temperature and increasing soil moisture, and tends to be faster when soil is slightly acidic. When soil moisture increases above 50 percent, the rate of biodegradation declines. Dicamba slowly breaks down in sunlight. Volatilization from soil surfaces is probably not significant, but some volatilization may occur from plant surfaces. It is stable to water and other chemicals in the soil. Dicamba does not bind to soil particles and is highly soluble in water. It is therefore highly mobile in the soil and may contaminate groundwater. In humid areas, dicamba will be leached from the soil in 3-12 weeks (Howard 1991). The breakdown product is 3,6-dichlorosalicylic acid that is adsorbed strongly to soils but is moderately toxic to earthworms (IUPAC 2009).

Diflufenzopyr - Biodegradation, photo-degradation, and hydrolysis are the primary mechanisms that remove diflufenzopyr from soil. It is not considered persistent. Diflufenzopyr appears to be soluble enough that transport in surface runoff is possible, especially in neutral to alkaline soils.

Diquat is readily adsorbed to clay soil surfaces, becoming effectively immobilized by soils with high clay content. Diquat is resistant to anaerobic and aerobic biodegradation, possibly in part because it adsorbs so well to soil particles. It is considered a highly persistent herbicide with a half-life of 3 years or longer.

Fluridone adsorption to soil increases with clay content, organic matter content, cation exchange capacity, surface area of sediment particles within the water column, and decreasing pH. Fluridone can persist on dry soils longer and may last up to a year, making it a moderately persistent herbicide. Volatilization can occur slowly on wet soils but not dry ones. No toxicity to earthworms was found when tested with rates up to 1,000 times the typical use rate.

This is inconsistent w/ Table 4-14, which labels Fluridone non persistent.

Glyphosate binds tightly to soil particles. This binding increases with increasing clay content, organic matter and decreasing soil pH. Glyphosate is biodegraded by soil organisms and many use it as a source of carbon. There is little information indicating that it is harmful to soil micro-organisms and may benefit some (Busse et al. 2004).

31 An ecological entity such as a human, fish, plant, or slug.

* We ask that Picloram be prohibited from use due in part to its negative effects to soil organisms, its persistence in soils and its great potential (along w/ dicamba, which should also be banned) to be transported through leaching or surface run-off. (see EIS p. 155, pars 4+5)

on and within the soil). Weeds can out-compete native vegetation and lead to increased soil exposure; resultant increased erosion would remove soil and nutrients. Changes to the type and abundance of various soil micro-organisms because of lower organic matter contents would be expected to hinder processing and storage of water or cycling organic matter into nutrients for plant growth. Weeds can out-compete native species in part because they have high nutrient uptake rates and can deplete soil nutrients to very low levels, especially in cases where weed species initiate spring growth prior to native species and exploit nutrient and water resources before native species are actively growing (Olson 1999).[32] Any of these changes would result in less productive lands for native vegetation and reduce the potential for restoring the original vegetation community, often permanently.

Alternative 2 (No Action) – Use 4 Herbicides to Treat Noxious Weeds Only

Under this alternative, noxious weeds would be treated on approximately 45,500 acres; 16,700 acres (37 percent) with herbicides. The acres treated with herbicides would reduce the number of acres treated by directed livestock, mechanical, or manual removal, but not by use of fire, in comparison to Alternative 1. The lowered level of disturbance would benefit soils; reducing soil disturbance would reduce adverse effects to soil functions when compared with Alternative 1.

Treatments baring soils could result in wind and rain erosion. However, the vast majority (93 percent) of treatments between 2000 and 2007 have been applied with ground-based equipment or with the use of backpack sprayers, trucks, or ATVs off road. These traditionally have been spot treatments that do not completely remove vegetation from extensive areas at any one time. Even the remaining 7 percent that has been applied aerially is usually done with selective herbicides designed to retain the native plant component of the infested area, providing some protection from either wind or rain erosion.

* Picloram has a 90 day half life (Table 4-14), but may remain active in soil at levels toxic to some broadleaf plants for about one year at typical application rates (Extoxnet PIP). 2,4-D, dicamba, and glyphosate have half-lives between 10 and 50 days in the soil. Picloram is the only herbicide under this alternative that is documented * to effect soil organisms in a negative way (USDA 2005:4-110). 2,4-D may increase bacteria that degrade the herbicide (Oh and Tuovinen 1991cited in Tu et al. 2001). Busse et al. (2004) determined that both direct and indirect soil microbial characteristics in the top 4 inches of soil were generally unchanged after 9 to 13 years of continuous vegetation control by glyphosate. Thus, soil quality would not be degraded using these herbicides to control noxious weeds under this alternative. * This conclusion of no effects to soil quality from herbicide use is directly contradicted by info. given on Picloram's harm to soil organisms & its persistence in soils.

* The highest risk of herbicide movement under this alternative would be for dicamba or picloram used on Alfisols, Entisols, Spodosols and Andisols or other orders with sandy soil textures or low amounts of organic matter. Under these conditions, these herbicides are easily moved by water both laterally and vertically through surface runoff or leaching respectively. It is generally accepted that 2,4-D is rapidly inactivated in moist soil; however, its persistence is largely dependent on pH.

The use of prescribed fire for weed control would increase 2,000 acres compared to Alternative 1, increasing the erosion risk for temporarily bared soils. Follow-up use of glyphosate[33] could extend the time the soil would be bare, increasing the risk of erosion, notably from wind since these treatments are generally done on porous soils on gentle terrain east of the Cascades. * Following up prescribed fire w/ relatively non-selective glyphosate could inhibit native plant recovery & ultimately set conditions for renewed invasive plant infestation.

32 For example, leafy spurge displaces native vegetation in prairie habitats through shading and usurping available water and nutrients. Leafy spurge also secretes toxins that prevent the growth of other plants near it. Once present, this aggressive invader can completely overtake large areas of open land.

33 Glyphosate can be effective on some annual grasses, but PEIS Mitigation Measures limits use on rangeland to spot treatments.

* Reasons for concern & dropping the use of that herbicide

Environmental Consequences

A primary issue for this analysis is the potential for herbicides to enter streams and impact water quality for aquatic species and domestic water sources. Surface and ground waters on and adjacent to BLM lands are susceptible to contamination from herbicide applications through direct application, drift, spill, leaching, washing (erosion, overland flows), or the deposition of treated soils or vegetation matter into waters. The likelihood and significance of this contamination is influenced by the herbicide, adjuvants, temperature, wind, method of application, soils, rainfall, water use, and other factors.

Effects of Herbicides on Water Resources

Herbicides used for both Aquatic and Terrestrial Vegetation Control

* 2,4-D: Some salt forms of 2,4-D is registered for use in aquatic systems. 2,4-D is a known groundwater contaminant although potential for leaching into groundwater is moderate by its being bound to organic matter and its half-life is short. Concentrations of up to 61 mg/L 2,4-D have been reported immediately following direct application to water. Concentrations as low as 0.22 mg/L can damage susceptible plants (Que Hee and Sutherland 1981 cited in Tu et al. 2001).

In terrestrial applications, most formulations of 2,4-D do not bind tightly with soils, and therefore have a moderate * potential to leach into the soil column and to move off site in surface or subsurface water flows (Johnson et al. 1995 cited in Tu et al. 2001). In a study on groundwater in small shallow aquifers in Canadian prairie, 2,4-D was detected in 7 percent of 27 samples (Wood and Anthony 1997).

Diquat would be applied to remove emergent, floating, or submerged aquatic vegetation. In aquatic systems, diquat (ionic) adsorbs to sediment, suspended solids, and aquatic vegetation, and becomes immobilized (Simsiman and Chesters 1976). Thus, diquat is ineffective in turbid waters. Loss of diquat from aquatic systems, both through photolysis and biodegradation, is possible, but only when the herbicide is not adsorbed to solid surfaces. When adsorbed, the herbicide is protected from biodegradation and photolysis (Howard 1991). Aquatic half-lives of 1 to 2 days have been reported for diquat, as a result of sorption onto particulates and sediments * (National Library of Medicine 2002). Diquat is a known groundwater contaminant[35]. It has a moderate potential to leach into the groundwater.

Fluridone would be applied to ponds, lakes, canals, and reservoirs, but has limited use in flowing water because it works through contact maintained over several weeks. Water quality is not degraded when fluridone is used at a concentration of less than 20 ppb, and it is generally considered safe to use in areas where swimming or fishing occur (WA Dept of Ecology 2002). Whole-lake treatments using fluridone are possible because the herbicide does not cause a rapid plant kill, which would otherwise result in oxygen-depleted water and reduced water quality.

Photodegradation in aquatic systems is an important loss pathway for fluridone (British Crop Protection Council and The Royal Society of Chemistry 1994). Fluridone is stable to hydrolysis, volatilizes slowly from water, and adsorbs to suspended solids and sediments (EPA 1986, Lyman et al. 1990, Tomlin 1994, MacKay et al. 1997, ENSR 2005g). Fluridone has low potential to leach to groundwater and is not known to contaminate groundwater. * It does have high potential to be transported in surface runoff.

35 Has been detected in groundwater. Does not necessarily mean levels have exceeded any established health standard or allowance.

*= Reasons for our concerns re: use of particular herbicides & over-reliance on herbicides in general

Herbicides Used for Terrestrial Vegetation Control

Bromacil is mobile in soil and is a known groundwater contaminant. It can be persistent in most aquatic environments because it is stable to hydrolysis, and photodegradation occurs rapidly only under alkaline conditions (ENSR 2005b). The environmental hazards section of current product labels includes a groundwater advisory warning users not to apply bromacil in areas with permeable soils in order to protect water quality. Biodegradation is a major loss mechanism in aerobic and anaerobic aquatic systems. Bromacil is not expected to partition to suspend particles or sediments in aquatic systems, but will remain dissolved in the water column and has a high potential to leach into the groundwater.

Chlorsulfuron is persistent and mobile in some soils. In aquatic environments, the environmental fate of chlorsulfuron is related to pH and temperature. Hydrolysis rates are fastest in acidic waters and slower in more alkaline systems (Sarmah and Sabadie 2002). As hydrolysis rates drop, biodegradation becomes the mechanism affecting the breakdown of chlorsulfuron. Aquatic dissipation half-lives from 24 days to more than 365 days have been reported (ENSR 2005c), with a shorter time reported for flooded soil (47 to 86 days) than anaerobic aquatic systems (109 to 263 days; SERA 2004a). Chlorsulfuron is not known to be a groundwater contaminant, but has a high potential to leach into the groundwater.

Clopyralid does not appear to bind tightly to soil and will leach under favorable conditions (SERA 2004b). However, leaching and subsequent contamination of groundwater appear to be minimal, which is consistent with a short-term monitoring study of clopyralid in surface water after an aerial application (Rice et al. 1997a cited in SERA 2004b). Clopyralid is not known to be a common groundwater contaminant, and no major off-site movement has been documented. Clopyralid does not bind with suspended particles in water; biodegradation in aquatic sediments is the main pathway for dissipation. The average half-life of clopyralid in water has been measured at 9 and 22 days (Dow AgroSciences 1998).

Dicamba: Because dicamba is mobile in soil, terrestrial application of this herbicide can result in groundwater and surface water contamination. Biodegradation is the major mechanism for dicamba degradation in water. Dicamba is a known groundwater contaminant, and has a high potential to leach into groundwater. The EPA has set health advisory concentration levels for dicamba (e.g. 300 µg/L for 1-day exposures), but has not set maximum concentration limits for potable water. A regional study of pesticides in shallow groundwater in Delaware, Maryland, and Virginia detected dicamba in groundwater at low concentrations, generally less than 3 µg/L (ppb) (Koterba et al. 1993).

Diflufenzopyr appears to be soluble, with transportation from surface runoff following application, particularly when diflufenzopyr is applied on soils with neutral to alkaline pH. However, based upon proposed uses, fate characteristics, and model predictions, the EPA does not expect diflufenzopyr to occur in drinking water in significant quantities (EPA 1999). Diflufenzopyr is not a known groundwater contaminant.

Biodegradation, photolysis, and hydrolysis are important mechanisms in removing diflufenzopyr from aquatic systems. Its half-life is less than 1 month, with hydrolysis and photolysis rates higher in acidic environments. The aquatic dissipation half-life for diflufenzopyr is 25 to 26 days in aerobic and 20 days in anaerobic conditions. Diflufenzopyr's expected half-life in small ponds is estimated at 24 days. These factors suggest that diflufenzopyr would be removed from an aquatic environment relatively rapidly if contamination occurred (EPA 1999).

Diuron is a known surface water and groundwater contaminant. The U.S. Geological Survey (USGS) National Ambient Water Quality Assessment Program analyzed pesticide occurrence and concentrations for major aquifers and shallow groundwater in agricultural areas and found diuron in 71 percent of 2,608 samples (Thurman et

Picloram may degrade through photolysis, especially in non-turbid and moving water. Woodburn et al. (1989) found that the half-life of picloram in water was 2 to 3 days (cited in Tu et al. 2001) but the EPA reported it stable to hydrolysis and unlikely to degrade in ground water, even over several years (EPA 1995). Maximum picloram runoff generally occurs following the first significant rainfall, after which runoff concentrations drop to levels that persist up to 2 years post-application (Scifres et al. 1971, Johnsen 1980, Mayeux et al. 1984, Michael et al. 1989, all cited in Tu et al. 2001).

Sulfometuron methyl degrades quickly by hydrolysis in acidic water, but is stable in neutral water. Biodegradation and photolysis are major loss pathways in aquatic systems, where hydrolysis rates generally are slow. Aquatic dissipation half-lives are estimated at 1 to 3 days to 2 months in aerobic systems, and several months in anaerobic sediments (Extoxnet 1996c). Sulfometuron methyl is not known to be a groundwater contaminant. In one surface water study, sulfometuron was detected in 2 percent of 133 samples taken from streams.

Reason not to use tebuthiuron:

Tebuthiuron persists in the environment and has been found as a groundwater contaminant. It has a low sorption to soil. In a study of 71 streams, it was detected in 16 percent of 134 samples but not detected in groundwater (Battaglin et al. 2001). Tebuthiuron degrades slowly in aquatic systems.

Routes for Off-Site Movement of Herbicides

Run-off, Drift, Direct Application, and Leaching

The major routes for herbicide contamination of water are runoff from a large rainstorm soon after application, drift into streams from spraying, direct application, and leaching through soil into shallow ground water or into a stream.

Run-off *From this summary of Berg (2004:3) it sounds like herbicides reaching streams is not dependent on a rainfall event but can happen immediately

Monitoring studies and fate and transport research often find low, but detectable levels of herbicides concurrent with or immediately after (1) herbicide application and (2) the first or the first few rain-induced runoff events after application (Berg 2004:3)[37]. after or concurrent w/ herbicide application, suggesting groundwater, soil or drift transmission. So rainfall probability is not the only factor to consider.

Berg reported that herbicide applied in or along dry ephemeral or intermittent stream channels may enter streams through run-off if a large rainstorm occurred soon after treatment. This risk is minimized if intermittent and ephemeral channels are buffered. If a large rainstorm occurs after herbicide application, sediment contaminated by herbicide could be carried into streams. As most herbicide application occurs in the spring through the fall, during the dryer season, the probability of a large rainstorm soon after application of herbicides is low at any particular site. *Dry ephemeral & intermittent streams should be buffered from herbicide use due to run-off potential.

Berg's (2004) compilation of monitoring studies on herbicide treatments with various buffer widths showed that any buffer helps lower the concentration of herbicide in streams adjacent to treatment areas. In California buffers between 25 and 200 feet generally resulted in no detectable concentrations of herbicide in monitored streams with detection limits of 1-3 mg/m^3 (ppb) (Berg 2004).

In South Carolina, ground applications of the herbicides imazapyr, picloram and triclopyr had no detectable concentrations of herbicide in monitored streams with buffers of 30 meters (~100 feet) (USDA 2003a). No detection limits were given.

37 Many or all of the referenced studies were broadcast forest and rangeland treatments, and they were not randomly selected. The point of the reference is not that herbicides "often" enter streams, but to identify the two most likely times of that entry if it is to occur at all.

(*) The Dent and Robben (2000) study showed herbicide residues in streams w/ 60 to 100 foot buffers and aerial application, suggesting the need for greater than 100 foot buffers, which is confirmed by other studies as well. (see EIS p. 169 par. 3)

The Washington study collected herbicide samples at 7 sites on small streams (Rashan and Graber 1993). Buffers were 50 feet on flowing streams and no buffers on small stream channels assumed to be dry. Peak herbicide concentrations ranged between 0.2 and 7.55 µg/l. Maximum 24 hour averages were between 0.13 and 3.25 µg/l. Runoff samples collected at four sites 2 to 24 days after application had concentrations between 0.17 and 2.49 µg/l.

The Washington study attributed the majority of herbicide introduction in buffered streams to swath displacement, drift, and secondary contribution from overspray of small stream channels mistakenly assumed to be dry. This study recommended buffers of between 15 to 25 meters (45-75 feet) for upwind streams and 75 to 90 meters (225-270 feet) for streams downwind of applications. (*) The "Washington study" (Rashan and Graber 1993?) ~~recommends~~ recommends 225-270 feet buffers for downwind streams w/ aerial application. (EIS p. 169 par 2)

The State of Oregon requires buffers of 60 feet for aerial application of herbicides near fish bearing streams or streams used for domestic water supplies. For the Oregon study, two streams outside this category also received 60-foot buffers (actual on the ground buffers ranged from 60 to 100 feet). Most of the samples (21 sites, and 105 post spray samples) had a detection limit of 1 µg/l. None of these samples had concentrations at detectable limits. Five sites (25 samples) had detection limits of 0.04 to 0.5 µg/l. Most samples were still below detectable limits, but 7 of the 25 samples tested between 0.9 and 0.56 µg/l (Dent and Robben 2000).

All aerial applications of herbicides will comply with EPA label restrictions and State regulations. SOPs applicable to all alternatives (Appendix 2, *Wetland and Riparian Areas*) require a minimum of 100-foot stream buffers for aerial sprays to reduce drift to streams.

Direct Application

Spray Monitoring

Washington State monitoring reports were looked at for 2003-2006 (WA Dept of Ecology 2003-2006). Many sites showed no detection after spraying. The site with the highest detection was a small pond where 1/3 acres of parrot's feather was sprayed with glyphosate. The results were 343 µg/l one hour after treatment and 53ug/l 24 hours later. This is under the threshold for glyphosate in potable water and under the 500ug/l used for acute toxicity index for fish.

Lakes, Reservoirs, and Wetlands

Herbicides affect lakes and wetlands differently than streams. Dilution by flow or tributary inflow is generally less effective in lakes. Dilution is partially a function of lake size, but dilution could be rapid in small lakes in rare instances where they have large water contributing areas. Decreases in herbicide concentration in lakes, ponds, and other lentic water bodies are largely a function of chemical and biological degradation processes rather than of dilution. Evaporation of water from a lake's surface can concentrate chemical constituents. As vegetation within water dies, the oxygen level within the lake can decrease.

Injection Monitoring

Knotweed stem-injection sites were also monitored by Washington States Department of Ecology. Three sites had no detectable concentrations in the water one hour or 24 hours after injection. The two sites with detectable concentrations were under the threshold for potable water (Table 4-19).

Accidental Spill

Concentrations of herbicides in streams as a result of an accidental spill depend on the rate of application and the streams' ratio of surface area to volume. The persistence of the herbicide in water depends on the length of stream where the accidental spill took place, velocity of stream flow, and hydrologic characteristics of the stream channel. The concentration of herbicides would decrease rapidly down-stream because of dilution and interactions with

*= reason for our concern re: using these herbicides & continuing to rely heavily on herbicides

plant growth (SERA 2004d). Imazapyr is not likely to degrade in anaerobic soils or sediments, and has been shown to strongly bind to peat (American Cyanamid 1986, SERA 2004d).

Triclopyr generally controls woody species in an upland environment but can be used in wetlands and riparian areas that go dry for part of the year. It can also be used for spot treatment of Eurasian water milfoil at low application rates, and purple loosestrife in riparian areas, as it does not damage native grasses and sedges. Only the TEA (acid) form is approved for selective control of submersed aquatic vegetation. Triclopyr BEE (ester form) is hazardous to aquatic life forms in maximum concentrations or spill situations where runoff to open water may occur.

Herbicides Used For Terrestrial Vegetation Control

Other herbicides may be used on or near intermittent streams during the dry season, or would be used to control vegetation outside of riparian areas using buffer widths applicable to the herbicide being used. However, non-target wetland and riparian areas could be exposed to herbicides through a variety of routes, including accidental spills or direct spray, local spray drift from adjacent target areas, surface water runoff, and soil erosion (Karthikeyan et al. 2003). Risks to wetland and riparian non-target species would depend on a number of factors, including the amount, selectivity, and persistence of the herbicide used; the application method used; the timing of the application; and the plant species present. Risks to wetlands and riparian areas from surface runoff would be influenced by precipitation rates, soil types, and proximity to the application area. Some herbicides (e.g., sulfometuron methyl) that adsorb readily onto clay soil particles could be carried off site in runoff situations, increasing their risk of affecting vegetation in wetlands and riparian areas.

Unintentional applications can have severe negative impacts on wetland and riparian systems. In particular, accidental spills near wetland and riparian areas could be particularly damaging to wetland and riparian vegetation. Spray drift can also degrade water quality in wetland and riparian areas and could damage non-target vegetation.

Bromacil is not selective, and accidental exposure could injure riparian shade trees and other desirable non-target wetland and riparian vegetation. Bromacil is mobile and has the ability to persist in wetland environments.

Chlorsulfuron is effective at low concentrations and is prone to leaching. Hydrolysis rates are the fastest in acidic waters and are slower as the pH rises (Sarmah and Sabadie 2002). When hydrolysis rates drop, biodegradation becomes the primary loss mechanism. Strek (1998a, b) studied the dissipation of chlorsulfuron in an anaerobic sediment/water system; biodegradation progressed much more slowly than in aerobic soil systems, with a half-life greater than 365 days.

Clopyralid is relatively non-toxic to aquatic plants. Overall, effects to non-target wetland and riparian vegetation from normal application of clopyralid are likely to be limited to susceptible plant species in or very near the treatment area, and could be avoided by maintaining an adequate buffer between the treatment area and wetland and riparian areas (SERA 2004b). Clopyralid is not likely to affect aquatic plants via off-site drift or surface runoff pathways unless spilled.

Dicamba direct spray and accidental spill risk assessment scenarios pose a moderate to high risk to both terrestrial and aquatic plants. In water, biodegradation is the major mechanism for dicamba degradation. Dicamba is mobile in soils and is therefore likely to reach surface water and groundwater. The rates of dicamba degradation were generally more rapid in the surface than in the subsurface soil microcosms. The study indicated that some riparian wetland soils possess limited potential to degrade dicamba (Pavel et al. 1999).

saltcedar, or even Western juniper upslope will allow native species to recolonize the near stream-bank or uplands. Native wetland and riparian species are adapted to the unique relationship of inundation of plants or soil by water for various portions of the year and respond well or survive such inundations. Restoration or maintenance of upslope native vegetation in Western juniper encroachment areas would allow water to return to the groundwater system and contribute to seasonal or perennial flows, helping maintain and/or restore riparian areas.

For aquatic weeds, six herbicides are registered for use in aquatic environments, and each is effective on specific weeds. Glyphosate may be used along shorelines for species such as purple loosestrife, reed canarygrass, giant reed, and cattail, as well as for floating aquatic species such as waterlily. It is also used to control grasses, herbaceous plants, and some broadleaf trees and shrubs in riparian areas. Imazapyr is used to treat emergent and floating plants as well as saltcedar. It is used on cordgrass, reed canarygrass, and floating plants such as waterlily. Triclopyr can be effective as a spot treatment for Eurasian watermilfoil because it is relatively selective for this species at low application rates. It can also be used to treat purple loosestrife, as it does not damage native grasses and sedges. Fluridone, 2,4-D, and diquat are effective treatments for Eurasian watermilfoil, and diquat also controls water-thyme, water hyacinth, and is the only herbicide available for giant salvinia, which is not known to be in the State of Oregon at this time. * How big a problem are these aquatic invasive plants in Oregon? Based on tables in this EIS they seem to be very limited, suggesting manual & mechanical control as feasible. Also they're not extensive or diverse enough to require use of 2,4-D, diquat, & glyphosate.

Effects by Alternative

Alternative 1 – No Herbicide Use

Directed livestock use would be expected to increase 6,000 acres east of the Cascades, when compared to the No Action Alternative, and some portion of this increase could occur within riparian and wetland areas. If so, directed livestock trampling on wet soils could cause soil compaction and a breakdown of soil aggregates, with a resultant loss of soil porosity, air and water movement, and increased density that increases resistance to infiltration. Increased compaction and disturbance within the wetlands could increase sediment being delivered to the stream or water body network. Using mechanical equipment would cause the same effects as livestock.

* No use of "directed" livestock in riparian areas! This is asinine.

Mechanical treatments using chainsaws and weed whackers, and manual pulling, could result in cut or pulled plants covering the treatment area and making erosion less likely after treatment, although weeds that produce vegetatively or that are approaching seed set are normally bagged and removed.

Manual & mechanical control can be more controlled in impacts than livestock.

There would be no effective control available for about 2/3 of the noxious weeds (Appendix 7: Table A7-1), and non-herbicide control treatments are generally difficult to implement in riparian areas. Specific weeds in riparian areas such as blackberry, Japanese knotweed, and reed canary grass would continue to spread essentially unchecked. The noxious weed spread rate would be expected to increase to 14 percent, increasing the likelihood of weeds infesting susceptible riparian habitats. Riparian areas should be prioritized for non-herbicide control methods due to potential toxicity to fish, amphibians & the aquatic food chain & loss of non-target riparian plants. Riparian areas are far too important for diversity to risk.

Alternative 2 (No Action) – Use 4 Herbicides to Treat Noxious Weeds Only

Of the four herbicides available under this alternative, most riparian and wetland treatments would be done using aquatic formulations of 2,4-D or glyphosate. 2,4-D has moderate to high risks of negatively affecting non-target vegetation, water quality, fish, and wildlife habitats in certain scenarios. Glyphosate has moderate risks under several of the same ecological risk assessment exposure scenarios[41] (see respective sections in this Chapter). The rapid decay of these herbicides particularly in wetland soils that have high organic matter, high pH, and slow or no water movement during application, limits the impacts to root tips and aquatic life forms that are found in this environment (Voth et al. 2006).

* Proposed use of 2,4-D & glyphosate in riparian & wetland areas deeply concerns us - re: toxicity to fish, effects to water quality & aquatic organisms, etc. 2,4-D is not characterized by rapid decay from wet environments in our understanding but can be persistent.

41 And high risk to vegetation, and to fish under spill scenarios.

* Reasons for the significance of keeping BLM riparian areas free of toxins harmful to fish, aquatic insects & plants - see under "Affected Environment" below - AS

Alternative 5 – Use 18 Herbicides to Treat Invasive Weeds and Meet Non-Commodity Vegetation Management Objectives

This alternative is substantially the same as Alternative 4 with respect to riparian and wetlands, except for the availability of diquat. Diquat is added to this alternative for giant salvinia and as a substitute for fluridone if a site becomes resistant or some other factor prohibits that use. Two hundred acres are projected for analysis purposes. Diquat would only be used in water by BLM (although it is EPA registered for some terrestrial uses). It is a known groundwater contaminant and considered a high hazard to fish, aquatic invertebrates, and large birds, and a moderate risk to various other wildlife groups and non-target plants (it does not usually kill roots).

* It's ridiculous & unacceptable to propose use of a known ground-water contaminant that is highly toxic to fish, aquatic invertebrates & large birds (diquat, under Alt. 5) in riparian areas & wetlands and in water. Again, Alt 5 seems to be a stalking horse to divert attention from the problems of alts 4 + 3.

Fish

Affected Environment

Fish are an important cultural, economic, and recreational resource on public lands in Oregon. Declining populations of fish have been a management concern. A number of species or stocks have special management status as Federally Listed or as Bureau Sensitive. There is additional detail about these species or populations (stocks) in Appendix 5. The PACFISH (USDA, USDI 2005) and INFISH (USDA 1995b) amendments to resource management plans in 1995 east of the Cascades, and the Aquatic Conservation Strategy standards and guidelines for Riparian Reserves as part of the Northwest Forest Plan (USDA, USDI 1994) west of the Cascades respond to concerns for the continued existence of a number of species.

The Magnuson-Stevens Fishery Conservation Act requires the identification of habitat "essential" to conserve and enhance Federal fishery resources that are commercially fished. Essential Fish Habitat (EFH) is defined as those waters and substrate necessary for spawning, breeding, feeding, or growth to maturity (50 CFR 600.10). EFH is located on portions of seven of the nine BLM districts in Oregon. EFH for Chinook and Coho salmon includes all streams, lakes, ponds, wetlands tributaries and other water bodies currently viable and most of the habitat historically accessible to these fish (Pacific Fishery Management Council 2004).

The BLM in Oregon administers lands directly affecting approximately 4,586 miles of fish-bearing streams and over 277,946 acres of reservoirs and natural lakes. Fish habitats range from small isolated desert springs in southeast Oregon to large inland and coastal rivers, such as the Columbia, Rogue, and Umpqua and their tributaries.

Fish and Their Habitat

The most significant group of native fishes found in Oregon, in terms of their ecological, cultural, and commercial importance, is the salmonid family. All members of this group, which includes salmon, trout, char, and whitefish, require relatively pristine, cold freshwater habitats during part or all of their life cycles. Therefore, they are heavily dependent on the conditions of the surrounding forests and rangelands to ensure their survival (Meehan 1991).

Salmonid productivity within a freshwater system is dependent on the underlying stream productivity during the period of use by salmonids during their life cycle. Five general factors determine the suitability of aquatic habitat for salmonids: flow regime, water quality, habitat structure, food (energy) source, and biotic interactions.

(*) We oppose aerial spraying & use of boom-spraying in riparian areas due to higher risks to fish, amphibians, water quality, & aquatic ecosystems (including riparian native plant & riparian-associated Neotropical songbird diversity.) See EIS p. 188, par. 2.

(*) We are also opposed to maximum application rates in part due to higher risk to fish & aquatic environments.

Effects Common to All Alternatives

The intensity and extent of treatment effects to fish and their habitat will vary, depending on several factors including the amount of area treated; soil type, proximity of the treatment to water, hydrologic regime and weather conditions during and after treatment; temperature, channel morphology and large woody debris; and biota present in surface water.

Herbicide Effects

* = reasons for our concerns

The potential for effects on fish as a result of herbicide treatments would vary by the extent and method of treatment and herbicide used. Herbicides could enter water bodies and come into contact with fish or elements of the food chain on which they depend through drift, runoff, leaching, wind transport, accidental spills, and direct spraying. Potential impacts include mortality, reduced productivity, abnormal growth, and alteration of critical habitat. In general, risk to fish from spray drift is greater with narrower buffer zones, greater application rates, and greater application heights (i.e., aerial application or ground application with a high boom). Risk to fish from surface runoff is influenced by precipitation rate, soil type, groundwater depth, and application area. There would be a risk to fish associated with most accidental exposure scenarios (i.e., direct spray or spill into a water body). Persistent herbicides (e.g., sulfometuron methyl) adsorbed to soil particles could also be carried off-site by water, affecting fish in nearby aquatic areas.[45] Application rate was a major factor in determining risk, with higher application rates more likely to pose a risk to fish under the various exposure scenarios.

Herbicides may be toxic to aquatic plants and invertebrates, thus indirectly affecting fish by reducing primary production or the trophic structure of invertebrate communities. Low concentrations of herbicides can affect benthic[46] algae communities (McCain et al. 2000). The variation in toxicity to aquatic organisms between different formulations for the same herbicide can be substantial (SERA, 2003a). In addition, timing of application can result in different effects. For example, a springtime application of glyphosate at recommended rates in a lake ecosystem, where dissolved oxygen levels are low or water temperatures are elevated, could be hazardous to young fish because decaying plants could lower dissolved oxygen levels (Folmar et al. 1979).

All of the herbicides pose some risk to non-target terrestrial and aquatic plants, and damage to riparian and aquatic plants may affect fish. The sections on *Vegetation, Native Plants, and Plant Communities* and *Wetland and Riparian Areas* in this Chapter discuss these risks, as well as herbicide application practices that can be used to reduce risk. Species that depend on non-target plant species for habitat, cover, and/or food may be indirectly impacted by a possible reduction in terrestrial or aquatic vegetation. For example, accidental direct spray, off-site drift, and surface runoff may negatively impact terrestrial and aquatic plants, reducing the cover and food available to fish within the stream.

Effects to fish & wildlife of Endocrine disruption

<u>Endocrine disrupters</u>: Recent information has highlighted the potential for certain synthetic and natural chemicals to affect endocrine glands, hormones, and hormone receptors (endocrine system) (CIS 2009). EPA has just begun evaluating chemicals for this potential effect. Of the herbicides analyzed in this EIS, only 2,4-D is on the EPA Tier 1 priority list for evaluation (EPA 2009b). The EPA reports effects of endocrine disruption in animals that "include abnormal thyroid function and development in fish and birds; decreased fertility in shellfish, fish, birds, and mammals; decreased hatching success in fish, birds, and reptiles; demasculinization and feminization of fish, birds, reptiles, and mammals; defeminization and masculinization of gastropods, fish, and birds; decreased

45 ecological risk assessments predicted no or low (diuron) risk to fish as a result of wind transport of herbicides on soil particles under all evaluated scenarios.

46 Benthic: Of or relating to or happening on the bottom under a body of water.

*Reasons for our concerns re: use of particular herbicides & over-reliance on herbicide use in general

*Bromacil is a non-selective, broad-spectrum, systemic herbicide that can be persistent in aquatic systems. It is not registered for use in riparian and aquatic systems. Bromacil does not tend to bioconcentrate appreciably in fish tissue. Bromacil poses a low to moderate risk to fish in streams and ponds under typical and accidental direct *spray and spill scenarios.

Off-site drift of bromacil generally does not pose a risk to fish in streams or ponds (Table 3-14). Surface runoff poses no risks to fish in streams, but could pose a low acute and chronic risk to fish in ponds (there is a low chronic risk associated with the typical application rate, in watersheds with sand or loam soils and 10 to 50 inches *per year of precipitation). Because bromacil has a higher affinity for water than organic carbon, it is likely to run off from soils into water bodies. Because of the non-selective nature of bromacil and its likelihood for runoff, it is not normally applied near water bodies, especially ponds.

Chlorsulfuron is a selective, ALS-inhibitor herbicide. It is not registered for use in aquatic systems. Chlorsulfuron's physical and chemical properties suggest that it is highly soluble in water, and is likely to remain dissolved in water and runoff from soils into water bodies. In addition, this herbicide has a long half-life in ponds, but is not likely to bioconcentrate in aquatic wildlife. However, none of the evaluated scenarios, including accidental direct spray and spill of chlorsulfuron, pose any risk to fish in streams and ponds.

Dicamba is not registered for use in aquatic environments. The ecological risk assessment analysis shows that accidental direct spray and spill scenarios do not pose a risk to fish. Off-site drift and surface runoff of dicamba also present no risk to fish.

Diflufenzopyr is a selective, systematic post-emergence herbicide active ingredient. It is not registered for use in aquatic environments. The physical and chemical properties of diflufenzopyr suggest that this herbicide would be removed from an aquatic environment relatively rapidly following contamination and would not appreciably bioconcentrate in fish tissue. The ecological risk assessment shows that diflufenzopyr does not pose a risk to fish under any of the ecological risk assessment scenarios.

Diquat is a non-selective, contact herbicide the BLM proposes to use diquat to control aquatic plants.[49] Plant species controlled using diquat include Eurasian watermilfoil, water-thyme, water hyacinth, and giant salvinia.

*One study reported the likelihood of bioconcentration in aquatic species, but other studies suggest that diquat's bioconcentration potential is minimal (Howard 1991, Petit et al. 1995, MacKay et al. 1997). An accidental spill *of diquat would pose a high risk to fish. Direct spray of diquat to ponds, as would occur with typical aquatic applications, would pose a low risk to fish (Table 3-14). Direct spray to streams, which are not typical application sites, would pose a low risk to fish. Because diquat is an aquatic herbicide, risk to aquatic organisms via off-site drift and surface runoff scenarios was not evaluated.

*Given the short-term risks of diquat to fish, this herbicide is used on a restricted basis, and then only in ponds that support very few native aquatic species because they are dominated by invasive plants or contain species not effectively controlled with other herbicides. Other aquatic herbicides evaluated in this EIS, fluridone, 2,4-D, and imazapyr also pose relatively low risk to fish and would be used instead of diquat when native aquatic species are present, as appropriate.

Diuron is a broad-spectrum herbicide with a relatively short half-life and little to no impact on measured water

49 Diquat is also registered for certain terrestrial uses, but BLM does not propose non-aquatic use.

* = Reasons for our concerns re: particular herbicides & formulas

Under an accidental spill scenario, tebuthiuron would pose a low risk to fish in ponds. Fish are not at risk from accidental direct spray, off-site drift, and surface runoff.

Effects of Forest Service-Evaluated Herbicides

2,4-D has formulations that are registered for use on aquatic vegetation, including water hyacinth and Eurasian watermilfoil, and as a tank mix partner to control purple loosestrife. The toxicity of 2,4-D to fish is relatively low (Norris et al. 1991). * Risk is greater under scenarios of direct application to water bodies or accidental direct spills. The ester forms of 2,4-D (including the BEEs found in Aqua-Kleen) are approximately 200 to 1,000 times more toxic to fish than the amine forms, when toxicity is measured by acute (24- to 48-hour) LC-50 values. While these esters are chemically stable, they are short-lived in natural water because of biological degradation. At the typical application rate, 2,4-D poses a low risk to fish, while at the maximum application rate, 2,4-D poses * a moderate risk to fish under scenarios of accidental direct spray or spill to a stream and pond. Routine (non-spill) acute and chronic exposure scenarios do not pose a risk to fish.

Limited testing of clopyralid effects to fish ?

Clopyralid is a selective herbicide most effectively used post-emergence for the control of broadleaf weeds. It is not registered for aquatic vegetation treatment, but can be used in riparian areas if the application does not impact standing water. Clopyralid is used to treat teasel, common cocklebur, and several species of thistles and knapweeds that could be found in riparian areas. Based on limited acute bioassays, clopyralid appears to be relatively non-toxic to fish. The Risk Assessment only predicted risks to aquatic organisms associated with accidental spill scenarios, with low risk to fish for the typical and maximum application rates.

Glyphosate is a non-selective systemic aquatic herbicide. It can be applied as a broadcast, spot, stem injection, or wipe application, and is effective in controlling purple loosestrife, cattail, and in some situations, saltcedar. In general, glyphosate is very immobile in soil, being readily adsorbed by soil particles and subject to microbial degradation (Norris et al. 1991). This immobility reduces the potential for glyphosate to enter water bodies during runoff.

Based on bioassays, technical grade glyphosate is classified as non-toxic to practically non-toxic in freshwater fishes (EPA 1993). Some formulations are more toxic to fish than technical grade glyphosate. At the typical application rate, the less toxic formulation of glyphosate poses little risk to fish, except under accidental spill scenarios, for which there is a low to moderate risk to fish. At the typical application rate, the more toxic * formulation of glyphosate poses a high risk to fish under accidental spill scenarios, and a low risk under routine acute exposure scenarios (moderate risk to susceptible fish species). At the maximum application rate, the less toxic formulation of glyphosate poses a low risk to fish under acute exposure scenarios. Accidental spills for * the maximum application rate pose moderate to high risk to fish. At this same application rate, the more toxic formulation of glyphosate poses a high risk to fish under accidental spill scenarios, and moderate risk to fish under acute exposure scenarios. Based on these data, the USEPA classified glyphosate formulation as moderately toxic to practically non-toxic to freshwater fishes (SERA 2003a).

Hexazinone - According to ecological risk assessments, there is no risk to fish in ponds or streams associated with any exposure scenario for hexazinone (accidental spill scenarios were not modeled).

Bioassays on the active ingredient hexazinone and commercial formulations that include hexazinone indicate that commercial formulations are substantially less toxic than the active ingredient alone, even when exposures are normalized for hexazinone levels (Wan et al. 1988).

Imazapyr is an ALS-inhibiting herbicide used in the control of a variety of grasses, broadleaf weeds, vines, brush species, and aquatic vegetation. It is effective in the control of saltcedar, which dominates many riparian systems subjected to 140 mg/L of triclopyr TEA for 28 days (Mayes et al. 1984, Mayes 1990, all cited in SERA 2003c). This study found that survival of these minnows was greatly reduced at this toxicity level.

Although triclopyr BEE is more toxic than triclopyr TEA, the risk of triclopyr BEE to fish is low, as this form will rapidly hydrolyze to triclopyr acid, lowering risk to fish.

Summary of Herbicide Effects

The risk characterization process of the ecological risk assessment suggested that chlorsulfuron, dicamba, diflufenzopyr, diflufenzopyr + dicamba, and sulfometuron methyl are very safe to fish, as there is no risk associated with use of these herbicides under any of the evaluated scenarios, including accidental direct spray or spill. In addition, imazapic does not pose a risk to fish, except when directly sprayed over a stream at the maximum application rate. There is no risk to fish associated with off-site drift of bromacil or tebuthiuron. Under surface runoff scenarios, diuron can present a moderate to high risk to fish if applied at the maximum application rate. The risks to fish associated with application of aquatic herbicides to ponds and streams is greater for diquat than for fluridone, which when applied at the typical application rate only poses a risk in streams (aquatic herbicides are not typically applied to streams; therefore, this is an accidental scenario).

The ALS-inhibiting herbicides evaluated in this EIS are chlorsulfuron, imazapic, imazapyr, metsulfuron methyl, and sulfometuron methyl (all terrestrial herbicides). These herbicides are considered to be highly potent to plants and are applied at low application rates because only small concentrations are necessary to damage plants. However, the process they inhibit is unique to plants. There is low risk associated with direct spray of imazapic or imazapyr at the maximum application rate. However, this risk is similar to or less than risks associated with the other evaluated herbicides, and could be avoided by applying at the typical application rate. Their very low typical rates could mean there is less risk of off-site transport associated with their use.

Adjuvants, Degradates, Inert Ingredients, and Tank Mixes

Adjuvants - The BLM reviewed toxicity data for adjuvants, such as surfactants and anti-foam agents, to assess risks to fish. In addition, the GLEAMS model was used to evaluate the risks associated with * polyoxyethylenamine (POEA), a surfactant found in some glyphosate formulations that is more toxic to fish than glyphosate itself. This adjuvant is of greatest concern in terms of potential effects to fish. Using the GLEAMS model, the BLM predicted the portion of an adjuvant that would potentially reach an adjacent water body via surface runoff. * Glyphosate formulas with POEA surfactant should not be used for reasons starred. (*)

Based on GLEAMS modeling for POEA, risks to aquatic organisms were not predicted for the majority of pond and stream scenarios involving exposure to this adjuvant. However, risks were predicted (using the most conservative acute endangered species LOC) for applications at a distance of 0 feet from the water body. This scenario, which essentially assumes a direct application to the water body with no dilution or drift, is highly conservative and highly unlikely under BLM application practices. Risks to Bureau Sensitive and Federally Listed aquatic organisms in * streams and ponds were also predicted for aerial applications of POEA at the maximum rate at a distance of 100 feet from the water body. However, it is unlikely that the BLM would apply glyphosate formulations containing POEA in an area known to contain Bureau Sensitive and Federally Listed aquatic species. Because of a lack of * physical chemical property information, POEA was not modeled for leaching properties and runoff to water bodies. Therefore, there is some uncertainty associated with risk to fish from this exposure.

Degradates - Degradates may be more or less mobile and more or less toxic in the environment than their source herbicides (Battaglin et al. 2003). Differences in environmental behavior (e.g., mobility) and toxicity between

Reasons for our concerns re: alts 4+5

Invasive Plant Effects

Under this alternative, the noxious weed spread rate is projected to be reduced to 7 percent per year, and noxious weeds are projected to infest 1.9 million fewer acres of BLM lands in 15 years than the No Action Alternative. Although Alternative 3 would prevent more invasive plant infestations, their continued spread would continue to damage native plant communities, including riparian communities that directly or indirectly provide habitat for fish. This continued, albeit reduced, spread will have harmful effects on fish.

Alternative 4 (Proposed Action) – Use 12 (W) or 16 (E) Herbicides to Treat Invasive Weeds plus Limited Additional Uses

This alternative could result in potential adverse effects to fish. However, acute (short-term) herbicide exposures to aquatic organism are not likely to result in harm under foreseeable conditions, and the expected reductions in adverse fish effects from the additional control of invasive plants exceeds the potential herbicide risk to fish.

The 3 additional herbicide in alt 4 over alt 3 (+ diquat for alt. 5) are some of the most toxic + dangerous herbicide proposed for use.

Herbicide Effects

Based on ecological risk assessments, bromacil, diuron, and tebuthiuron[51] modeling predicted risks to fish in certain scenarios (Tables 3-14 and 3-15). Bromacil has a low or moderate risk at typical and maximum application rates for most scenarios modeled with the exception that it had no risk to fish in the surface runoff scenario for a pond or stream. Diuron has high or moderate risk to fish in most scenarios modeled. No and low risk to fish from diuron was found for the off-site drift or surface runoff scenarios. For tebuthiuron, no risks to fish were recorded except for low risk during an accidental spill to pond at maximum application rate. The use of these materials along rights-of-way could pose additional exposure opportunities for fish as roadside ditches and unobserved culverts and seeps could lead to nearby streams, particularly if materials are not well bound by the onset of the next precipitation event. However, little use of these materials is proposed west of the Cascades where these conditions are most likely to be encountered.

Other herbicide use would increase as well. The acres of 2,4-D, glyphosate, and picloram would approach current (Alternative 2) levels, as these material would be used to treat native vegetation along rights-of-way and in habitat improvement areas. The risk to fish from herbicides would be higher under this alternative than under Alternatives 2 and 3 because of additional acres treated, additional pounds used, and use of boom spraying along roads. The improved effectiveness of this alternative at slowing noxious weeds would more than compensate for this risk, and SOPs and PEIS Mitigation Measures (Appendix 2) would minimize it.

There is no quantified or clear analysis supporting the assumption that benefits of invasive plant control would outweigh herbicide risks.

Invasive Plant Effects

Under this alternative, the noxious weed spread rate is projected to decrease to 6 percent per year, and noxious weeds are projected to infest 2.2 million fewer acres in 15 years than under the No Action Alternative. Although invasive plants would continue to spread under Alternative 4, that spread would be minimized and native riparian communities that directly or indirectly provide habitat for fish would be more likely to remain uninfested.

Alternative 5 – Use 18 Herbicides to Treat Invasive Weeds and Meet Non-Commodity Vegetation Management Objectives

Herbicide Effects

As this alternative proposes to treat slightly more acres and use more herbicides than Alternative 4, there is a slightly greater potential for negative effects to fish. Based on ecological risk assessments, diquat has a moderate risk to fish from direct spray to a stream at maximum application rates, and high risk for the accidental spill to

51 These are the three additional herbicides that would become available under this alternative, in addition to those discussed under Alternatives 2 and 3.

(*) Based on the risk assessment results described below, use of diquat, the more toxic glyphosate formula, diuron & picloram should not be allowed in or near riparian areas & waterbodies.

organisms (an LOC of 0.1 was used for non-special status species), as shown in Tables 3-N and 3-O.[52] Aquatic herbicides with the greatest likelihood of impacting special status fish during a normal application to an aquatic habitat include diquat and the more toxic formulation of glyphosate. Normal aquatic applications of 2,4-D and imazapyr would not pose a risk to special status fish.

Terrestrial herbicides with the greatest likelihood of impacting special status fish as a result of a spill, drift, accidental direct spray into an aquatic habitat, or surface runoff are diuron, picloram, and the more toxic formulation of glyphosate. According to ecological risk assessments, there would be no risks to fish associated with chlorsulfuron, dicamba, diflufenzopyr, imazapic, diflufenzopyr + dicamba, or sulfometuron methyl.

Alternative 1: No Herbicide Use

There would be no impacts from herbicide exposure from BLM vegetation treatments.

Alternative 2 (No Action) – Use 4 Herbicides to Treat Noxious Weeds Only

Control of weed infestations in aquatic and riparian areas would be less extensive under this alternative than under the other herbicide-use alternatives. Therefore, the degree of benefit to special status fish, particularly species that are currently threatened by infestations of non-native plants, would likely be lower than under the other herbicide use alternatives. However, short-term adverse impacts to habitats that support special status fish (such as increased water temperatures) would be lower as well. The degree of benefits versus impacts to these habitats from treatments would largely depend on where the treatments occurred.

Considering acreage alone, it is likely that special status fish would be exposed to herbicides far less under this alternative than under the other herbicide-use alternatives (Alternatives 3, 4, and 5). However, mitigation would be required to protect these species and their habitat from harm under all alternatives, which should minimize differences in risk to special status species.

Under this alternative, 2,4- D, glyphosate, and picloram could be used in aquatic and riparian habitats. The herbicide not registered for aquatic use (i.e., dicamba) could also be used in riparian areas, provided the herbicide did not contact the water. Of these herbicides, only glyphosate is likely to pose toxicological risks to special status fish during a normal application, but only if the more toxic formulation is used, or the less toxic formulation is applied at the maximum application rate. In all areas with special status fish, typical rate application of the less toxic aquatic form of glyphosate is normally specified. Although there would be risks to fish in accidental spill scenarios, continuing to use these herbicides to treat riparian and aquatic vegetation would pose a low risk to special status fish. * It may not always be known that special status fish are in a particular stream or water body

Alternative 3 – Use 11 (W) or 13 (E) Herbicides to Treat Invasive Weeds and Control Pests and Diseases

The greater number of acres expected to be treated in aquatic and riparian habitats than under Alternative 2 could potentially result in greater impacts to special status fish. However, risk from normal use would remain minimal, provided glyphosate only the less toxic formulation of glyphosate was applied at typical application rates. The availability of additional herbicides, include five registered for aquatic or riparian use, could reduce risks to fish. For example, fluridone shows no risks to fish at typical application rates and could replace other aquatic herbicides currently used by the BLM on public lands and would pose no to moderate risks to fish depending on

52 Risks for BLM-evaluated herbicides, Table 3-14, were calculated with a lower LOC as described. For FS-evaluated herbicides, the "susceptible" category was used as a proxy for special status fish.

* Risks to wildlife by Herbicide

(*) Reasons for not using 2,4-D:

* 2,4-D is a possible endocrine disrupter (see *Endocrine Disrupters*) and is one of the more toxic herbicides for wildlife in this EIS. The ester form is more toxic to wildlife than the salt form. Ingestion of treated vegetation is a concern for mammals, particularly since 2,4-D can increase palatability of treated plants (USDA 2006b) for up to a month following treatment (Farm Service Genetics 2008). Mammals are more susceptible to toxic effects from 2,4-D, and the sublethal effects to pregnant mammals were noted at acute rates below LD_{50}. Birds are less susceptible to 2,4-D than mammals, and the greatest risk is ingestion of contaminated insects or plants. The salt * form is practically non-toxic to amphibians, but the ester form is highly toxic. It can be neurotoxic to amphibians; although not all amphibians respond the same (e.g. toads were more susceptible than leopard frogs). There is * little information on reptile toxicity, although one study noted no sexual development abnormalities. It presents low risk to honeybees (Table 3-15), but little information is available for other terrestrial invertebrates. Parasitic * wasps may be affected, which could result in changes to community structure by favoring damaging insects controlled by parasitic wasps.

Dicamba: No adverse effects on mammals are plausible for either acute or chronic exposures of dicamba. At the highest tested rate, there are adverse reproductive effects possible for acute scenarios consuming contaminated vegetation. There is little basis for asserting that adverse effects in aquatic animals is plausible. Limited studies on dicamba suggest it is practically non-toxic to amphibians and honeybees. Amphibians are as tolerant as the fish to the acute toxicity of dicamba and aquatic invertebrate appear to be somewhat more susceptible to dicamba than fish or amphibians. Dicamba has no adverse effects on birds for acute or chronic exposures, although highest tested application rates had possible adverse reproductive concerns for acute scenarios involving birds consuming contaminated vegetation or contaminated insects (SERA 2004g).

(*) Reasons for not using POEA surfactants – Concern re: amphibians in particular

Glyphosate is a low toxicity herbicide, widely used for terrestrial applications and is also approved for aquatic use. Toxicity to most wildlife groups is very low, so much so that NOAEL levels are used because the LD_{50} were not found at high doses in many cases. Observed effects had to do with reduced feeding efficiency and reduced weight gain. Glyphosate adheres to soil and is degraded by soil bacteria and does not bioaccumulate. (1) technical grade (pure) glyphosate is much less toxic than some of the commercial formulations; (2) commercial glyphosate formulations with the surfactant polyoxyethyleneamine (POEA) are similar in toxicity to the surfactant POEA alone; (3) glyphosate herbicide formulations, such as Rodeo®, that are formulated without a surfactant are * much less toxic than formulations with the surfactant POEA; 4) glyphosate herbicides with alternative surfactants would be much less toxic to frogs than Roundup Original/Vision® (Mann and Bidwell 1999, Perkins et al. 2000, Edginton et al. 2004a, Howe et al. 2004, all cited in Govindarajulu 2008). These studies support the conclusion that the toxic effect of POEA-containing glyphosate herbicides is due to POEA rather than to the active * glyphosate ingredient. Ephemeral wetlands important to amphibians may not be protected by standard buffers (Govindarajulu 2008). (*) Buffers may not be enough to protect amphibians.

Picloram: Studies on birds, bees, and snails generally support picloram as relatively nontoxic to terrestrial animals. The few field studies indicated no change to mammal or avian diversity following picloram treatment. Variations in different exposure assessments have little impact to risk through ingestion, grooming or direct contact. Maximum rates have higher risk to mammals due to contaminated grass or insects. No information was found in the literature about picloram's effect on reptiles (SERA 2003b).

Bromacil is an herbicide often used where maintenance of bare ground is desired. It poses a low toxicity hazard to terrestrial mammals, birds, and honeybees. It poses zero to low toxicity risk to mammals that ingest treated vegetation over time under plausible treatment scenarios, assuming they remain in the treatment area, and alternate food is unavailable. BLM's application scenario reduces the risks of herbivore ingestion. There is practically no risk to invertebrates (ENSR 2005b).

(*) Vague descriptions of herbicide effects are not helpful to inform decision-making - eg. "mammals are more susceptible during pregnancy and larger mammals are more susceptible than smaller mammals"

 (to Imazapic) - What happens to the mammals? Do they die? fail to reproduce? lose weight?

timing could avoid most susceptible (water-associated) stages of amphibian development, if this information is available for resident herptiles at the treatment site (ENSR 2005g).

(*) Reasons not to use Hexazinone - at least in liquid form & otherwise

Hexazinone: The commercial formulas are less toxic than hexazinone by itself and the liquid form is more toxic than granular. For granular formulations, none of the hazard quotients for mammals exceed a level of concern even at the highest application rate. For liquid formulations of hexazinone, hazard quotients exceed the level of concern at all application rates and all of the scenarios involving residue rates for contaminated vegetation or insects (Fletcher et al. 1994). Hexazinone and its degradates are persistent and highly mobile and hexazinone has been identified as a groundwater contaminate in some states. Bullfrogs were slightly more susceptible to behavioral change (diminished response to prodding) than leopard frogs over a 9-day study but amphibian studies were not adequate to determine the LD_{50}. Hexazinone poses zero to moderate risk to mammals for ingestion under both acute and chronic scenarios (Table 3-15). Birds are more tolerant than mammals (SERA 2005c).

(*) Concern re: unspecified effects to mammals & toxicity to honeybees.

Imazapic is an ALS-inhibitor that rapidly metabolizes and does not bioaccumulate. It is effective against medusahead, leafy spurge, and cheatgrass, which adversely affect wildlife habitat. Imazapic is not highly toxic to most terrestrial animals. Mammals are more susceptible during pregnancy and larger mammals are more susceptible than small mammals. Imazapic has low toxicity to honeybees. No adverse short-term exposure risks to birds were noted for imazapic, but some chronic growth reduction was noted. None of the risk ratings for Bureau Sensitive or non-Sensitive show any ratings that exceed the LOC. Imazapic is one of the lowest toxic risks to wildlife of herbicides evaluated in this EIS along with other ALS-Inhibitors (SERA 2004c).

Imazapyr is approved for aquatic use and is an ALS-inhibitor. There was no bioconcentration in aquatic Daphnia and toxicity is apparently low. There is a lack of information on dose levels that demonstrate harm to mammals, amphibians, or birds. Effects of field studies (Brookes et al. 1995) suggest observed changes to birds and mammals following treatment are habitat related, and not do to toxic effects. Imazapyr is one of the least toxic aquatic herbicides evaluated (except for accidental spill for susceptible fish). Imazapyr is only slightly more toxic than the other ALS-inhibitors, all of which are the least toxic of any of the herbicides evaluated (SERA 2004d).

Metsulfuron methyl is an ALS-inhibitor that does not appear to bioaccumulate. Metsulfuron methyl can be effective for invasive weeds that are unsusceptible to other herbicides. None of the acute or chronic exposure scenarios exceeded the LOC at the typical rate, and few exceeded LOC at maximum rate. Metsulfuron methyl has very low toxicity to birds for direct spray and consumption; no mortality of acute spray on honeybees; and, aquatic invertebrates do not appear to be susceptible. One study on Rove beetle indicated reduced egg hatching. Daphnia are relatively tolerant. Like other ALS-inhibitors, it is one of the least toxic of herbicides evaluated (SERA 2004e). (*) We are concerned by Sulfometuron methyl possibly being an endocrine disrupter & being "moderately" toxic to amphibians.

(*) Sulfometuron methyl is an ALS-inhibitor and a possible endocrine-disrupter. Sulfometuron methyl could be used to control weeds in riparian areas when no water exposure is likely. It is highly toxic to aquatic plants. The ecological risk assessments indicated no risks to aquatic invertebrates from any scenario. All ratings for all scenarios indicate no rating that exceeded the LOC, although it may be moderately toxic to amphibians. Sulfometuron methyl has the lowest risk to all groups of wildlife of the herbicides evaluated (with other ALS-inhibitors). Site-specific evaluations prior to treatment could reduce potential risks to amphibians possibly occurring in riparian treatment areas (SERA 2004f). What does "moderate" toxicity mean in real terms?

Tebuthiuron: Direct spray of tebuthiuron at the typical rate is not likely to pose risks to small mammals, although there are some risks to birds at typical and maximum rates—primarily due to ingestion of contaminated food. It has low acute toxicity to insects and direct spray is not a concern to aquatic invertebrates. Off-site drift issues related to tebuthiuron are unlikely to affect aquatic wildlife, but accidental spray exceeded LOC for aquatic invert

Effective treatment of noxious, invasive and undesirable vegetation not only helps prevent the spread of these species on public lands it also enhances the recreational experience and opportunities of public land visitors. Noxious weeds crowd out native vegetation, altering the natural landscape and diminishing the visual appeal of such recreational pursuits as hiking and nature viewing.

Effects Common to All Alternatives

Vegetation

(*) This discussion typifies agency fear of Nature and alienation from the wild - people can't do experience poison oak repeatedly + knowingly to go to wild places they love.

A site that is dominated by noxious weeds would diminish the habitat for native fish and wildlife species which in turn diminishes the opportunities for those who enjoy such pursuits as wildlife viewing, fishing, and hunting. Certain types of vegetation are also injurious to humans such as yellow starthistle (noxious weed) and poison oak (native vegetation). The dominance and spread of noxious weeds such as Himalayan blackberry can also limit recreation access to such things as campgrounds, trails, and rivers. Weedy landscapes would also be esthetically less pleasing, discouraging recreational use and causing recreationists to go elsewhere.

Vegetation Treatments

(*) Posting an herbicide application site - esp at a recreational area! for only 2 weeks may not be sufficient due to some commonly used + proposed herbicides' persistence in soils & thus + plants + people for up to years (w/Picloram)

Control treatments for invasive and unwanted vegetation also have an effect on recreation. For example, the noise associated with mechanical methods of treatment may adversely impact the recreational experience of a public land visitor as can closures that occur to allow the activity to take place. With the use of herbicides, there would also be closure effects. Generally, access is restricted for a few hours or days, depending on the requirements on the herbicide label, but there is the potential for a closure to last at least one full growing season or longer to allow native vegetation to recover following treatment. During site closures, signs would be posted stating the herbicide used, the date of application, and a contact number for more information, and remain in place for a period of at least 2 weeks following treatment. The longer a site is closed, the greater the adverse effect to recreationists in terms of lost use days, particularly at sites that experience a higher volume of visitors. Dead and browned vegetation from herbicide treatments could also temporarily reduce recreational potential until vegetation recovered. Herbicide treatments could also pose some health risks to recreational users (see *Human Health and Safety* section). Unintended effects of herbicides on non-target plants, animals, and water could also impact recreation activities (e.g., hiking, plant collecting, hunting, and fishing). The risks to non-target species from use of the 18 herbicides are discussed in the *Vegetation, Native Plants, and Plant Communities, Fish*, and *Wildlife Resources* sections. (*) Herbicide use in recreational areas is unsafe & unacceptable esp. regarding potential human health impacts but also re: alteration of natural sites beyond removal of invasives

Overall, vegetation treatments would have short-term negative effects and long-term positive effects on recreation. Prevention/removal of noxious weeds and other invasive plants would maintain/return public lands to a more "natural" or "desirable" condition, which hikers and nature enthusiasts would likely value over degraded lands. In addition, the increased aesthetic value of protected or restored sites would benefit most recreational users. In some instances, treated sites could become more desirable as destinations for outdoor activities, making them more popular to recreational users. Treatment of sites to protect or restore native vegetation would enhance fish and wildlife habitat, to the benefit of hunters, birdwatchers, and other users of these resources.

(*) Control & eradication of invasive plants in recreational sites is not dependent on herbicides, which have long-term impacts of toxic contamination.

Effects by Alternative

Noxious weeds and other invasive plants negatively affect all recreationists regardless of the type of recreation they are involved in. As noted above, negative effects range from changes in visual quality, to displacement of native flora and fauna, to actual human injury from nettles and other plant defenses. Noxious weeds are projected to continue to spread on BLM lands in Oregon under all alternatives, but the rate of spread and thus the number

Give us a break - "actual human injury" from Nettles? Nettles give short-term stinging sensations & are used for health benefits.

(*) Many of the "developments" that would be herbicide-sprayed under alts 4+5 appear to benefit private property owners and actually constitute commodity uses rather than non-commodity only as claimed.

Examples include: * below, The EIS admits that proposed herbicide use is "for the purposes of maintaining and protecting infrastructure developments and providing for their safe and efficient use" including those "owned and managed by private individuals, companies"... (EIS p. 276 last par.) We reject public funds paying for maintenance and protection of private and corporate infrastructure! Nor do we want herbicides used on public lands for such unnecessary purposes.

agreement. They include but are not limited to:

- * Linear utility transmission systems and pipelines, including multi-purpose corridors;
- Road or railroad rights-of-way;
- * Oil and gas production or gas storage agreement areas and facilities;
- * Geothermal, wind, or solar energy production areas and facilities;
- * Pumped storage hydro-power production areas and facilities64;
- * Common-material or rock quarry pits and storage areas (primarily to ensure invasive weeds are not spread with the material);
- Federal, State, local or tribal designated fire suppression equipment sites and staging areas including helispots;
- * Cell phone, microwave, and other communication sites;
- BLM seed orchards and progeny test sites;
- Public purpose lease areas, including airstrips, schools, parks, etc. ;
- Interagency special management areas (e.g. reservoirs, military training, etc.);
- Watchable Wildlife, Adventures in the Past, Wild Horse Herd Viewing, Outstanding Natural Areas and other BLM designated interpretive sites;
- BLM offices, fire stations, and other facilities;
- Developed campgrounds, picnic areas, trails, overlooks, OHV play staging or parking areas, hang-gliding areas and boat facilities; and,
- Other administrative and operational sites needed for wildfire suppression, law enforcement, search and rescue, inventory, research, resource monitoring or other authorized administrative uses.

Vegetation is currently managed around and/or within these sites to prevent undesirable plant species from growing into, against, or through developments such as buildings, power lines, and roads; to reduce fuels so wildfire will not damage developments such as microwave towers and transformer stations; to reduce fuels so fires starting within the developments do not escape onto surrounding wildlands; to remove vegetation interfering with road sight distances or the safe use of developed recreation sites; and, to facilitate their designed use such culturing activities needed to establish, maintain, and access trees within seed orchards or progeny test sites. In general, this vegetation management is the responsibility of the development owner, using methods approved by the BLM. Except for noxious weed control using one of the four currently approved herbicides, herbicide use is not currently an approved method for vegetation management in or around these sites.

The following categories of developments are helpful to this analysis.

(*) Referring to such purposes as "non-commodity" herbicide use throughout the EIS seems purposefully misleading.

Government Facilities and Roads

The BLM operates or oversees operation of diverse facilities on public lands.[65] These include:

- Designated BLM road systems, rock quarries or pits and bulk material or equipment storage sites;
- Buildings, administrative sites and other government facilities, including leased sites and BLM (sole use) communication facilities, remote weather stations, water wells, etc.;

64 As of July 2009, there are no approved wind, solar, or pumped storage facilities on Oregon BLM lands, but such projects might be developed in the future. A proposal may be approved on the Baker Resource Area later in the summer.

65 Some BLM roads and other developments not on BLM lands are also included in this discussion.

BLM Human Health Risk Assessment Methodology (2007)

For dicamba, diflufenzopyr, diquat, fluridone, imazapic, and sulfometuron methyl, the PEIS followed the four-step risk assessment model identified by the National Academy of Sciences (NAS 1983). These steps are: 1) hazard identification; 2) dose response assessment; 3) exposure assessment; and, 4) risk characterization. The outcome of each of these steps is discussed below. The PEIS used herbicide toxicity factors from EPA that included system, neurologic, reproductive, and endocrine disrupting, and other endpoints.

An exposure assessment was conducted to predict the magnitude and frequency of potential human exposure to the herbicides under consideration. Both worker and public (adult and children) exposures were evaluated. Exposures were evaluated for applications using the maximum application rate designated by the herbicide label, and applications using a typical application rate that was defined by BLM.

Workers include those that mix, load, and apply herbicides and operate transport vehicles, recognizing that in some cases workers would perform multiple tasks, increasing his or her exposure. Both routine-use and accidental exposure scenarios were included in the worker evaluation. For the routine-use exposure scenario, the exposure assumptions were derived using information from the Pesticide Handlers Exposure Database, which is a generic database containing empirical dermal and inhalation exposure data for workers mixing, loading, or applying pesticides (EPA 1998). Accidental exposures for workers could occur via spills or direct spray onto a worker.

⊛ Why were BLM exposure scenarios for the public not as inclusive as FS's for risk assessment? See top, p 312

Two types of public use exposure scenarios are addressed:

- Potential exposure by the public during routine use of public lands to herbicide active ingredient(s) that have drifted outside of the area of application.
- Accidental scenarios where the public prematurely enters a sprayed area (a reentry scenario), is sprayed directly, or contacts water bodies that have accidentally been sprayed directly or into which an herbicide active ingredient has been spilled. ⊛ Failure to include consumption of water, food, or fish ~~& an accidental spill~~ could understate public health risks for these chemicals.

Based on consideration of potential public uses of BLM lands, and consistent with the 1991 *Vegetation Treatment on BLM Lands in Thirteen Western States FEIS* (USDI 1991), receptors (people exposed) evaluated included 1) hiker/hunter; 2) berry picker - child and adult; 3) angler; 4) swimmer - child and adult; 5) nearby resident - child and adult; and 6) American Indian - child and adult. It is assumed that the public could be exposed through one or more of the following exposure pathways: 1) dermal (skin) contact with spray; 2) dermal contact with foliage; 3) dermal contact with water while swimming; 4) ingestion of drinking water or incidental ingestion of water while swimming; 5) ingestion of berries; and, 6) ingestion of fish.

AgDrift, a computer model sponsored by EPA and industry, was utilized to evaluate the off-site deposition of herbicides (SDTF 2003). The GLEAMS model was used to simulate surface runoff of the three terrestrial herbicides (see Appendix 8). ⊛ The exact methodology used by the BLM to finally assign risk ratings is not transparent, though it is for the Forest Service.

Forest Service Human Health Risk Assessment Methodology

The Forest Service risk assessment methodology (used for 2,4-D, chlorsulfuron, clopyralid, glyphosate, hexazinone, imazapyr, metsulfuron methyl, picloram, and triclopyr) was similar to that used by the BLM. In the exposure assessment phase, the Forest Service developed general and accidental exposure scenarios for workers expected to be handling the herbicides and for the public who could be inadvertently exposed to herbicides. General exposure for workers included exposure via directed foliar, broadcast ground, and broadcast aerial applications. Accidental exposure scenarios for workers included immersion or contaminated clothing and spills. Exposure scenarios for the public included: 1) direct spray; 2) dermal exposure from contaminated vegetation; 3) rates, streamside buffer distances, and other SOPs and PEIS Mitigation Measures, the percent applied with ground methods, the presence of environmental factors that will help hold and break down those herbicides, are all more positive than State-average applications (many of which are on agricultural lands), the BLM's contribution to detectable off-site herbicide accumulations should be negligible.

SOPs and PEIS Mitigation Measures, as well as potential mitigation measures listed in Chapter 2, should make the likelihood of adverse effects low. In any event, those likelihoods are described in their respective sections. The possible adverse effects include health effects to persons applying herbicides, particularly via spills and other accidents. Although no toxicity accident has been documented on BLM lands in Oregon in at least five years, they have certainly occurred in other states and could occur in Oregon in the future. Following prescribed procedures however, there is no evidence injury levels would significantly exceed those expected for industrial type work, or exceed those that would occur if the work were to be accomplished with non-herbicide methods.

cancer, systemic toxicity problems & reproductive problems exceed "injuries" typical of most industrial work & non-herbicide control work.

Relationship Between Short-Term Uses of the Human Environment and Maintenance of Long-term Productivity

The proposed action is not an extraction or development. The action alternatives would help slow the spread of noxious weeds and other invasive plants, improve habitat, and make native vegetation control more effective and efficient (and potentially less impacting) than currently-used methods. The *Soil Resources* section in this Chapter concludes that the herbicides proposed would not have permanent effects on the soil. Some of the herbicides are known ground-water contaminants, and PEIS Mitigation Measures are offered to reduce the likelihood of BLM applications polluting water.

Long-term productivity will be affected by noxious weeds, however, either by their displacement of native plant communities or by their allelopathic effects on soil, so native species are displaced. These effects can last for years or decades. The degree to which noxious weeds remain uncontrolled will affect long-term productivity.

(*) Insufficient & biased analysis of adverse effects & relationship between short term uses & long-term productivity, downplaying & ignoring potential herbicide long-term effects & unavoidable risks

Irreversible or Irretrievable Impacts

Irreversible refers to a loss of nonrenewable resources, such as mineral extraction, heritage (cultural) resources, or to those factors which are renewable over long time-spans, such as soil productivity. Irretrievable commitment applies to losses that are temporary, such as loss of forage production in an area being used as a ski run or use of renewable natural resources.

The proposed action is not an extraction or development. The potential for damage to, or loss of, non-renewable cultural resources is addressed in this EIS. That portion of the analysis concluded that with required pre-project clearances and surveys in likely paleontological and historic areas, the likelihood of damaging sites during herbicide treatments was negligible.

The spread of invasive weeds will likely cause irreversible and irretrievable impacts on many BLM sites in Oregon. Adverse and potentially long-term effects of noxious weed spread are documented in the analysis and include reductions in soil quality and wildlife habitat carrying capacity, reduced livestock and wild horse carrying capacity, and decreased water quality. The action alternatives would reduce, not exacerbate, these effects.

There is no discussion of the potential of herbicide use to cause irreversible & irretrievable impacts other than to cultural artifacts although many come to mind: ~~irreversible~~ irretrievable health problems for workers or the public, potential irreversible contamination of waterways, soils, or changes to native ecological diversity, etc. loss of vulnerable species such as amphibians

Blue Mountains Biodiversity Project's Comments on the Oregon BLM Herbicide Use DEIS, Cont.

Notice

This is a Draft EIS and a public comment period will run for 60 days. Instructions for commenting, and a description of future appeal rights that may be forgone if you do not comment, are included in the Dear Reader letter. After the comment period, a Final EIS and Record of Decision will be prepared.

The Final EIS and Record of Decision are expected to be issued about July 2010. The responsible official is the BLM Oregon/Washington State Director (see title page). Since this EIS is not specifically about grazing, forest management, or resource management planning, the appeal procedures for general public land issues will apply. Therefore, a 30-day appeal period will follow issuance of the Record of Decision. The Record of Decision may be issued concurrently with the Final EIS, and the applicable appeal procedure will be described in detail in both documents. Applicable regulations can be found at 43 CFR § 4.411, 43 CFR § 4.21, 43 CFR § 4.401.

(*) Alt 1 is immediately disregarded as only included "for comparison purposes"

(*) We are opposed to herbicide use on native plants or for "any" non-commodity objective or apparent commodity purposes. Purpose + Need

(*) Not which best maintains wildlife + habitats + fails to explore minimizing herbicide use + combining w/ other methods w/more emphasis on prevention

Abstract

The BLM proposes to increase the number of herbicides available for use on BLM lands in Oregon, and to expand their use beyond the noxious weed management program. Noxious weeds are spreading on BLM lands at the rate of 144,000 acres per year. The existing BLM vegetation management program (Alternative 2) is unable to effectively address the rate of spread or treat all species. New herbicides are available that would better control weeds, better meet other non-commodity vegetation management objectives, and have fewer adverse effects on humans and the environment. This EIS examines three alternatives that would meet the need: Alternative 3 would add seven herbicides west and nine herbicides east of the Cascades, to the four herbicides already being used to control noxious weeds. Herbicides use would be expanded to include the treatment of other invasive plants, and the treatment of native plants to control invasive pests and diseases; Alternative 4 would add 8 and 12 herbicides and add (to the uses described in Alt. 3) native vegetation control in rights-of-way, administrative sites, and recreation sites, and conduct wildlife habitat improvement specified in interagency conservation plans for rare species, and; Alternative 5, would add 14 herbicides statewide to the four already being used, and expand herbicide use to include any non-commodity objective. An alternative of No Herbicide Use (Alternative 1) is also included for comparison purposes. The decision will hinge on which alternative best: controls noxious and other invasive weeds; protects developments from encroaching vegetation; maintains wildlife and other habitats; reduces fire risk; complements weed control work on adjacent lands; protects flora, fauna, and human health; controls exotic plant pests and diseases, and; minimizes treatment costs and economic losses. The analysis indicates: noxious weeds would infest 1.9 to 2.2 million fewer acres under the Action Alternatives 3 and 4/5 respectively; that Alternative 4 and 5 would save $1 million per year just in rights-of-way, administrative site, and recreation site vegetation management, and; under all alternatives and with Standard Operating Procedures and Mitigation Measures in place, risks to humans or any resource is generally low to negligible. Some additional potential mitigation is identified by the analysis. Potential additional monitoring is also identified. The preferred alternative is Alternative 4.

(*) Monitoring & mitigation had better be increased, guaranteed, + implemented & not just "potential" but fully funded,

It's very hard to believe that w/so many toxic chemicals used for such a broad array of purposes, that there would be only "low to negligible" risks to humans or any resource — Surely these proposed actions would lead to a great increase in herbicide use — toxic chemical poisoning.

control exotic pests and diseases in State-designated quarantine areas, like the area currently designated for Sudden Oak Death control in southwestern Oregon. Here, tanoak stumps near Sudden Oak Death infestations would be treated to prevent resprouting, depriving the pathogen its preferred host.

Why is the Action Needed?

⊛Without adequately preventing the causes of invasive plant spread, related soil disturbance & invasive plant introduction, invasive spread will continue + habitat be further degraded no matter how much herbicide is dumped or which kinds of herbicide are used.

Noxious weeds and other invasive plants are difficult to control. Many species simply cannot be controlled with mechanical treatments alone because their roots are deep and readily re-sprout, because they are in areas where heavy soil disturbance is not acceptable, access limitations prevent effective control, or because they would simply reseed into mechanically disturbed sites. Many plant species are not effectively controlled by the four herbicides currently available to BLM in Oregon. In spite of an aggressive vegetation management program using all available treatment methods, these plants are spreading, habitats are being degraded, and fuel buildup is increasing. About 1.2 million of the 15.7 million acres of BLM lands in Oregon are currently infested with noxious weeds at some level,[4] and they are spreading at an estimated rate of 12 percent per year (see Appendix 7). Ecological damage from extensive noxious weed infestation is often permanent. Adverse effects include displacement of native plants; reduction in habitat and forage for wildlife and livestock; loss of threatened, endangered, and sensitive species' habitat; increased soil erosion and reduced water quality; reduced wilderness and recreation values; reduced soil productivity; and changes in the intensity and frequency of fires (USDA 2005). ⊛The EIS fails to give equal attention to the numerous + serious threats posed by herbicides - to water quality, soils, wildlife, air quality, humans, recreation, wilderness, TES species, etc. basically all the same values affected by invasive plants.

There are also specific management situations where *Native vegetation* is going untreated or only partially treated because available vegetation management methods are inefficient or costly. Vegetation encroachment along roads and into other developments requires more costly control measures when compared with herbicide treatments on adjacent land ownerships. Mechanical methods can also spread invasive plants. Western juniper is encroaching into native shrub/grass communities, capturing available soil water, and altering soils in ways that inhibit retention and reestablishment of native plant communities. The plant pathogen Sudden Oak Death is getting a foothold in southwest Oregon, threatening to kill tanoaks and other plants throughout the State and lead to plant quarantines on a variety of nursery plants. Finally, the management of encroaching vegetation within road, power-line, pipeline, and other rights-of-way and developments is being conducted with non-herbicide methods at a higher cost on BLM lands than on adjacent non-BLM lands where herbicides are available. These additional costs and reduced effectiveness ultimately affect utility subscribers and/or subtract from funds available for other vegetation treatments.

⊛ Utility #, road, & other rights of way & developments are often large areas w/ lots of potential for human + pet exposure.

To better meet BLM's noxious weed and other vegetation management responsibilities, there is an underlying *Need* for more effective vegetation control measures. Because all other known non-herbicide methods are available and being used to the extent practicable within existing funding and capabilities, the *Need* for more effective control measures translates to a proposal and alternatives to make more herbicides available for use on public lands administered by the BLM in Oregon.

⊛ W. juniper control seems largely to benefit livestock use, which should be decreased or curtailed since livestock most credited to damage to soils, water, fish, native plants & species (including TES) habitat

⊛We are fine w/ less native vegetation control along rds, etc. - esp. if less would result in less BLM demand for herbicide use.

What Would It Mean Not to Meet the *Need*?

⊛The need should translate into a variety of means to more effectively stop + control exotic invasive introduction + dispersal, not just more herbicide use. Artificially narrow purpose + need

To answer that question, a No Action Alternative, Alternative 2 was analyzed. Noxious weeds would continue to spread at an estimated rate of 12 percent (144,000 acres per year), and infest about 5.9 million acres or one-third of the BLM lands in Oregon, in 15 years. Millions of acres of imperiled sagebrush habitat will be converted to medusahead and cheatgrass, which are invasive annual grasses with little habitat or forage value and prone to regular intense fires that remove all other vegetation and endanger rural communities. The BLM will continue to try, without herbicides, to control tanoak on its portion of the State quarantine area for Sudden Oak Death in southwest Oregon. Tanoak is a prolific sprouter, and the continued persistence of Sudden Oak Death at the quarantine area is thought to be at least partially related to BLM's inability to control that sprouting with herbicides. If Sudden Oak Death escapes the

This makes no sense

4 "Infestations" range from monocultures of invasive weeds to a few stems per acre.

(*) Purposes #2 + 3 do not require herbicides to be met and should not be used to constrain the choice of alternative. Cost (#8) should also not ~~constrain~~ determine the choice of alt. as so many other values are at stake - eg. not poisoning soil, water, air, wildlife, native plants, humans.

Our reduced list of 5 herbicides for use would meet All the purposes except 2 + 3 & could partially meet #2.

The eight *Purposes* to be variously achieved by the selected alternative are:

1. *Control invasive plant species to protect native ecosystems and the flora and fauna that depend on them.*
2. *Protect the safety and function of BLM and other authorized infrastructures by controlling encroaching vegetation.*
3. *Manage native vegetation to provide sustainable habitats for wildlife, fish, and native plants, particularly those included in the Bureau Sensitive Species program.*
4. *Manage vegetation to reduce the risk that large-scale high-intensity fires will unacceptably damage resources and human developments.*
5. *Cooperatively control invasive plants so they do not infest or re-infest adjacent non-BLM lands.*
6. *Prevent herbicide control treatments from having unacceptable adverse effects to applicators and the public, to desirable flora and fauna, and to soil and water.*
7. *Control plant pests and diseases by removing their native plant hosts when necessary to meet ODA[5]-identified control objectives.*
8. *Minimize treatment costs and improve treatment effectiveness, so economic losses from invasive plants and other vegetation growth are reduced and more of the* Need *can be met within expected funding.*

(*) Potential effects of plant control actions are not just limited to the # of acres affected, but also determined by the vulnerability of native plants, wildlife, water, humans, soils, air to toxic effects and their dispersal, and to the toxicity level, dispersal potential, concentration, + manner of action unique to each herbicide formula plus cumulative effects.

What are the Effects of the Alternatives?

The Herbicides

In order to identify the potential effects of vegetation control treatments, the annual acres to be treated with each herbicide, and with each non-herbicide method, were estimated for each alternative. Weed and other vegetation management specialists from the Oregon State Office and the nine district offices in Oregon made predictions of annual treatment levels for the next 10 to 20 years assuming current budget trends. Those totals are summarized below, displayed for BLM districts west and east of the Cascades (Table S-1).

(*) We want the # of acres where herbicides are used as low as possible, the toxicity of herbicides used + their potential for affecting non-target species & areas as low as possible, + a set timeline for ~~fac~~ phasing out toxic chemical use.

Table S-1. Estimated Annual Treatment Acres with Herbicide and Non-Herbicide Methods, West (W) and East (E) of the Cascades

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Number of Herbicides	0	4	W: 11 E: 13	W: 12 E: 16	18
Herbicide Acres	0	W: 7,000 E: 9,700	W: 8,000 E: 22,300	W: 10,000 E: 35,100	W: 10,200 E: 39,800
Non-Herbicide Treatment Acres	W: 8,600 E: 33,500	W: 6,400 E: 22,400	W: 6,600 E: 21,500	W: 4,630 E: 12,075	W: 4,560 E: 10,430
Total Treatment Acres	W: 8,600 E: 33,500	W: 13,400 E: 32,100	W: 14,600 E: 43,800	W: 14,630 E: 37,175	W: 14,760 E: 50,230

(*) Herbicide use - where this is considered absolutely necessary - should combine herbicide use w/ other methods for maximum effectiveness & minimize the use of herbicide - ~~both~~ the amount used, the number of times herbicide is used, + the toxicity of the herbicide.

5 Oregon Department of Agriculture

(*) An eg of the biased analysis - 2,4-D certainly has a high risk to the public & applicators, not "moderate" as claimed. See our enclosed info on 2,4-D. It is also incredibly persistent, posing risks of repeated exposures over time from only one application on one site. The BLM needs to follow Region 6 of the Forest Service's lead in prohibiting the use of 2,4-D and Dicamba due to their known greater risks (see R6 FS FEIS) and preferably also prohibiting the other highly toxic herbicides proposed, such as Diquat & Triclopyr.

Human Health and Safety

Nationally, the BLM has selected 18 herbicides from among hundreds available, picking those needed to accomplish the objectives while having the least risk to humans and the environment. This said, the additional herbicides that would become available under Alternative 3 are generally less toxic than those currently being used.

At typical rates, 2,4-D (Alternatives 2 through 5), bromacil, diuron, and tebuthiuron (Alternatives 4 and 5) are identified as having a generally moderate risk to the public and applicators, with risks ranging from none to high depending upon the exposure scenario. Diquat has a low risk in some occupational scenarios, and triclopyr, hexazinone, and diquat have a low risk in at least one of the accidental exposure scenarios evaluated. All six of these herbicides have a PEIS Mitigation Measure that prohibits application at maximum rates if feasible. (*) The BLM should follow the Forest Service Region 6's example in prohibiting maximum application rate - see R6 FEIS.

Nearly all use of bromacil, diuron, and tebuthiuron would be east of the Cascades, and bromacil and diuron would be used mostly where complete vegetation control is needed, such as for reducing fire hazard in unstaffed communications and other non-public sites, or to keep vegetation from growing into pavement edges. Diquat is only available in Alternative 5 and projected use is low; it is expected to be used only where one of the other five available aquatic herbicides would not work. (*) This sounds like the Eastside is considered a human population & ecosystem that can be sacrificed due to lower population & less political clout - Sorry, we happen to live here, & will challenge higher risks posed for us.

Bromacil, diuron, 2,4-D, and tebuthiuron have the highest health risks for workers. PEIS Mitigation Measures specify avoiding applying bromacil and diuron aerially. Bromacil, diuron, and tebuthiuron have the highest risks to the public. Diuron is a possible carcinogen. 2,4-D has possible endocrine disruption abilities in workers applying large amounts of 2,4-D and poses moderate to high risks to workers performing ground-based boom spraying.

(*) Drop all use of Bromacil, Diuron, 2,4-D, and Tebuthiuron due to acknowledged higher health risks for workers & the public. High human health & ecological risk outweighs benefits.

Summary of the Major Effects of Each Alternative

While there is a potential for adverse resource and human health effects from various elements of the alternatives, the SOPs and PEIS Mitigation Measures would minimize herbicide risks to negligible levels. Even Bureau Sensitive and Federally Listed species were deemed not at great risk because of required pre-project clearances, consultation requirements, and/or additional buffer requirements. Each alternative's projected reduction in weed spread more than compensates for any herbicide or non-herbicide treatment risk identified.

The acres estimated to be treated by each herbicide or non-herbicide method under each alternative and displayed in Chapter 3's *Background for Effects Analysis* section on Table 3-4 are integral to the following comparison of the major effects of each alternative. Selected parameters for the alternatives relevant to the effects comparison are displayed on Table S-3.

(*) Again, Table S-3 is biased in that benefits of reducing invasive plants are not weighed against costs of herbicide use to water & air quality, soil fertility, fisheries, wildlife - including TES species, & human health

Table S-3. Selected Parameters for Each Alternative Relevant to the Effects Comparison

Parameter	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
Number of Herbicides Available	0	4	W: 11 E: 13	W: 12 E: 16	18
Invasive Plant Herbicide Annual Treatment Acres	0	16,700[2]	30,300	30,300	30,300
Invasive Plant Non-herbicide Annual Treatment Acres	42,100	28,800	28,100	28,100	28,100
Native Plant Herbicide Annual Treatment Acres	0	0	0[1]	15,100	20,000
Rate of Spread at 15 years	14%	12%	7%	6%	6%
Difference in noxious weed infested acres in15 year compared to the No Action Alternative	Up 2.7 million	0	Down 1.9 million	Down 2.2 million	Down 2.2 million

[1] Not counting 250 acres per year pest and disease control.
[2] Noxious weeds only.

~ Do not use the additional herbicides allowed in Alts 4 & 5 above that proposed for alt 3. Of alt 3 proposed herbicides drop planned use of: 2,4-D, Dicamba, Picloram, Chlorsulfuron, Fluridone, Metsulfuron methyl, Sulfometuron methyl, & Triclopyr due to greater toxicity concerns & esp. re: Picloram + Dicamba, greater potential for toxin spread through soil + water to contaminate native plants, water quality, fish, wells. & through air w/ the Sulfonylurea herbicides.

TABLE S-4. HERBICIDES AVAILABLE UNDER EACH ALTERNATIVE

	Herbicide	Characteristics and Target Vegetation	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
	Herbicides Currently Approved for use on BLM Lands in Oregon (for noxious weed control only)						
Drop-	2, 4-D	Selective; foliar absorbed; post-emergent; annual/perennial broadleaf weeds. Key species treated include burningbush, mustard species, and Russian thistle.		√	√	√	√
Drop-	Dicamba	Growth regulator; annual and perennial broadleaf weeds, brush, and trees. Key species treated include knapweeds, burningbush, and Russian and other thistles.		√	√	√	√
	Glyphosate	Non-selective; annual and perennial grasses and broadleaf weeds, sedges, shrubs, and trees. Key species treated include annual, biennial, and perennial grasses and broadleaf weeds, and woody shrubs.		√	√	√	√
Drop-	Picloram	Selective; foliar and root absorption; mimics plant hormones; certain annual and perennial broadleaf weeds, vines, and shrubs. Key species treated include knapweeds, leafy spurge, and starthistle.		√	√	√	√
	Additional Herbicides Proposed for Use in One or More of the Alternatives						
Drop-	Bromacil	Non-selective; inhibits photosynthesis; controls wide range of weeds and brush. Key species treated include annual grasses and broadleaf weeds, burningbush, and Russian thistle.				√ (E[1])	√
Drop-	Chlorsulfuron	Selective; inhibits enzyme activity; broadleaf weeds and grasses. Key species treated include biennial thistles and annual and perennial mustards.			√ (E)	√ (E)	√
*	Clopyralid	Selective; mimics plant hormones; annual and perennial broadleaf weeds. Key species treated include knapweeds, mesquite, and starthistle and other thistles.			√	√	√
Drop-	Diflufenzopyr + Dicamba	Post-emergent; inhibits auxin transport; broadleaf weeds. Key species treated include knapweeds, burningbush, and Russian thistle and other thistles.					√
Drop-	Diquat	Non-selective and foliar applied. Key species treated include giant salvinia, water-thyme, and watermilfoils.					√
Drop-	Diuron	Pre-emergent control; annual and perennial broadleaf weeds and grasses. Key species treated include annual grasses and broadleaf weeds, burningbush, and Russian thistle.				√	√
Drop-	Fluridone	Aquatic herbicide to control submersed aquatic plants. Key species treated include water-thyme and watermilfoils.			√	√	√
Drop-	Hexazinone	Foliar or soil applied; inhibits photosynthesis; annual and perennial grasses and broadleaf weeds, brush, and trees. Key species treated include mesquite and scrub oak.			√	√	√
	Imazapic	Selective post-emergent herbicide; inhibits broadleaf weeds and some grasses. Key species treated include downy brome, leafy spurge, medusahead, and mustards.			√	√	√
	Imazapyr	Non-selective; pre-emergent and post-emergent uses; absorbed through foliage and roots; annual and perennial broadleaf weeds, brush, and trees. Key species treated include saltcedar.			√	√	√
Drop-	Metsulfuron methyl	Selective; post-emergent; inhibits cell division in roots and shoots; annual and perennial broadleaf weeds, brush, and trees. Key species treated include annual and perennial mustards and biennial thistles.			√	√	√
Drop.	Sulfometuron methyl	Broad-spectrum pre and post-emergent control; inhibits cell division; grasses and broadleaf weeds.			√ (E)	√ (E)	√
Drop-	Tebuthiuron	Relatively non-selective soil activated herbicide; pre and post-emergent control of annual and perennial grasses, broadleaf weeds, and shrubs. Key species treated include creosotebush, oak, Russian olive, and sagebrush (thinning).				√ (E)	√
Drop	Triclopyr	Growth regulator; broadleaf weeds and woody plants. Key species treated include mesquite and saltcedar.			√	√	√

1 - Only allowed in BLM Districts east of the Cascades

* This would still allow the BLM to use ~~8~~ 4 different herbicides w/ a range of application & target plant effectiveness but less toxic effects & less potential to affect non-target areas + species through soil, water + air dispersal.

An example of our concerns and perspective, sent out to some of our supporters

Blue Mountains Biodiversity Project

Action Alert

Oregon BLM Herbicide Use Plan Needs Comments by December 1st!

Blue Mtns Biodiversity Project comments on the Oregon BLM Herbicide Use DEIS, Cont.

The Oregon Bureau of Land Management is currently proposing to increase toxic herbicide use on BLM public lands in Oregon from about 17,000 acres of herbicide spraying a year to control invasive plants to almost three times as much—45,000 acres a year, and to increase the number of herbicides used from four (two of which the Forest Service has stopped using due to high toxicity risks to the public, workers, and ground water) to 12 herbicides on the west-side of the Cascades and 16 on the east-side, claiming that there is higher public acceptance of herbicide risks east of the Cascades. The BLM offers a narrow range of alternatives, rejecting public suggestions to increase the use of non-herbicide control methods, to reduce ground-disturbing activities that encourage the introduction and dispersal of invasive plants, to not allow aerial spraying of herbicides, which is more likely to damage crops, contaminate drinking water, and affect non-target native plants, wildlife, and people, and to prohibit use of the very potent Acetolactate Synthase-inhibiting herbicides (Chlorsulfuron, metsulfuron methyl, sulfometuron methyl, imazapic, and imazapyr) which are particularly risky to use in aerial spraying or boom spray applications. Failing to incorporate or combine any of these public proposals and the suggestion of only using herbicides as a last resort, the BLM is offering 5 alternatives, four of which use herbicides, with alternative 1 being no herbicide use, which they admit they are not taking seriously, saying it is for comparison purposes only. Alt. 2 is the current amount of herbicide use with four herbicides, three of which (2,4-D, dicamba, and picloram) we think should be prohibited from use due to high toxicity, high potential for ground-water contamination, and long persistence in soils. Alt. 3 would increase herbicide use to 30,000 acres a year (almost twice current use) with 11 herbicides used west of the Cascades and 13 on the east-side, and the most extreme option, alt. 5, would increase herbicide use to 50,000 acres a year with 18 different herbicides available use throughout all of Oregon BLM public lands. Both alternatives 4 (the BLM's preferred alternative) and 5 include toxic herbicide control of native plants (not just exotics) in rights of way, recreational sites, administrative sites, and for theoretical improvement of habitat for federally listed Threatened species like the Sage grouse, who could be hurt by the toxic chemical use itself—uses for herbicides not currently allowed. Alt. 5 would allow herbicide use for any purpose (unspecified) which BLM staff desire, and appears to be an illegal alternative in that this makes it impossible to predict and analyze potential environmental impacts.

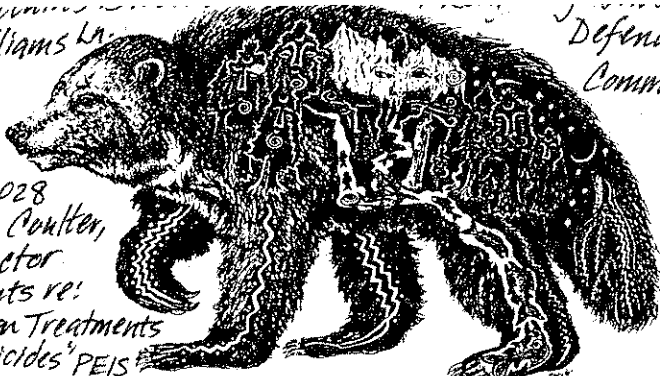
Most of the herbicides proposed for use are highly toxic to native, non-target plants, including rare plants, federally listed plants, medicinal, and edible plants, and may limit the abundance of and contaminate edible mushrooms; several pose serious human health risks (eg. cancer, reproductive impairment, endocrine disruption, liver failure) to recreationists, forest workers, Native American banning aerial use of dicamba with diflufenzopyr and sulfometuron. This allows aerial spraying of other herbicides highly toxic to humans such as 2,4-D and tebuthiuron. In Idaho in 2001 a "by the books" typical aerial spraying of sulfometuron methyl resulted in severe damage to thousands of acres of adjacent farmland crops the following year. (EIS p. 86) The EPA is considering prohibition of its use within 100 feet of water and in situations typical of dry Eastern Oregon (low annual rainfall and powdery dry soil or light sandy soil), suggesting that aerial spraying of the potent ALS-inhibiting herbicides should be prohibited. Aerial spraying should be avoided in general. Boom broadcast applications such as by ATVs are more hazardous to the public, fish, water quality, crops, and native plants than spot-spraying, yet spot-spraying is more risky to the workers, indicating the need to avoid use of the most toxic herbicides. Children are at greater risk than adults.

Drinking water, stream, and fish contamination: Glyphosate can persist in the bottom sediments of aquatic environments with a degradation half-life of 12 days to 10 weeks. Recent studies detected solution phase glyphosate in 36% of 154 stream samples, and its acid degradation product in 69% of the samples. Glyphosate formulas with polyethoxylated tallow amine (POEA) surfactant is considerably more toxic to aquatic species—including fish—than other formulas. Yet glyphosate is registered for aquatic use and would be applied to wetlands and aquatic plants emerging from the water. (EIS p. 163) Bromacil is mobile in soil, has a high potential to leach into groundwater, and is a known groundwater contaminant. (EIS p. 164) Chlorsulfuron is persistent in soils, has a long potential half-life in water (24 days to more than a year) and has high potential to leach into groundwater. Dicamba is mobile in soil, can contaminate surface water and has high potential to leach into groundwater. It is a known groundwater contaminant in Delaware, Maryland, and Virginia. The EPA has set health advisory concentration levels for dicamba but has failed to set maximum concentration limits for drinkable water. The EPA recently placed diuron on the drinking water contaminant candidate list (EPA 2008) yet the BLM is still proposing its use. Known aquatic dissipation half-lives of diuron range from 3 to 177 days. Movement through soil is known to have transported diuron and its metabolite to a stream and adjacent shallow groundwater. (Field et al. 2003, EIS p. 165) "Hexazinone and its degradates persist, are highly mobile, and are readily washed into surface waters. Hexazinone has been identified as a groundwater contaminant in seven states. The EPA requires a groundwater advisory on all product labels stated that hexazinone should not be used on permeable soils. In areas where irrigation water is contaminated with hexazinone or where groundwater discharges to surface water, hexazinone residues in water could pose a threat to plants." (EIS p. 165) Hexazinone has been detected in streams near terrestrial application sites up to 30 days after application, and reported in run-off up to 6 months post-application in a forest dissipation study. (Neary and Michael 1996; Michael et al. 1999, EIS p. 165) Potential for displacement of hexazinone and consequent impacts to crops or native plants seems too high for the BLM to be using it. Imazapic is a new herbicide which has received little study. The herbicide label for the "Plateau" formula in which imazapic is the active ingredient, indicates that imazapic is a groundwater contaminant. (BASF 2004, EIS p. 165) Metsulfuron methyl has high potential to leach into groundwater but so far is not a reported groundwater contaminant according to the EIS. The three added herbicides—bromacil, diuron, and tebuthiuron—proposed for use in alt. 4 (but not in alt. 3) are all known groundwater contaminants. Alt. 5 would add the use of diquat, a known groundwater contaminant that can de-oxygenate water if applied to large areas of water, hurting fish and other aquatic species. Yet this destructive herbicide is proposed for use largely to control Giant salvinia, which is not even known to occur in Oregon, which appears to be outside of its ecological habitat range. Alt.s 4 and 5 would also apply herbicides to more roads and rights of way. As the EIS admits: "As more roads and rights-of-way (and thus more ditch lines) are

27803 Williams Ln.
Fossil, OR
97830
(541)
468-2028
Karen Coulter,
Director

Defenders
Comments

Comments re:
"Vegetation Treatments
Using Herbicides" PEIS



Covering the entire Northwest and West, including Alaska, as far east as the Dakotas and Oklahoma, and the Southwest, including Arizona, New Mexico and Texas, this programmatic Environmental Impact Statement and accompanying programmatic Environmental Report could set the tone--of poisoning 932,000 acres per year with toxic herbicides (about 70% of this in the Inter-mountain West in Oregon, Idaho, Nevada & Wyoming) and targetting the already abused Sagebrush steppe and high desert lands with burning, brush-beating, chaining juniper and similar militaristic "conquering" of Nature, supposedly to benefit Sage grouse and other wildlife--for the next 15 to 20 years! The Bureau of Land Management's preferred alternative would almost triple herbicide use from the current 325,000 acres per year and increase non-chemical manipulation of the land from 500,000 acres a year to six million acres annually--a twelve-fold increase. Non-chemical manipulation includes the release of exotic bio-control insects that have generally not been tested for their appetite for native plants.

What's wrong with this picture? In addition to heavy-handed management instead of more natural, passive restoration techniques, the BLM's plan fails to deal with the many sources of invasive weed spread, such as the primary vectors of invasive plant introduction and dispersal: Livestock grazing, logging, off-road vehicles, roads, and other ground-disturbing activities such as mining and gravel pits. You simply can't solve a problem by addressing the symptoms rather than the causes. Indeed, the real purpose of this plan may have more to do with clearing the land for more cattle and sheep than getting serious about controlling invasive plants. Although invasive plants and reducing the risk of "catastrophic" fire (a favorite Bush Inc. public relations rationale for logging and magic words for getting federal funding) are referenced in the text, the actual title of the draft EIS is "Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States"--rather than the purpose or goal being to control the introduction and dispersal of invasive plants, which is ostensibly the purpose, judging by the bulk of the text, the BLM made herbicide use itself the purpose: "The purposes of the proposed action are to provide BLM personnel with the herbicides available for vegetation treatment on public lands and to describe the conditions and limitations that apply to their use." (DEIS, p. 1-3) This automatically biases the decision toward their preferred action alternative, which is illegal under the National Environmental Policy Act. Such a narrow and mechanistic focus also de-emphasizes the whole range of prevention measures that could be implemented to limit invasive plant introduction and spread, such as weed-free livestock feed requirements; keeping livestock, heavy equipment and off-road vehicles out of invasive weed-infested areas; vehicle inspections and cleaning; limits on forest canopy removal and ground-disturbing activities which encourage

Alt. E continued: 466,000 acres per year would be sprayed with herbicides. Alt. E would favor spot application over broadcast spraying. Herbicide use would be "discouraged" in areas with amphibians and herbicide free-zones would be established around culturally significant plant and wildlife resources to protect Native American and Alaskan Native rights. Alt. E would also place greater emphasis on passive restoration.

While Alternative E definitely has better limits and precautionary measures than alt. B, we think it doesn't go far enough. The <u>BLM should consider and incorporate the Restore Native Ecosystems Alternative</u>, a citizens' alternative submitted to the BLM that carefully outlines a thorough and scientifically defensible plan to <u>prevent</u> the introduction and dispersal of invasive plants, thus getting at the causes of the problem rather than endlessly dumping increasing amounts of poisons on the symptoms. If any herbicides are used, we feel they should only be used as a last resort and should not include the most toxic and persistent active ingredients, surfactants (such as the NPE additive used with some glyphosate formulations), "inert" ingredients (which may include kerosene, diesel fuel, etc.) and metabolites (which may be carcinogenic.) Please check out our summaries below of which are the most toxic and persistent herbicides

Specific Concerns

*We are especially concerned about the fate of amphibians, which are experiencing a global decline, in part, scientists suspect, due to herbicide exposure, and about herbicide threats to fish populations. Region Six of the Forest Service found their proposed use of 12 of the 18 herbicidest the BLM plans to use would be "likely to adversely affect" almost all federally listed Endangered, Threatened and Sensitive fish species in the region and all commercially important fish species, including salmon, steelhead trout and Bull trout. **There should be no herbicide use in riparian areas or aerially.**

*There is great cause for concern about cumulative impacts to Sage grouse from both proposed herbicide use in their habitat and planned clearing and burning of sagebrush.

*There is a huge list of "Special Status" species that may be threatened to the point of uplisting under the Endangered Species Act or locally or regionally extirpated by the preferred action, yet the DEIS fails to analyze how each species would be affected or require needed mitigation.

*There should be no herbicide use or vehicle use in Wilderness Areas as proposed.

*Biocontrols are exotic organisms that should not be released in the wild without stringent testing to ensure they will not decimate native plants.

We incorporate by reference comments submitted by the Northwest Coalition for Alternatives to Pesticide, which include many concerns with we concur, such as:

— The Programmatic Environmental Report (PER) should have been incorporated in the DEIS ("PEIS") and subject matter therein should have underwent much more detailed and rigorous analysis due to the tremendous expansion of non-herbicide control methods proposed — from 2 million to 6 million acres annually.

— New or more recent scientific findings as to the toxicity and other impacts of 2,4-D, glyphosate and other ~~inert~~ herbicide active ingredients, formulas, inerts, metabolites and impurities should have been disclosed and analyzed in the DEIS (examples given in the NCAP comments)

— Prevention of introduction and dispersal of invasive exotic plants should have been the overriding priority and emphasis in all of the BLM's action alternatives and thoroughly discussed and laid out as a strategic plan — treating symptoms endlessly with more and more toxic herbicide use does not address the causes of the problem and therefore does not meet the purpose and need of the project without a carefully planned prevention program.

— Many issues, such as potential impacts to Sage grouse, were not adequately analyzed with an eye to other cumulative impacts combined with the proposed action (eg. livestock grazing, roads, development, ORV use, hunting, mining, non-chemical control methods proposed, etc.) and the need to deal with root causes of invasive plant spread that are embedded in status quo management practices (eg. livestock grazing, logging, soil disturbances, quarries, roading, etc.) that are considered too sacrosanct to touch. (eg. of Sage grouse issue analysis in NCAP comments.)

Reassuring statements in the "Summary and Comparison of Effects on Resources by Alternatives" Table 2-8 such as "There would be risks to human health from vegetation treatments, but... use of less toxic herbicides have the potential to reduce these risks" (p 2-39 DEIS) and: "New herbicides are proposed for use should improve treatment success while having minimal impacts to aquatic organisms" (p 2-31 DEIS) ignore admissions buried in the text that ~~"Based on BLM patterns of use, 2,4-D, glyphosate, picloram, and tebuthiuron would comprise about 70% of the~~ only "(a)pproximately 10% of all treatment areas would be treated with the new herbicides." (DEIS p. 4-20)

There is no explanation as to why the BLM hasn't before been able to use herbicides in Alaska, Nebraska, and Texas (DEIS p. 4-20) — Is it because residents of those states don't want herbicides used? There should be analysis of current methods use in those states to control invasive plants or reduce fire risk, the need for these activities or herbicide use in those states, why herbicides haven't been used in those states and how current BLM plans to introduce herbicide use in those states relate to state law, local regulations and the public interest in Alaska, Nebraska and Texas, as well as any special ecological considerations regarding herbicide use in those states.

Unspecified "new" herbicides not analyzed in this programmatic EIS should not be allowed for use in the future without analysis at this scale. Otherwise the public and decision-makers have no idea what impacts they are agreeing to in choosing an alternative that allows for unspecified new herbicides to be used with risk assessment and analysis only at the District level, where less funding and scientific expertise is available for the kind of detailed risk assessment and analysis needed. Yet automatic adoption of unspecified new herbicides through such inadequate assessment at the District level is proposed for alternatives B, D, and E. (pp. 2-11 - 2-13, DEIS)

General Problems Re: Purpose & Need -

No discussion of past experiences w/using these herbicides - Were they effective in controlling invasive weeds? In improving ~~water quality~~ riparian habitat quality? in reducing fire severity? How was effectiveness measured? What didn't work? What ecological & human health impacts resulted from their use? What impacts could not be measured but could still have taken place? What monitoring was done? How long did herbicide residues stay in soils? Were herbicides detected in ground or surface water? Were there repeated herbicide applications? Cumulative effects?

It's important to learn from past experience before escalating the use of any management method, especially toxic chemicals. Yet none of this evaluation of outcomes from past herbicide and biocontrol and manual/mechanical control methods appears in the DEIS or PER.

"This kind of evaluation is especially important given that the DEIS admits that "current treatment levels have been insufficient to control unwanted vegetation and reduce the risk of wildfire to life and property on public lands."... (DEIS p2-14)

Why were these control methods ~~ineffec~~ insufficient? It is likely that their insufficiency was due to failure to deal with the root causes of invasive plant introduction and dispersal, in which case, more of the same "treatment" will continue to be ineffective.

It is not clear that proposed "control methods would maintain or improve land health on most public lands" as they haven't so far, so there should have been further ~~consideration &~~ analysis of alternatives dropped from further analysis, such as "Treat only acres needed to protect human health and safety." There does not appear to be any substantiation in the DEIS of the need to reduce wildfire risk or the extent of human lives and private property threatened by this risk across the BLM lands in question - no maps or figures...

or density of stands of trees or shrubs.... Herbicides could also be used to suppress or thin shrubs in favor of herbaceous vegetation." (PEIS p. 4-61) Precommercial thinning and prescribed fire (and in some cases, shrub mowing) can be used to accomplish these ends without the hazardous use of toxic chemicals. In the case of prescribed fire, the effect is much more similar to natural processes. Herbicides should only be used as a last resort to control or eradicate exotic invasive species, if they are used at all, not to artificially clear land of sagebrush for livestock or thin stands of trees for maximum commercial plantation growth on public lands. Yet these expansions of the uses to which herbicides are applied are not analyzed or justified in the DEIS in violation of NEPA. We are also concerned that there are references in the DEIS to setting back the successional stage of "rangeland" and forest to an earlier successional stage through the use of herbicides – for what? So that livestock graze on grasses rather than sagebrush and the Sage grouse is eliminated as a restriction on livestock use? So that trees are more "vigorous" to grow for timber uses and "decadent" old growth habitat is eliminated, along with old growth-dependent species? This is not fulfilling the full public use and enjoyment mandate for public lands, which should not be managed as commercial private enterprises. We are also very concerned by admissions on pp. 4-62 – 4-63 that even under the "No Action" alternative (status quo management) (and presumably under the preferred alternative, although this is not clear), herbicide application would focus on "controlling" many native desert species that no one but ranchers would usually consider a problem – including sagebrush, Rabbit-brush, pinyon trees (a Native Cultural can also result in dominance by annual grasses, such as Downy brome or medusahead, if these species become resistant to picloram." (DEIS p. 4-62)

Re: temperate steppe conversion -

"Applications of picloram may damage sensitive grasses as well as broadleaf plants, and can substantially alter the composition of grassland communities (USDI BLM 1991a)." (DEIS p. 4-62)

Re: Subtropical desert conversion -

"However, tebuthiuron can be injurious to many grasses and forbs, and may promote the development of annual forbs, including Russian thistle." (DEIS p. 4-63)

The use of toxic herbicides planned for use in these environments are thus acknowledged to potentially convert fundamental plant species composition, altering ecological niche habitats and affecting biodiversity as well as removing targetted native components of these ecosystems (eg. pinyon pine, sagebrush, mesquite, etc.)

This planned conversion of native plant communities to something else (presumably livestock pasture) and the potential conversion of these native ecosystems to artificial environments, sometimes dominated by the very invasive plants the DEIS implies ~~are~~ it is the purpose of this program to eradicate (eg. Downy brome, Medusahead and Russian thistle) must be analyzed thoroughly in the DEIS as part of the intentional or foreseen consequences and purpose of the action alternatives with herbicide use (and through tree and brush manual and fire-removal, part of the "No Herbicide use" alternative as well) yet the DEIS appears to incorporate no such analysis or admission that conversion to pasture is part of the plan. Without such admission and analysis, decision-making may be made in ignorance of the true intent or consequences of the program.

It's interesting how enthusiastic the BLM is about using herbicides to counter the rapid expansion of invasive plants across public lands as "one of the primary threats to ecosystem health" (DEIS p. 4-93), when in reality, active management practices by the BLM, including livestock grazing, logging, mining, roading and allowing the use of off-road vehicles are far greater threats to the ecosystem and also all introduce invasive plants and disperse them throughout public lands. Yet known means to control these management practice vectors of invasive plant introduction and dispersal are not considered and analyzed, although dealing with them is absolutely essential to stopping or slowing the invasive weed problem. Similarly, there is no analysis in the DEIS of the need to change or reduce the scale of these management practices themselves (beyond vehicle cleansing to reducing overall soil disturbance, eliminating unnecessary roads, prohibiting larger forest canopy openings, reducing livestock numbers and access to riparian areas, banning open pit mining, controlling the number and vehicle access/use of quarries, etc.) The fall back argument is FLPMA's multiple use requirement, but there is no reason the BLM can't control (regulate) or change the nature of these management activities or reduce or prohibit them in sensitive areas, so these core roots of the problem are basic to the purpose and need of the BLM plan, within the scope of the project, and must be thoroughly analyzed and considered in an alternative (or more than one alternative) as required by NEPA. This could easily have been done by analyzing (and hopefully adopting) the "Restore Native Ecosystems Alternative" already carefully prepared. Why was this scientifically defensible citizen's proposal not included as an alternative to be considered instead of buried in an appendix? This is an obvious breach of NEPA's requirements for a full range of alternatives.

APPEAL TO THE CHIEF OF THE FOREST SERVICE
USDA FOREST SERVICE OF A
DECISION OF THE REGIONAL FORESTER
PACIFIC NORTHWEST REGION

League of Wilderness Defenders – Blue Mountains Biodiversity Project; Bloedel Reserve; Cascadia Wildlands Project; Community Alliance of Lane County; The Lands Council; McKenzie Guardians; Umpqua Watersheds, Inc.; Jan Wroncy; Center For Biological Diversity; Friends of Oregon Living Waters	In Re: Appeal of the Record of Decision for the Pacific Northwest Region (Region Six) Invasive Plant Program Environmental Impact Statement
vs.	
Linda Goodman, Regional Forester, Pacific Northwest Region 333 SW First Avenue P.O. Box 3623 Portland, OR. 97208	
Deciding Officer	

APPELLANTS' NOTICE OF APPEAL,
REQUEST FOR RELIEF, AND
STATEMENT OF REASONS

DATED THIS 28th DAY OF DECEMBER, 2005.

Environmental Policy Act (NEPA), the National Forest Management Act (NFMA), and these statutes' implementing regulations.

The Appellants have a specific interest in this project. Appellants have previously indicated interest in this project by commenting throughout the planning process and continued involvement in management of Ranger Districts and National Forests in the Pacific Northwest Region (Region Six). Appellants' continued interest and involvement in this project creates standing to appeal this decision according to 36 C.F.R. § 217 and 215.11(a)(2).

The Pacific Northwest Region Invasive Plant Program directly and significantly affects the members and volunteers of the League of Wilderness Defenders – Blue Mountains Biodiversity Project, The Bloedel Reserve, Cascadia Wildlands Project, Center for Biological Diversity; Community Alliance of Lane County, Friends of Living Oregon Waters, The Lands Council, McKenzie Guardians, Umpqua Watersheds, Inc., and the individual Jan Wroncy. Members and volunteers of these organizations and Ms. Wroncy regularly use Pacific Northwest Region (Region Six) National Forest public lands and surrounding areas for work, outdoor recreation, medicinal and edible plant gathering, wildlife observation, and other forest-related activities. Implementation of the Pacific Northwest Region Invasive Plant Program would adversely affect the Appellants because the proposed herbicide and biocontrol activities, and the inclusion of unproven new technologies and unspecified additional herbicides in the future, would result in degradation of fish, plant, and wildlife habitat throughout the Pacific Northwest Region's National Forests and adjacent lands, with potential adverse impacts to native plants, wildlife, fish, soils, water quality, native biodiversity and ecological integrity, and human health and safety. Appellants have long-standing and well-documented interests in the management of National Forests within the Pacific Northwest Region, the area where the Invasive Plant Program will be implemented.

substantial...costing Oregon citizens about $100 million per year (2000)...This EIS responds to an underlying need that currently exists on all National Forest System land in Region Six for: (1) Forest Plan level management direction that will reduce the extent and rate of spread of invasive plants and help prevent new infestations; (2) Release from the Forest Plan direction established by the 1988 ROD and 1989 Mediated Agreement so that new practices, technologies, and formulations of herbicides are available for use; (3) An updated list of herbicides available for use by the Forests.

Pacific Northwest Region Invasive Plant Program Final Environmental Impact Statement (EIS), p. 1-1-3. While Appellants agree that invasive plants harm native forest biodiversity, we firmly believe that this program will not fully resolve the threat posed by exotic plant species.

While unstated in the purpose and need section of the EIS, the PNR-IPP must also comply with all applicable environmental laws. As demonstrated *infra*, the program does not comply with all applicable laws and should not go forward. Additionally, the program does not meet the stated purpose and need and therefore should be abandoned. In the alternative, the Pacific Northwest Region Forest Service should prepare a new or supplemental Environmental Impact Statement fully disclosing and analyzing the range of likely and potential impacts from the proposed action.

A. The PNR-IPP Does Not Sufficiently Address the Underlying Cause of the Spread of Invasive Plants on the Forest.

The selected invasive plant management project focuses too much on the symptoms of the spread of invasive plants -- i.e., the increasing number of populations of weeds – rather than the underlying causes of these increases. Appellants raised this issue during the public comment period, but the USFS failed to adequately respond to our concerns. *See Appendix A -- Public Comments to EIS – Paraphrased Comments Submitted by Blue Mountains Biodiversity Project.* Such causes include the extensive road network in the forests, inordinately high levels of ground-based logging, off road vehicle use, and widespread livestock grazing on national forest lands.

The National Environmental Policy Act (NEPA) and its implementing regulations require the Region to address the *causes* of invasive plants and to design alternatives around eliminating the introduction of them. 40 C.F.R. § 1508.25 (scope of the proposed project). Case law in the Ninth Circuit also requires this analysis. *Thomas v. Peterson*, 753 F.2d 754 (9th Cir. 1985). Seriously considering alternatives to herbicide and biocontrol methods of curtailing the spread of invasive plants would meet the purpose and need of the proposed project, which is ostensibly to control the spread of invasive plants across the forests. Disregarding viable alternatives that would meet the purpose and need of the project is inconsistent with NEPA's requirement that a range of alternatives be thoroughly considered in an environmental analysis. *California v. Block*, 690 F.2d 753 (9th Cir. 1982). NEPA requires that the Forest Service take a "hard look" at the problem it is trying to solve and at all reasonable alternatives to determine the best way to protect and promote environmental quality. *See generally Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372 (9th Cir. 1998). Without addressing these causes of the introduction of invasive plants – and, in fact *refusing* to take a "hard look" at these causes – the PNR-IPP cannot hope to meet the stated purpose and need of the project and it should be abandoned. Invasive arbitrary and capricious in violation of the Administrative Procedures Act. Administrative Procedure Act, 5 U.S.C. §§ 551–559, 701–706, 1305, 3105, 3344 (1994 & Supp. III 1997).

A. The PNR-IPP EIS Does Not Include a Reasonable Range of Alternatives.

NEPA mandates that an agency "shall to the fullest extent possible: use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment." 40 C.F.R. § 1500.2(e). However the PNR-IPP ROD fails to adopt the most environmentally sound and arguably the most effective alternative offered, Alternative B, which is noted in the FEIS as the most environmentally protective alternative in numerous references under descriptions of standards (see comparisons of different alternatives re: standards 5, 6, 7, 8, 9, and 10, pp. 4-11-4-14) and fails to implement the most environmentally protective and most effective alternative designed (but not offered in the EIS), the Restore Native Ecosystems Coalition alternative. None of the alternatives offered in the PNR-IPP EIS avoid the highest risk herbicide treatment scenarios in sensitive areas.

> The greatest likelihood of effects to PETS species and their habitat is associated with 'high risk' treatment projects in sensitive areas. High risk projects are defined as projects that are treated with aerial herbicide applications, treated with broadcast herbicide applications (e.g. backpack or boom spray), the use of heavy equipment in riparian areas, and indirect treatment of water corridors (i.e. ditches) directly feeding streams with federally-listed aquatic species or critical habitat.

(FEIS pp.146-147). Significantly, none of the alternatives offered prohibit the use of aerial or broadcast spraying, the use of heavy equipment in riparian areas or indirect herbicide treatment of water corridors directly feeding streams with federally-listed aquatic species or critical habitat. Therefore a reasonable range of alternatives was not offered to avoid or minimize adverse effects. NEPA requires the USFS to "study, develop, and describe appropriate alternatives to the recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources as provided by section 102(2)(E) of 40 C.F.R. § 1501.2 (c)." *Id.* The requirement to evaluate all reasonable alternatives is not simply procedural; the Council on Environmental Quality (CEQ) has stated that the alternatives analysis is "the heart" of the NEPA analysis, the purpose of which is to "provid[e] a clear basis for choice among options by the decision maker and the public." 40 C.F.R. §1502.14; 42 U.S.C. §§4332(2)(E); 40 C.F.R. §1507.2(d). Thus, the Forest Service must "rigorously explore and objectively evaluate all reasonable alternatives" to the proposed action. *City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1310 (9th Cir. 1990). The proposed action involves multiple conflicts among alternative uses of available resources regarding threats to the viability and vitality of federally-listed aquatic organisms, native plants, and wildlife, as well as to human health and safety. These could have been resolved with additional alternatives.

The PNR-IPP, however, fails to give a comprehensive evaluation of alternatives to the proposed action. Reasonable and practicable alternatives to the proposed action exist and have been identified in earlier comments by Appellants and other commenters. *Appendix A -- Comments Submitted by Blue Mountains Biodiversity Project.* The alternatives considered in the alternatives that might be pursued with less environmental harm." *Lands Council v. Powell*, 395 F.3d 1019, 1027 (9th Cir. 2005).

NEPA requires that an EIS contain "high quality information and accurate scientific analysis…If there is incomplete or unavailable relevant data, the [EIS] must disclose this fact" up-front. *Id.* at 1031-32 (citing 40 C.F.R. § 1502.22). The EIS must include a description of methodologies it relies on, setting forth any shortcomings that are relevant in light of the environmental impacts the methodology is used to analyze. *Nez Perce Tribe v. NOAA et. al.*, Memorandum Decision and Order in Case No. CVO4-299-C-EJL dated September 21, 2005 (D. Id.).

The FEIS and ROD insinuate that this is just a programmatic decision, and that any potential impacts will be addressed and assessed in later NEPA processes for specific IPP projects. However, it is clear that the authorization of this program -- including its lack of specified regional methodology, monitoring and responsible oversight, and its approval of the use of known harmfully toxic herbicides -- will indeed have impacts. In fact, the FEIS readily admits the impacts of this programmatic decision in several instances. On page 4-136, the EIS states: "Determinations are based on the possibility of adverse effects at the project level, when the standards in this EIS are implemented, rather than only on the effects of the standards themselves. The uncertainty regarding herbicide exposure or proximity of disturbance prevent making a determination of 'not likely to adversely affect' (NLAA) for some species." Thus the FEIS admits that decisions made in this programmatic EIS will have on-the-ground effects which must be taken into consideration in the FEIS, rather than judging only the effects of the standards themselves. This is again admitted on page 4-146: "For the purposes of this EIS, effects to listed aquatic species are determined by using a worst case scenario, which leads to an adverse affect determination based upon the possibility of an adverse affect at the project scale."

The agency cannot have it both ways, claiming no significant environmental effects because this is a programmatic EIS, but basing the effects determination on consequent adverse effects on the project level that directly stem from decisions made in this EIS and ROD. Further, the FEIS admits that the programmatic nature of the EIS should lead to a more precautionary approach to effects determination, not more assurance that there will be no significant effects: "Because this EIS does not include project-level information, there is not significant information on how these herbicides will be applied to determine that there would be no effect whatsoever on PETS species and their habitat." (FEIS, page 4-146). As such the EIS should have more thoroughly disclosed and analyzed the full range of likely and potential impacts which will result from approval of this programmatic EIS and its implementation across the Pacific Northwest region. As the NEPA process failed to do this, the ROD and EIS must be withdrawn and a new process conducted which provides the decision maker and the public with this necessary information.

1. The PNR-IPP EIS fails to adequately consider the cumulative environmental impacts of the proposed project and past, present, and future Forest Service and private activities.

The PNR-IPP EIS fails to fully disclose and adequately evaluate the cumulative impacts of the program. In determining whether a project will have significant impact on the environment, on Forest lands and adjacent ecosystems. The FEIS acknowledges that: "All the federally listed species in the project area, except Oregon Silver Spot butterfly, migrate or move large distances across multiple ownership boundaries, potentially increasing the likelihood that they would be exposed to multiple uses of herbicide and other chemicals, as well as several instances of disturbance." (FEIS p. 4-139). Yet there is no analysis about the potential consequences of such multiple exposures to the species under discussion.

Despite the disclosure that there are other herbicide application projects occurring at the same time as the proposed program, the EIS fails to discuss the environmental effect of all known and potential herbicide projects occurring at once, *in conjunction with* timber sales and grazing over the same, or adjacent, lands. The lack of an adequate cumulative impact analysis is especially problematic given the cursory admissions throughout the administrative record that the Region's National Forest lands have been highly impacted by past logging and other management activities. For instance, the cumulative effects section for sensitive-listed wildlife species not only fails to include any qualitative or quantitative assessment of the consequences that have been listed, but also fails to consider cumulative effects to these species' habitat and reproductive success other than herbicide use. Such relevant impacts may stem from logging, mining, road construction, hunting, trapping, ozone depletion, human development of habitat, etc. over past, present and future time scales. Mere disclosures do not relieve the USFS of its NEPA obligation to address the synergistic effects of all programs occurring at once. NEPA requires this analysis, and the failure to provide it violates the law. 40 C.F.R. § 1508.7. The agency must address in its NEPA analysis all foreseeable cumulative actions, "regardless of what agency (Federal or non-Federal) or person undertakes such other actions." *Id.*

b. Cumulative, direct, and indirect impacts on water quality.

According to the Clean Water Act (CWA) Section 313, all federal agencies "shall comply with all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution, and federal actors must comply with all record keeping, recording and permitting requirements." 33 U.S.C. § 1323(a). The Ninth Circuit has interpreted this provision to mean that the U.S. Forest Service must comply with all state water quality standards when carrying out its road-building and logging activities. *Northwest Indian Cemetery Protective Ass'n v. Peterson,* 795 F.2d 688 (9th Cir. 1986). This means that the Forest Service cannot claim that the agency's own policies and regulations supersede state water quality standards. In *Northwest Indian Cemetery*, the Forest Service claimed that its BMPs were the only water quality standards applicable; the Ninth Circuit held that adherence to BMPs did not automatically ensure that state water quality standards were met. *Id.* at 697. The Ninth Circuit recently reiterated this standard. *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1214 (9th Cir. 1998), *cert. denied, Malheur Lumber Co. v. Blue Mountains Biodiversity Project*, 119 S.Ct. 2337 (1999). Furthermore, if BMPs have already failed – as determined when taking a hard look at the environmental impact of past management activities -- they cannot be relied upon to prevent further water quality degradation.

Accordingly, the Forest Service must describe how the selected alternative for the PNR-IPP complies with regional State water quality standards. In fact, however, the EIS does nothing to indicate how the PNR-IPP – in addition to the cumulative effect of other projects in the area –

comprehensively substantiates that the region's water quality limited water bodies will not be further impaired, the IPP must be withdrawn. 40 C.F.R. § 1500.1(b); 36 C.F.R. § 219.14(2). The water quality issue should be studied in a new or supplemental EIS.

c. Cumulative impacts from repeated herbicide treatments.

The EIS states that that the PNR-IPP ROD will be incorporated into Forest Plans for each National Forest in the Pacific Northwest Region, and that "over time decision makers for individual National Forests may modify the decisions that result from this EIS." (ROD p. 3). The PNR-IPP ROD apparently has no time limitations or sunset clauses, essentially authorizing herbicide treatments across the region in perpetuity, while at the same time striking many of the provisions of the Mediated Agreement intended to protect the region's ecological integrity, wildlife, aquatic systems and species, native botanical biodiversity, and human health from repeated excessive use of harmful herbicides. Additionally, the IPP authorizes regional Forest Plan changes which will result in separate site-specific treatment decisions throughout the region, subjecting regional watersheds, ecosystems, and surrounding human communities to a growing number of herbicide, biocide, and other treatments over time, without adequately addressing the cumulative impacts of these treatments, and the impacts resulting from dropping portions of the Mediated Agreement which require the agency to: (1) restrict the use of herbicides and limit repetitive use; (2) monitor and disclose the cumulative impacts of herbicide use upon area ecology, aquatic systems and human communities; and (3) work towards employing manual, least toxic, and other alternative methods to herbicide use.

During program implementation throughout the region, numerous applications of herbicides may be employed in attempts to control invasive plants. Despite the ROD authorizing this, the EIS fails to sufficiently address the cumulative effects of repeated herbicide applications – both to the same areas – as well as cumulatively across the region's integrated aquatic systems, complex interwoven ecosystems, and nearby/downstream/down-wind human communities. The ROD initiates a region-wide sorcerer's apprentice style of disparate herbicide projects. However the ROD fails to incorporate any required district level recording and reporting of these (potentially) many herbicide and other treatments to a regionally central program. Yet it would take just such a central program to effectively track the use of these harmful toxins and adequately assess the growing potential for adverse cumulative impacts from repeated multiple use of herbicides and other treatments throughout the region. By striking or dropping provisions of alternative B and/or the Mediated Agreement requiring Region Six to responsibly and centrally monitor the use of these toxins across the region, the ROD fails entirely to provide for the ongoing protection of the region's ecosystems and human communities from the cumulative impacts of the PNR-IPP. As such the IPP becomes akin to the fabled sorcerer's apprentice – setting in motion a growing litany of herbicide projects without adequate controls or awareness of its consequences.

The EIS fails to adequately address or disclose the full potentials regarding the cumulative toxicity of herbicide applications across the region in violation of the NEPA. 40 C.F.R. §§ 1508.7 (cumulative effects), 1508.8 (direct and indirect effects). The EIS and ROD must be withdrawn and a new or supplemental EIS conducted which reasonably and responsibly addresses these issues. This does not satisfy the "hard look" standard set forth in *Cuddy* sufficiently address by providing effective and responsible mitigation and project supervision. This failure violates the most basic tenets of NEPA. The Ninth Circuit has held that "general statements about 'possible' effects and 'some risk' do not constitute a 'hard look'" at the problem and proposed solutions at hand. *Cuddy Mountain*, 137 F.3d at 1380. The disclosures and analysis must meet the requirement for high quality scientific analysis as required by 40 C.F.R. § 1502.22; high quality science is meticulous and thorough. *Lands Council*, 395 F.3d at 1027.

If implemented, the IPP would likely result in serious violations of the CWA, NFMA, and ESA over time, and may result in serious adverse human health impacts to area communities as well. The IPP decision and EIS must be withdrawn, and a new process begun which effectively addresses these serious issues, and which incorporates provisions which can responsibly and effectively address and mitigate these significant concerns.

The EIS notes that the No Observed Adverse Effect Level (NOAEL) as well as the Lowest Observed Adverse Effects Level or LOAEL) for this project was calculated for each herbicide. However, neither NOAEL or LOAEL apply to multiple chemicals in the same watershed over the length of time it may take for these chemicals to biodegrade, a period of up to two years or more. Moreover, neither NOAEL or LOAEL include other herbicide application projects carried out by the Forest Service, states, counties, corporations or private individuals. The failure to adequately address this issue violates NEPA. 40 C.F.R. § 1508.7. Without detailed or quantified information, "neither the courts nor the public, in reviewing [a] decision, can be assured that the Forest Service provided the hard look that it is required to provide." *Cuddy Mountain*, 137 F.3d at 1379.

e. Significance cannot be avoided by breaking it down into small component parts: thus cumulative actions must be discussed in the same EIS.

Under NEPA, "significance exists if it is reasonable to anticipate cumulatively significant impacts on the environment. Significance cannot be avoided by terming an action temporary or breaking it down into small component parts." 40 C.F.R. § 1508.27(b)(7). The impacts from other past and present logging, grazing, and weed control activities will significantly impact numerous resources including water quality, soil health, fish, and wildlife. The supporting documents for this program note that there *are* other activities planned in the Pacific Northwest Region and its watersheds, and that other activities have occurred there in the past. Yet the cumulative effects section for TES-listed plants is typical in that it admits potential for adverse effects but makes no attempt to quantify or qualify what the results of the proposed action would be to TES native plants or to evaluate whether adverse effects of herbicide use would outweigh beneficial effects of herbicide application. The FEIS also fails to evaluate any other cumulative effects endangering TES plants in the past, currently, or from future actions. Such unconsidered cumulative impacts include livestock grazing and trampling, logging, mining, road-building, development, recreational-related soil disturbance, adjacent land chemical spraying (private/corporate lands, other Ranger District projects across the region, etc.), cultural collection practices, climate changes, etc. Consequently, there are multiple site-specific significant cumulative impacts of these activities that were not adequately considered in the PNR-IPP EIS.

proper plant surveys did not precede the signing of the ROD. Consequently, the program violates NEPA's implementing regulations and is unlawful.

3. The PNR-IPP does not contain adequate information upon which the decision maker and public may base a reasonable decision regarding the proposed program.

NEPA procedures are meant to "ensure that the agency...will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger [public] audience." *Robertson*, 490 U.S. at 349. NEPA "emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that 'the agency will not act on incomplete information, only to regret its decision after it is too late to correct.'" *Blue Mountains v. Blackwood*, 161 F.3d at 1216. NEPA requirements also ensure that the public will have a detailed, factual basis from which to draw a conclusion regarding the environmental impact of a proposal. *Id.*

There were many pieces of critical information that were missing from the EIS and supporting documents that prevent the decision maker and public from making a reasoned decision regarding the proposed project. First, the EIS and supporting documents lack a series of detailed maps of the program area and the location of known invasive plant treatment sites. Without such information, it is impossible for the public and the decision maker to determine if the application of the proposed herbicides is appropriate based on the location of the sites across the region. For example, some sites might occur on shallow soils with high water tables, making the application of picloram inappropriate. Similarly, the use of manual control methods might be better suited for some locations currently slated for herbicide treatments. The IPP fails to give sufficient mandated guidance concerning these issues, leaving far too much project design and implementation open to inconsistencies and potentially severe errors. This could have serious consequences, given that specific project implantation of the IPP will fall to individual ranger districts -- most of which lack toxicologists and qualified levels of professional expertise concerning herbicide use and alternatives, impacts, and environmental and public safety.

Second, while this is a programmatic EIS, it is obvious from a reading of the document that the Forest Service has already assessed known invasive plant locations and determined their preferred control methods for each site. At a minimum, some of these representative sites could have been described and mapped with explanation given as to how the Forest Service decided which herbicide or other control method to use. The lack of a range of comprehensively detailed maps in the EIS precludes the public and decision maker from cross checking this program with other projects proposed on the Forest, such as grazing allotments and timber sales. Both the public and the decision maker are prevented from "ground truthing" the statements made in the EIS and supporting documents with the on-the-ground situation. Without this information, it is impossible for the agency and the public to adequately assess the direct, indirect, and cumulative impacts of this and other projects. Allowing the public and decision-makers to see what site-specific factors the Forest Service takes into consideration for determining control methods could potentially build public trust in agency judgment. Without detailed or quantified information, organisms) and risk assessments (e.g. for NPE surfactant) that would be of great concern to the public and of significance for informed decision-making. This violates NEPA requirements for full public disclosure. Examples of significant missing information that we discovered in two of these internal Forest Service I.D. team reports (effects summaries) which were not disclosed in the FEIS or its appendices are listed below (from "Summary of Herbicide Effects to Aquatic Species", Draft 7/2004 and "Summary of Herbicide Effects to Wildlife," Draft, August 31, 2004, prepared by Shawna L. Bautista, Wildlife Biologist, U.S. Forest Service, Region 6 Regional Office, Portland, Oregon). These examples are not exhaustive of all the significant information in internal Forest Service effects summaries and risk assessments (which we received through a Freedom of Information Act request) that was not disclosed in the FEIS and its appendices:

(1) quantitative levels of toxicity for studied species (found only in SERA risk assessments and the aquatics and wildlife effects summaries)
(2) site-specific design criteria advisories
(3) some of the known gaps in aquatic toxicity data
(4) some sub-lethal herbicide effects not named in the FEIS – e.g. reductions in prey capture ability and swimming ability for fish
(5) risk assessments discussing the effects of inert ingredients to aquatic biota
(6) the toxicity of napthalene, a toxic ingredient in some herbicide formulations
(7) undisclosed data gap for sub-chronic and chronic toxicity for fish for NPE (Bakke, 2002 p.8).
(9) the potential for Hexachlorobenzene (a carcinogenic impurity in clopyralid and picloram) to bioaccumulate in fish is not disclosed in the FEIS, which professes that none of the herbicides proposed for use bioaccumulate.
(10) the FEIS also fails to disclose which of the herbicides proposed for use contain Hexachlorobenzene even though the SERA 2003 risk assessment identifies clopyralid and picloram as containing HCB.
(11) the FEIS and summary do not identify known metabolites or analyze potential consequences from some of them being more toxic or persistent than the associated herbicides (see summary, p.9)
(12) the following mitigation advisory is apparently found only in the FOIAed summary instead of the FEIS, even though it applies to most of the herbicides proposed for use: "Due to potential adverse effects to aquatic macrophytes at plausible exposures, chlorsulfuron will need a site-specific buffer." This warning is also applied to metsulfuron methyl, sulfometuron methyl, imazapic, imazapyr, picloram and triclopyr, (with some modifications to include impacts to fish and aquatic invertebrates for picloram and to algae for some of the herbicides) in the aquatic effects summary, but none of this buffer requirements are disclosed in the FEIS or specified in the ROD.
(13) half-lives for the herbicides proposed for use in surface waters and aquatic sediments are only given in the aquatic effects summary, not the FEIS, even though this and other information not disclosed in the FEIS is valuable for determining which herbicides would be most destructive of aquatic life.
(14) the information that sulfometuron methyl has been detected in streams after rainfall.
(15) the quick dismissal of the potential for cumulative effects from herbicides in the FEIS would be less credible if certain information from the summary was disclosed in the FEIS,

(but not disclosed in the FEIS): "Toxicity to aquatic species varies considerably between formulations of glyphosate and toxicity is increased with the addition of POEA surfactants. Formulation and use of surfactants need to be considered when using glyphosate in riparian areas." (SERA, 2003, Glyphosate) (Aquatics Summary, p.15).

(22) "sethoxydim -- the formulation POAST contains 74 percent petroleum solvent that includes napthalene. The EPA has placed napthalene on List 2 ('agents that are potentially toxic and a high priority for testing'). Petroleum solvents and napthalene depress the central nervous system and cause other signs of neurotoxicity (SERA 2001)....POAST is much more toxic to aquatic species than sethoxydim." (Wildlife Summary, p.7). This information about the Sethoxydim formula POAST indicates that toxicity assessments for sethoxydim in the FEIS may have significantly understated sethoxydim's toxicity to aquatic organisms if the POAST formula was used, since most assessments are based on the main ingredient, not on effects of whole formulas (with toxic 'inerts' and adjuvants) that are actually used in the field.

(23) "Triclopyr-Formulations contain ethanol (Garlon 3A) or kerosene (Garlon 4), which are known to be neurotoxic." (Summary, p.7).

(24) "Polyglycol 26-2, used in picloram, will impact mitochondrial function *in vitro*, but information is insufficient to evaluate risks to wildlife *in vivo* from field applications at plausible levels of exposure (SERA, 2003, Picloram)." (Summary p.8).

(25) "NP and NPE have been studied for effects to aquatic organisms...In the aquatic environment, the breakdown products NP1EC and NP2EC are likely to be present also. These two metabolites are known to affect vitellogenin (a precursor for egg yolk) production in male fish..." (Wildlife Summary, p.8).

(26) "Mann and Bidwell (2000,2001) tested several Australian frogs and *Xenopus* for effects to NP8E...Similar to studies with herbicides, the LC50 values for the frogs are comparable to those for fish (USDA FS 2003). NP8E inhibited growth at concentrations as low as 1 ppm (Mann and Bidwell, 2001). Mild narcosis of tadpoles can occur at EC50 values as low as 2.3 ppm, and reduced dissolved oxygen content in the water lowered the EC50 values by about half as compared to normal oxygen levels...overspray or accidental spills could produce concentrations of NP9E that could adversely affect amphibians, particularly in small stagnant ponds." (Wildlife summary, p.9).

(27) "POEA surfactant used in Roundup and Roundup Pro contains 1,4-dioxane as an impurity, which has been classified by EPA as a possible human carcinogen." (Wildlife Summary, p.9). The public should be informed that use of these glyphosate formulas pose the risk of human cancer. The ROD could have prohibited the use of Roundup and Roundup Pro at the programmatic level just as the ROD prohibits the use of 2,4-D and dicamba by the Forest Service in Region Six due to their highly toxic effects; instead the FEIS does not disclose or address this threat.

(28) "Triclopyr contains an impurity, 2-butoxyethanol (aka EGBE)...It is known to cause fragile red blood cells in rodents (Borrecco and Neisess 1991)...Data on toxicity of EGBE to birds was lacking..." (Wildlife Summary, p. 10).

(29) "Sulfometuron methyl can cause malformations in amphibians (SERA , 2003, Sulfometuron)." (Wildlife Summary, p. 11).

(30) "Some of the herbicides analyzed in this document have been investigated for possible synergistic effects and no evidence of synergy has been found (e.g. picloram). However, data on this potential effect is incomplete and not likely to be obtained in the foreseeable

(39) "Hassan et al. (1994) provided a summary of several bioassays and field trials using a variety of terrestrial invertebrates. Clopyralid produced some mortality in insect parasites, predatory mites…" (Wildlife Summary, p. 94).

Additionally, Appendix P has its text obscured throughout with each page stamped diagonally with large dark bold letters across the entire page stating "**Draft,**" rendering significant portions of the text illegible and making thorough understanding of the toxicity of these herbicides impossible. Finally, the agency failed to update this section from a draft form to a final comprehensive form for the FEIS and before the decision was made, or – in the absence of this – to meet the required disclosures as to why this was not possible, in violation of the NEPA. NEPA requires that an EIS contain "high quality information and accurate scientific analysis…If there is incomplete or unavailable relevant data, the [EIS] must disclose this fact" up-front. *Lands Council*, 395 F.3d at 1031-32 (citing 40 C.F.R. § 1502.22). The EIS must include a description of methodologies it relies on, setting forth any shortcomings that are relevant in light of the environmental impacts the methodology is used to analyze. *Nez Perce Tribe*, Memorandum Decision and Order in Case No. CV04-299-C-EJL dated September 21, 2005 (D. Id.).

Finally, Appellants have some concern over the Forest Service's reliance on NOAEL/ LOAEL calculations to justify the proposed program. NOAEL/LOAEL are parameters for immediate exposure to fish, not for accumulation of herbicides and toxicity for a watershed and its ecological components. Additionally, the USFS has expressed some concern that the studies used to derive the NOAEL for several herbicides that will be applied under this project are inadequate. Without adequate information regarding the impacts of the proposed project on the environment, NEPA precludes the agency from proceeding with it. 40 C.F.R. §§ 1500.1, 1502.22.

In sum, the USFS has failed to provide enough information for the decision maker or the public to make a reasoned decision based on the record. The Administrative Procedure Act requires such a reasoned decision. 5 U.S.C. § 706(2)(A). Because there is not enough information to support the decision maker's decision, the ROD and EIS should be withdrawn.

III. <u>The PNR-IPP Inadequately Analyzes the Impact to Aquatic Systems.</u>

Although NEPA requires that an EIS contain "high quality information and accurate scientific analysis (40 C.F.R. § 1502.22), the analysis of existing conditions of the creeks and rivers in the region is not based on high quality science, fails to adequately describe the current conditions of these aquatic systems, and does not accurately represent the impacts on these systems from the proposed action. The PNR-IPP EIS acknowledges that the water quality, quantity, and timing within the region's many watersheds have been altered. As mentioned previously, the EIS conducts little analysis of the actual and likely site-specific impacts from the PNR-IPP. In fact, it is likely that the proposed program will result in the further degradation of stream conditions and riparian habitat throughout the region.

1500.1. Generalized statements do not constitute the hard look required by NEPA. *Cuddy Mountain*, 137 F.3d at 1380.

A. Baseline Data on Stream Conditions is Lacking.

The EIS does not indicate whether the USFS is conducting stream monitoring on any streams across the region, or whether such stream monitoring would be required for areas where the IPP would be implemented on a project level. The fact that there is no baseline against which to gauge the effects of the proposed program is problematic for several reasons. First, the lack of data is inadequate to serve as the baseline against which the impacts of the PNR-IPP may be gauged, and does not allow a reasoned decision to be made regarding the impacts of the IPP. Consequently, the USFS does not possess the amount of data that is necessary to issue a ROD. If adequate baseline data is missing, NFMA requires the agency to obtain it. 36 C.F.R. § 219.12(d). The Ninth Circuit has also held that "general statements about 'possible' effects and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided." *Cuddy Mountain*, 137 F.3d at 1380. Without adequate data, the effects of a project are highly uncertain and involve unknown risks. *Klamath-Siskiyou Wildlands Center*, 373 F.Supp.2d at 1081.

As the PNR-IPP is a regional programmatic decision, it must include guidance, methodology, and requirements to which specific projects implementing this decision must adhere. Included in this are baseline data on stream conditions, necessary to gauge and assess the effects of specific implementation of IPP projects. The failure of the EIS and ROD to adequately specify requirements and methodology concerning obtaining adequate baseline data violates both the NEPA and the NFMA. Additionally, Oregon state water quality standards requires that state listed 303(d) streams not be further impaired. Failure of the PNR-IPP to address obtaining the necessary baseline data before project level implementation has resulted in a program that would violate state water quality standards across the region, in violation of state and federal laws.

Second, Appellants note that the USFS also has an obligation to physically survey the reaches of the creeks, streams, and tributaries adjacent to the treatment sites in the region in order to determine the number of pools, riffles, down woody debris, and other features that are present. Neither the FEIS/ROD nor other supporting documents state whether the streams that will be affected by the proposed program are currently meeting PACFISH/INFISH standards, nor is adequate guidance given regarding specific project design and implementation in areas where streams fail to meet PACFISH/INFISH and/or state standards. Without this key information, the PNR is precluded from making any determination regarding the significance of the proposed program. When such information is lacking or when there are significant questions regarding the impacts of programmatic project, the USFS has an obligation under NEPA to obtain the missing information. 40 C.F.R. § 1502.22 (duty to obtain missing information or state why it could not be obtained). *See also Lands Council*, 395 F.3d at 1031.

Until the PNR develops programmatic protocol concerning the missing information on stream conditions, the PNR-IPP must be withdrawn. In the alternative, the USFS should prepare a new or supplemental EIS to fully disclose and discuss the impacts to the environment from the proposed program. The failure to follow one of these courses of action will violate NEPA.

picloram are also problematic at the highest allowed application rates. Only "acute exposures of clopyralid and sethoxydim are less than the estimated or measured NOEC for all representatives of the aquatic community." (FEIS p. 4-117). These herbicides not exceeding toxicity thresholds may be more due to a lack of data on their effects to aquatic organisms than to a lack of impacts, judging by the aquatic effects summary I.D. team report. The FEIS admits that "the Forest Service cannot conclude with certainty that the levels of chemicals that could potentially reach streams with aquatic organisms will be zero" (FEIS p.4-119), especially since riparian zone spraying (including broadcast boom and ATV spraying) and aerial spraying (with more potential to drift) are planned.

> Toxic levels for algae and vascular plants may be of concern because they form a food supply, habitat, or both for aquatic organisms. Aquatic plants are a natural, and important, component of aquatic communities. Aquatic plants, especially phytoplankton, are consumed by small invertebrate animals, which are in turn consumed by larger animals such as birds or fish. Phytoplankton can also be consumed directly by certain fish....Any impact to a component of the aquatic community may have a ripple effect on the food web."

(FEIS p.4-119).

Mortality of fish due to herbicide use is also not mitigated by the PNR-IPP FEIS and ROD. As the FEIS acknowledges, "high concentrations of herbicides could wash into streams from rainfalls shortly after herbicide application along road ditches or other surfaces that rapidly generate overland flows, or as a result of an accidental spill. In such instances, localized fish kills are plausible in small tributary streams of small, enclosed water bodies where contaminated flows would not be readily diluted." (FEIS pp. 4-119-120). Further, mortality to fish could occur due to disruption of necessary survival behavior and reproduction from sub-lethal effects of herbicide use described in the FEIS and the aquatic effects summary.

Again, an omission of a reasonably complete discussion of mitigation measures would undermine one of NEPA's important functions – "action forcing." *Robertson* , 490 U.S. at 348. In evaluating the sufficiency of mitigation measures, the court will consider whether they constitute an adequate buffer against negative impacts that may result from a project. *National Parks*, 241 F.3d at 734. Here, there is no significant mitigation of the negative impacts of herbicide application.

C. Riparian Habitat Conservation Areas and Riparian Management Objectives Will Be Compromised as a Result of the PNR-IPP.

The EIS states that some invasive plant sites proposed for treatment are located in riparian areas. Because the program necessarily requires entries into Riparian Habitat Conservation Areas, the agency is required to state how this program will be consistent with Riparian Management Objectives. However, in this case, the EIS fails to indicate how entries into RHCAs will specifically affect associated values such as water quality and wildlife habitat. Simply stating that these areas will be entered does not substitute for a discussion of how they will be affected by the entry. NEPA was intended to ensure that an agency has carefully and conditions exist and whether picloram will be used on these locations. Because the USFS failed to include any maps, adequate site-specific analysis requirements, project level guidance and methodology concerning picloram and other herbicide use, and/or examples in the record regarding the nature of each proposed treatment site, it is impossible to assess whether groundwater contamination is a concern for some treatment sites, though it appears this is likely so. Again, the lack of information regarding the program's effects violates NEPA, and compels the decision maker to withdraw the EIS/ROD.

IV. The PNR-IPP EIS/ROD Inadequately Analyzes the Impact to Plant and Animal Species.

The PNR-IPP EIS conducts an inadequate review of impacts to wildlife from the proposed program. The EIS fails to specifically identify specific impacts that the program would have on a number of wildlife species including threatened, endangered, and sensitive species.

Based on the FEIS assessment of effects to TES wildlife, it appears that the Bald eagle and Oregon Silver Spot butterfly may be the most subject to significant effects. However the reasons given for lack of significant adverse impacts to woodland caribou are extremely shaky given that it is assumed that herbicide treatment of meadows used by caribou in the spring never occurs until later in the year, with no supporting evidence and based only on one "personal communication." If Woodland caribou were to wander into Region Six, it is likely no one would know and Standard 20 would not be applied to the project with caribou in mind. Woodland caribou are more likely to be significantly affected by herbicide use than Grizzly bears, Gray wolves, or Canada lynx because they could directly eat more plants contaminated by herbicides than would be likely for predators. Further, exposure scenarios exceed the toxicity index for Woodland caribou for glyphosate, picloram, sulfometuron methyl, triclopyr and NPE -- all planned for use under the proposed action. For triclopyr and NPE, toxicity indices are exceeded even at typical application rates, as well as at highest allowable application rates. Woodland caribou are extremely rare, so this level of risk to them, given their endangered status, should rate more than a "Not Likely to Adversely Affect" determination and trigger more preventative mitigation, given the significant uncertainties involved. The ROD for this program could have assured greater protection for the Woodland caribou and many other species and values such as water quality by eliminating the use of triclopyr, NPE surfactants, glyphosate, picloram and sulfometuron methyl.

Glyphosate, triclopyr and NPE are also identified as problematic for the Oregon Silver Spot butterfly in exposure scenarios in Table 4-43, p. 4-136: "Potential effects to butterfly larvae or eggs, or food plants, may occur from herbicide use in their habitat. Sucoff et al. (2001) found that spraying eggs of Karner blue butterfly (Lycaeides elissa samuelis) with a glyphosate-triclopyr mixture reduced egg hatching...."(FEIS p. 4-135). The "Likely to Adversely Affect" determination for the Oregon Silver Spot butterfly is undefined and leaves this butterfly open to potential eradication. The basis for this butterfly being thought to not be sensitive to disturbance is based on one personal communication. (FEIS p. 4-132). The FEIS admits that "herbicide use may affect food plants or larvae." (FEIS p. 4-138). Yet the FEIS does not describe the nature of these effects or their ramifications for the butterfly. Likewise, the FEIS admits that "mowing, other machinery, foot traffic, or other cultural methods have the potential to trample butterfly an adverse effect of unspecified severity) for the following groups of sensitive-listed species (identified in Table 4-45 pp. 4-141-142) for the following herbicides proposed for use:

(1) Large herbivorous mammal (e.g. Rocky Mountain bighorn sheep) -- glyphosate, sulfometuron methyl, troclopyr and NPE surfactant if broadcast sprayed. Worst case herbicide exposures are more likely for selective herbicides – e.g. Triclopyr. (Sulfometuron methyl is an extremely potent herbicide, so it may also have a more pronounced effect.)
(2) Small herbivorous mammals (e.g. Pygmy rabbit) -- NPE if broadcast sprayed.
(3) Carnivorous mammals (e.g. California wolverine, Pacific fisher) -- triclopyr and NPE.
(4) Insectivorous mammals (e.g. Townsend's big-eared bat, Pacific shrews, etc.) -- clopyralid, glyphosate, picloram, sethoxydim, sulfometuron methyl, triclopyr and NPE if broadcast sprayed.
(5) Herbivorous birds (e.g. Greater sage grouse, Columbian sharp-tailed grouse, etc.) -- clopyralid, glyphosate, sethoxydim, sulfometuron methyl, triclopyr, and NPE, if broadcast sprayed (more likely for selective herbicides).
(6) Insectivorous birds (e.g. Gray flycatcher, Green-tailed towhee, Upland sandpiper, Bufflehead and Harlequin ducks, etc.) -- clopyralid, glyphosate, picloram, sethoxydim, sulfometuron methyl, triclopyr, and NPE if broadcast sprayed. Worst-case herbicide exposure is plausible for grassland species on large projects.
(7) Predatory birds (e.g. Northern goshawk, American peregrine falcon, Great Gray owl, Greater sandhill crane, etc.) -- sethoxydim, triclopyr, and NPE if broadcast sprayed.
(8) Amphibians (e.g. 12 species of salamanders, Northern leopard frog, Columbia spotted frog, etc.) -- applications or accidental spills of glyphosate and triclopyr "could harm or kill amphibians. NPE is likely to harm amphibians only in an accidental spill. (USDA FS 2003)."
(9) Insects (e.g. Mardon Skipper) -- worst-case exposure exceeds the toxicity index if directly sprayed with glyphosate and triclopyr. "Data is insufficient to evaluate risk from NPE. Herbicides could kill larval food plants and/or adult nectar plants."
(10) Mollusks (e.g. multiple species of slugs, Chelan mountain snail, Blue-gray taildropper, Crater Lake tightcoil, etc.) -- "specific data is lacking. Risk from herbicides is largely unknown." (FEIS p. 4-145, Table 4-46).
(11) Reptiles (e.g. California mountain king snake, Northwestern pond turtle, Painted turtle, etc.) -- "Insufficient data to determine potential risks from herbicides."

The FEIS admits potential adverse effects from planned herbicide use for all categories and species of sensitive-listed wildlife except fish-eating birds. These potential adverse effects are not quantified or qualitatively described, leaving the MINL determination "may impact individuals, but not likely to lead to a trend toward federal listing" unsupported. Some of the speculative reasoning given to support the MINL determination also does not stand up to scrutiny. For example, carnivorous mammals (California wolverine and Pacific fisher) and predatory birds (e.g. Northern goshawk and American peregrine falcon) may only consume one prey animal for a day's diet, making worst-case herbicide exposure more plausible than suggested in the determination in Table 4-46 (FEIS p. 4-143). Likewise, existing sharp declines in Greater sage grouse populations are not taken into account when making the determination

A. Management Indicator Species.

NFMA requires the Forest Service to provide animal and plant diversity in the national forests. 16 U.S.C. § 1604(g)(3)(B). USFS regulations implementing this requirement direct the Service to manage forests for viable populations of native vertebrate and desired non-native species. 36 C.F.R. § 219.19. The regulations define viable populations as populations which have "the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area." *Id.*

To ensure that viable populations are maintained, the Forest Service regulations also require that the Service identify management indicator species (MIS) and that "[p]opulation trends of the management indicator species will be monitored and relationships to habitat change determined." 36 C.F.R. § 219.19(a)(6). This monitoring is "essential to verify and, if necessary, modify the forest plan's assumptions about the effects of timber harvesting and other management activities on wildlife...In order to meet the monitoring requirement, planners will need to obtain adequate inventories of wildlife populations and distribution." Charles F. Wilkinson and H. Michael Anderson, *Land and Resource Planning in the National Forests*, 304 (1987). The only circumstance in which population surveys are not required is if no appreciable habitat disturbance will occur. *Klamath-Siskiyou Wildlands Center*, 373 F.Supp.2d at 1087. The Selected Alternative would result in habitat disturbance.

The Ninth Circuit has stated that the duty to ensure viable or self-sustaining populations "applies with special force to "sensitive" species." *Inland Empire Public Lands Council v. United States Forest Serv.*, 88 F.3d 754 (9^{th} Cir. 1996) citing *Oregon Natural Resources Council v. Lowe,* 836 F.Supp 727, 733 (D.Or. 1993). NFMA clearly directs the Forest Service to create regulations to "insure research on and (based on continuous monitoring and assessment in the field) evaluation of the effects of each management system to the end that it will not produce substantial and permanent impairment of the productivity of the land." 16 U.S.C. § 1604(g)(3)(C); *Sierra Club*, 168 F.3d 1.

In light of this direction, NFMA's regulations require inventorying and monitoring on the National Forests under 36 C.F.R. §§ 219.12(d) and (k) as well as 36 C.F.R. §§ 219.19(a)(6), 219.26, and 219.19(a)(2). The regulations state that "each Forest Supervisor shall obtain and keep current inventory data appropriate for planning and managing the resources under his or her administrative jurisdiction." *Id.* § 219.12(d). Missing or stale data is flawed data, and also insufficient under NEPA. *Lands Council*, 395 F.3d at 1031. The regulations further require that "at intervals established in the plan, implementation shall be evaluated on a sample basis to determine how well objectives have been met and how closely management standards and guidelines have been applied." *Id.* § 219.12(k). To ensure biological diversity, the regulations specifically require that "[i]nventories shall include quantitative data making possible the evaluation of diversity in terms of its prior and present condition." *Id.* § 219.26.

The multiple mandates in NFMA and its implementing regulations requiring population monitoring and surveying are clearly unmet by the USFS in Region Six National Forests. Because of the difficulty in monitoring all the species on the region's forests, NFMA regulations recognized that management indicator species (MIS) could be used as surrogates for other oxygen consumption), it may not be possible to infer a significant loss of essential behavior patterns of aquatic PETS species in the wild." (FEIS p. 4-147). In other words, the wild environment of Region Six is not a laboratory where subtle sub-lethal effects can be detected, monitored, or tracked to their potential final results of mortality through behavioral changes which led to failed reproduction or inability to survive. This means that where sub-lethal effects are anticipated which could lead to mortality or failed reproduction, as they are with implementation of this program, there is no way to know for sure if mortality resulted or to know the amount of mortality that did result -- no way to ensure that there are no significant impacts or trends toward uplisting or extirpation. The only mitigation suggested for the major population-affecting problems of sub-lethal effects to listed aquatic PETS species is vague, unspecified, open to broad interpretation and therefore extremely fallible: "To address uncertainties relating to sub-lethal effects, project-level planning documents should incorporate additional mitigation or conservation measures." (FEIS, p. 4-159). *What* additional mitigation or conservation measures? How will district staff know what mitigation could possibly be sufficient to prevent all sub-lethal effects? There is no way to ensure consistency and adequacy of additional mitigation measures without providing more specific guidance in the programmatic EIS, based on the best available science.

Further FEIS warnings suggesting the need for a more precautionary approach in regards to herbicide use in aquatic areas include the following:

> Product formulations sometimes include unspecified inactive ingredients and adjuvants with unknown toxic effects to listed fish. For example, the combination of POEA surfactant and glyphosate has been shown to cause inflammation of fill tissue in fish, and to reduce survival rates especially for young fish (Folmar et al., 1979; Servizi, 1987). Roundup is known to have the POEA surfactant and is therefore toxic to fish, while the product Rodeo, which contains the same active ingredient (glyphosate), but no surfactants, has very low toxicity.

(FEIS p. 4-148). Nowhere in the FEIS does there appear to be any requirement not to use herbicide formulas with surfactants, "inert" ingredients or impurities toxic to fish. Thus the FEIS and ROD fail to ensure that these sources of aquatic toxicity would not lead to a trend toward uplisting or extirpation of listed aquatic species. This failure to protect listed species and their critical habitat is a violation of the ESA.

The FEIS also acknowledges an unquantified high risk potential to aquatic PETS species from aerial and broadcast herbicide spraying allowed in all alternatives including the proposed action: "The risk of direct effects from drift as a result of 'high risk' broadcast spray applications (aerial, boom, and backpack) from overspray is likely to occur in small streams and stream margins, and small, enclosed water bodies. Higher herbicide concentrations can result from overspray/drift exposure. Thus, direct exposure of stream or lake margins to overspray or drift can result in a high risk potential to vulnerable aquatic PETS species life stages." (FEIS p. 4-148).

Indirect effects to federally-listed fish, mollusks and their critical habitat described in the FEIS are numerous and raise significant concerns but remain unquantified and with cumulative numbers of fish -- yet this possibility is not even discussed. The FEIS does clearly state that: "All alternatives are expected to adversely affect EFH for Pacific Salmon species listed in Table 4-50." (FEIS p. 162). Of the ten species of salmon listed in Table 4-50, only one is not federally listed as Endangered or Threatened or proposed for listing. Upper Columbia River Spring Chinook, one of the ten, is listed as endangered, six species are listed as threatened, and two species are proposed for listing. The Magnuson-Stevens EFH determination for all ten species is "may adversely affect habitat." This is a clear violation of the Endangered Species Act as well as a violation of the spirit, if not the letter, of the Magnuson-Stevens Fishery Conservation and Management Act. Adverse effects are only claimed to be avoided "or minimized to the extent possible" through application of Standards 18 through 22 and unspecified "additional mitigations at the project scale." (FEIS p. 4-162). Minimization of impacts "to the extent possible" and undefined, non-guaranteed mitigations at the project level do not guarantee that the listed and proposed salmon species will not be pushed toward uplisting or extirpation in violation of the ESA. Other alternatives could have been designed and adopted to avoid this legal violation and the potential loss of biodiversity and commercially important fish species, in keeping with the intent of the ESA and the Magnuson-Stevens Fishery Conservation and Management Act.

"Under current Forest Service management direction (NWFP Aquatic Conservation Strategy (ACS) and PACFISH/INFISH)...site-specific projects cannot have a negative impact, in the long term, on riparian-dependent resources or ecological processes on the watershed scale. Each site specific project must maintain or restore the physical and biological processes required by riparian dependent resources at the watershed scale or broader to comply with ACS and PACFISH/INFISH. Management direction prohibits activities in riparian areas that retard or prevent attainment of these objectives." (FEIS pp. 4-153-154). Based on risk analysis in the FEIS and the lack of specific mitigation guidance for project-level implementation, there is no guarantee that this program will meet requirements of the Northwest Forest Plan Aquatic Conservation Strategy and PACFISH/INFISH. Instead, there is significant substantiation for our contention that the IPP would contribute to uplistings and extirpations of listed fish. Negative impacts to riparian-dependent resources and ecological processes at the watershed scale seem plausible given the region-wide scope of the program, the allowed targeting of riparian areas for herbicide use, the allowed use of aerial and broadcast spraying, and admitted potential adverse impacts at typical and allowed herbicide application rates. Fish would not only be impacted, but also aquatic invertebrates, algae, and aquatic plants (Table 4-47, FEIS p. 4-152), the basis of the riparian food chain. Given the whole discussion of indirect effects to aquatic ecological processes and riparian-dependent resources on FEIS pp. 4-148-151 and as described elsewhere, long-term negative impacts to riparian-dependent resources and ecological processes seem likely. Reproductive consequences due to chemical toxicity of surface waters may have long-term ramifications -- especially to listed aquatic species already stressed by other impacts to their habitat. Potential depletion of oxygen in a stream could also have multiple and long term effects to aquatic organisms and could be difficult to restore to viable habitat conditions: "Herbicides leaching into surface water can result in indirect effects to aquatic PETS species via adverse effects to phytoplankton, algae, rooted aquatic macrophytes, and other aquatic plants. A significant reduction of primary productivity or aquatic plants and algae could decrease oxygen levels and indirectly impact aquatic PETS species and their critical habitat." (FEIS p. 4-149).

Damage to Kincaid's lupine from herbicide spraying has already been documented under its Federal Register listing (USDI FWS, 2000-Erigeron). Some of the sulfonylurea group of herbicides, known to be harmful to commercial onions (members of the lily family), may more readily affect Gentner's fritillary, also a member of that family." (FEIS p. 4-126). Eliminating use of the sulfonylurea group of herbicides as a modification of the proposed action in addition to eliminating aerial spraying would more effectively protect native and listed plants as the sulfonylurea herbicides are extremely potent and can impair seed and fruit production, which also has ramifications up the food chain for wildlife, yet these modifications or alternatives were not considered. Especially incomprehensible is the Forest Service's neglect in not requiring adherence to the EPA's voluntary herbicide use restrictions for two areas of Wallowa County to protect the Threatened-listed MacFarlane's Four O'Clock. Why is there no discussion of the advisability of respecting the direction of another federal agency to protect a TES plant? This is an especially glaring oversight in that the FEIS notes that this direction may become a requirement in the future. This illustrates the lack of a precautionary principle and failure to choose the most environmentally protective alternative in this FEIS and ROD in general and with regard to TES species in particular.

Other inadequacies of TES plant species impact analysis include: (1) no population numbers provided or estimated for these species; (2) no percentage given for what proportion of these listed plants' populations might be adversely affected; and (3) no viability threshold calculated to indicate at what point genetic diversity and distribution would be insufficient to support these plants' survival as species. In other words, there is no guarantee that this decision to allow the use of toxic herbicides known to kill such plants and aerial and broadcast spraying, which make it difficult to avoid drift and overspray impacts to non-target plants, would not have the effect of pushing these already rare plants to ESA uplisting, local extirpation or extinction.

There is ample reason given in the FEIS for concern that the more numerous plant species on the Regional Forester's Sensitive plants list could be pushed toward uplisting or extirpation by the PNR-IPP's planned herbicide use:

> Species within the sunflower, legume or mustard family may be the most sensitive to herbicide treatment in general. Numerous genera from these families occur on the list including Arabis, Erigeron, and Astragalus. Species in the lily family may be more sensitive to some of the sulfonylurea herbicides. The lily family is a large component of the Region Six sensitive species list. The genus Calochortus (or Mariposa Lily) alone has eight species on the list. Any species along roadsides or where activities occur that disturb native plant communities will be threatened by not only invasive plants, but by invasive plant treatments....Recently, 80 fungi and non-vascular (lichens and bryophytes) plants have been added to the regional sensitive species list. Some species and their communities could be negatively affected by herbicides known to affect soil mycorrhizae (sulfometuron methyl, picloram, glyphosate, triclopyr), but studies are laboratory based and results difficult to extrapolate to field situations...

(FEIS p. 4-130) While fungi and non-vascular plants are usually associated with late successional forest ecosystems less subject to invasive plant dispersal, there has been increasing fragmentation of this successional stage by logging across the region, introducing significant to soil productivity," yet fails to qualify or quantify what this means. Additionally, the EIS acknowledges that "information about specific herbicide effects to each of the myriad of soil organisms is not available," but fails to state why this is not available, or what steps may be taken to acquire this missing but essential information, as required by the NEPA. Without understanding impacts from herbicides to soil organisms, which are the foundation of soil productivity, it is implausible that the agency can claim that soil productivity will not be adversely affected. The NEPA requirement for careful consideration of a project's environmental effects and informed decision-making are legally binding standards; failing to take a hard look at proposed actions violates federal law. *See generally Cuddy Mountain*, 137 F.3d 1372.

A. Mycorrhizae.

The PNR-IPP EIS failed to adequately address how past logging, grazing, and other projects have affected mycorrhizae in areas across the region's forests. Without a discussion on the impacts to soil mycorrhizae, the Appellants and the decision maker are precluded from making an informed decision regarding the proposed project, and the USFS cannot assert that there will be no permanent impairment of the soil. 30 C.F.R. §§ 219.27(a)(1), 219.14(a)(2) (prohibiting activities unless technology is available to prevent impairment of soil or water resources). Failure to thoroughly analyze project impacts on soil microorganisms is a failure to take the hard look required by NEPA. *See generally Cuddy Mountain*, 137 F.3d 1372.

B. Burning.

Appellants have concerns over the potential for adverse effects if any type of burning occurs after herbicide treatments. It has been shown that irritating vapors may be produced when dicamba and triclopyr are burned. The Mediated Agreement Mitigation Measure Number 34 (which the EIS and its Appendices fail to provide, in violation of the NEPA) prohibits "the burning of vegetation in the same year in which it has been treated with herbicides." Due to the fact that fire is a natural part of eastside ecosystems, that there are numerous projects where the agency is involved in re-introducing fire back into the region's ecosystems, and that slash from timber sales as well as other national forest acreage may be burned after herbicide applications, it is possible that toxic vapors and other hazardous by-products may be produced. The Forest Service did not adequately address this potential problem, or how it would mitigate any adverse effects of burning slash or forest areas that have been treated with herbicides. Again, failure to thoroughly analyze project impacts on both the environment and human heath is a failure to take the hard look required by NEPA. *See generally Cuddy Mountain*, 137 F.3d 1372.

C. Grazing.

The EIS notes that grazing is an ongoing activity in the region, and that it will continue. The fact that grazing will continue both during and post-program should have been addressed more completely within the EIS. The EIS should have addressed how continued livestock grazing will affect the ecosystem in which the proposed program is to take place.

dated September 21, 2005 (D. Id.). Here, inappropriate extrapolation is a shortcoming of the scientific analysis.

There is inadequate information to support the conclusion that picloram and triclopyr do not bioaccumulate in target vegetation or the animals that may feed on it. In addition to the fact that the FEIS does not disclose adequate information regarding the bioaccumulation potential for hexachlorobenzene, the EIS does not adequately analyze the cumulative consequences of past, present, and future projects also involving herbicide applications that contribute to bioaccumulation. The failure to address these issues violates NEPA's requirement for high quality information in environmental analyses. 40 C.F.R. § 1502.24. The hard look standard required by NEPA has not been met. *See generally Cuddy Mountain*, 137 F.3d 1372.

Significant impacts suggested by the NPE risk assessment are not disclosed or analyzed in the FEIS. These concerns include data gaps limiting the knowledge of cumulative effects of NPE and other estrogen-like compounds and on endocrine effects from NPE, specific information about NPE's high potential for aquatic toxicity, NPE's high water solubility, NP and NPE's adverse effects to liver and kidneys based on sub-chronic and chronic testing of laboratory animals, and potential carcinogenic and mutagenic effects of ethylene oxide, a contaminant of NP9E.

Inert ingredients found in Garlon 4 are "Pennsylvania Hazardous Substances" and "New Jersey Workplace Hazardous Substances." *See generally, Material Safety Sheets – Garlon.* The fact that at least two states have found inert ingredients to be hazardous would seem to require the agency to completely disclose and discuss the use of Garlon 4 and other formulas with toxic "inert" ingredients for the proposed program. Without this information, the proposed project fails to meet the NEPA's full disclosure requirements and should not go forward.

Finally, the EIS does not discuss the potential for toxicity and persistence of herbicides in soil and water resources due to more than one application of only a single chemical. The program will authorize repeated regional applications over the course of many years, and many sites often require multiple applications of multiple chemicals. Moreover, the information on toxicity and persistence should have appeared fully in the EIS, and not have been hidden as a report in the analysis file, as was done with the SERA reports. This information is important, because it is possible that the concentrations across the watersheds may in fact indicate that toxicity and persistence levels are much more dire than the USFS indicates. This does not satisfy the "hard look" standard set forth in *Cuddy Mountain,* 137 F.3d 1372. Nor do the disclosures and analysis meet the requirement for high quality scientific analysis as required by 40 C.F.R. § 1502.22. The USFS is obliged to present concrete, detailed information for the decision maker to carefully consider, and to the public for scrutiny and comment before commencing this project. *Robertson*, 490 U.S. at 349.

VII. <u>The PNR-IPP EIS Inadequately Analyzes the Effects of Biological Control Methods.</u>

The Forest Service proposes to introduce exotic species into the forest ecosystem to control invasive plants sites throughout the Region Six Forests. This method of invasive plant control is

VIII. The Invasive Plant Program FEIS Inadequately Analyzes the Effects to Environmental Justice and Native Treaty Rights.

The FEIS reports that: "Executive Order 12898 ordered federal agencies to identify and *address* the issue of environmental justice the issue of environmental justice (i.e. adverse human health and environmental effects of agency programs that disproportionately impact minority and low income populations). Executive Order 12898 also directs *agencies to consider patterns of subsistence hunting and fishing when an agency action may affect fish and wildlife.*" (FEIS p. 4-163, emphasis ours). Clearly this FEIS and ROD are planning a program which will affect fish and wildlife, so patterns of subsistence hunting and fishing should have been analyzed and considered. This information is available from the Native Nations of Region Six, who were contacted regarding this program, according to the distribution list in the FEIS. The FEIS simply failed to *address* the issue of environmental justice in that addressing a problem such as cultural plants and subsistence fish and hunting species being adversely affected by planned herbicide use (which is likely, based on the FEIS analysis) requires finding solutions to the problem, not just stating that it could exist and then ignoring it.

Indeed, the FEIS admits that in response to scoping letters sent to Native American groups,

> (i)mpacts to cultural plants were of specific concern...Concerns, specifically related to environmental justice of treatments were focused on water quality; namely, that invasive plant treatments should not degrade or compromise water quality for salmon and steelhead fisheries, which are an important part of Native American tradition and a major source of food and income for many Native Americans in the Pacific Northwest and elsewhere.

(FEIS, p. 4-164). Yet the Region Six IPP program's most definite impacts from herbicide use involve the killing of native plants (which include native cultural plants) and degradation of water quality and fish runs, including salmon and steelhead trout. These impacts could be lessened and avoided on the programmatic level by prohibiting use of the herbicides most toxic to fish and other aquatic organisms in riparian areas, prohibiting aerial and broadcast spraying (which are most likely to result in accidental contamination of surface waters), and mapping and specifying avoidance of herbicide use in areas of Native traditional cultural plant use, which are well known by the Native Nations in the region. Such programmatic restrictions would do far more to assure that Native treaty rights and environmental justice rights are not abrogated than leaving the whole issue up to District staff with no specific regional guidance. Project-level planning does not always successfully avoid or adequately mitigate adverse effects to traditional uses, treaty rights and environmental justice rights. Since the FEIS admits that "implementation of the standards may affect natural resources on which the tribes depend" (FEIS p. 4-164), there is a responsibility at the programmatic level, where these standards were devised, to thoroughly analyze and address these foreseeable impacts to natural resources on which the Native Nations depend. NEPA requires the agency to evaluate "cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts," and to discuss them in the same impact statement. 40 C.F.R. § 1508.24(a)(2). Failure to do so in sufficient detail is a failure to take the hard look at the proposed programs as required by law. *See generally Cuddy Mountain,* 137 F.3d 1372. The proposed program should avoid negative impacts to these resources from will occur in the region during and after the proposed program, the EIS does not discuss how grazing will affect the region and specific project-program areas and the continued and potentially exacerbated spread of noxious weeds. Similarly, the EIS does not address the nature of state and private lands that are adjacent to programmatic planning areas and how activities on those lands will influence the resources in the region (and in the region's specific project areas). In addition, while the EIS noted that timber harvest has occurred in the past in the region's numerous watersheds, it does not indicate how future timber harvest will affect the region and the control of invasive plants. The analysis in the EIS violates NEPA, which requires all relevant information to be compiled in a single environmental document. *Thomas,* 753 F.2d 754; 40 C.F.R. § 1508.7.

The failure to thoroughly consider all relevant environmental impacts in the EIS is arbitrary and capricious. This decision contravenes the clear intent of NEPA as well as NEPA's implementing regulations that require the USFS to fully consider the direct, indirect, and cumulative impacts of this project in conjunction with other past and future impacts in the area. 40 C.F.R. §§1500.1(b), 1508.25(2), 1508.27(b)(7); *Sierra Club,* 843 F.2d at 1193.

Lastly, it is both the height of management folly, as well as seriously legally questionable, for the agency to propose herbicide treatments which may exceed EPA target levels for "worker and human health risks." However, the EIS indicates that this is exactly what this program may result in. On pages 4-74 and 4-80 the EIS discloses that the programmatic use of 2,4-D, dicamba, triclopyr, adjuvant nonylphenol ethoxylate, and picloram are likely to exceed the EPA target levels and for picloram the EPA cancer rate benchmark. Despite the seriousness of these disclosures, the EIS does nothing to address the questions of legality or to develop responsible controls and standards to rectify this likelihood.

X. <u>The FEIS Fails to Disclose Crucial Information Concerning Agency Compliance with the Mediated Agreement</u>

The Mediated Agreement of 1989 stipulated a series of requirements with which the Region Six USFS agreed to comply. Among the requirements were yearly reports concerning herbicide use, effectiveness of herbicide programs, research into toxicity of herbicides used and impacts to areas where they were utilized, instances of worker and other human health impairment resulting from herbicide use including accidents, the development of non-chemical proactive methods of preventing the spread of invasive plants and identifying root causes of their introduction and spread, etc. General consensus among many organizations which monitor USFS activities in Region Six is that the agency has generally failed to comply with its agreed upon obligations as clearly mandated by the Mediated Agreement, and has initiated this EIS in part to escape from its obligations.

As the Mediated Agreement (MA) plays a crucial foundational legal role in this NEPA process, NEPA requires that this information be disclosed to both the decision-maker and the public, and that the effectiveness and compliance -- or lack thereof – of and with the MA be assessed. Instead, the EIS obfuscates and evades this essential information, and seeks to displace the many effective and reasonable requirements of the MA with an Invasive Plant Program

(811)

RECEIVED

DEC 02 2009

Nov 2009

To: BLM
From: Carol Ach, human downstream
RE: Draft EIS for increasing herbicide use in Oregon

"The injunction... that the BLM had not adequately considered, at the statewide scale, the cumulative human health effects of the herbicides being used..."

- In what way has the BLM adequately considered, at the statewide scale, the cumulative effects of the herbicides they / you want to use?

"Preparing a risk assessment for every conceivable combination of herbicide tank mix, surfactant, adjuvant, and other possible mixture is not feasible as the BLM cannot prepare hundreds of risk assessments" Rarely are herbicides used singly.

This draft EIS demonstrates that herbicides drift, (p21) get into the groundwater, cause symptoms in applicators, poison wildlife and native plants and have major negative health implications in humans. (PEIS) It also shows that insufficient research (often submitted with the product registration to the EPA) leaves us with many unknowns incl.

what happens when they mix in living tissue.

for example ..

<u>Chlorsulfuron</u>

"damage to non-target plant species after ground broadcast could extend to distances greater than 900 ft. from application site"

" Damage to aquatic plants, particularly macrophytes .. is noteworthy"

" not formulated for forestry use"

"human health ..... commonly noted effect are changes in various hematological parameters (Blood) and general gross pathological changes to several organs" "Studies on the toxicity of chlorsulfuron metabolites have not been conducted"

" skin absorption is the primary route of exposure ... the lack of experimental data regarding dermal absorption of chlorsulfuron adds substantial uncertainties to this risk assessment"

" there is relatively little information regarding (mammalian) non-target wildlife species" "there is very little information on the effects of chlorsulfuron in terrestrial invertebrates"

"mildly toxic to terrestrial micro-organisms"

"no field studies are available on the toxicity of chlorsulfuron to aquatic invertebrates"

"given the mobility of chlorsulfuron, the contamination of irrigation water is a 'plausible scenario'"

"the data on toxicity to fish and aquatic invertebrates are limited"

"no toxicity data are available for reptiles or amphibians. Thus no quantitative risk characterizations for these animals can be made"

The BLM PEIS contains 6000 pages on the 18 herbicides it wants to use. The preceding quotes are a mere tidbit of the massive report on risks and unknowns about these products. Why do we even consider poisoning ourselves (if we take the time to read the PEIS?) The plants themselves pose No risk to human health.

The draft EIS emphasizes throughout the various alternatives that prevention is of foremost importance.
Invasive plants and noxious weeds are introduced by human activity - in particular.. mining, grazing, logging and roadbuilding. There is nothing in this document indicating actions to minimize introduction through curtailed mining, grazing, logging or road building. If it's so important to not introduce these unwanted species, why haven't we stopped logging, mining, grazing and road building before we spread our "problem" even more?
How does BLM address prevention or does it?

What role do the manufacturers of these products play in legislating BLM's expanding use? I recently spoke with a Weyerhaeuser spray operator who informed me that the 'industry' is presently using LESS chemicals in forest management because it is NOT cost effective and Resistance to these toxins are being noticed in targeted plants. He also said that most of these chemicals are now manufactured in CHINA. Do we really trust them in our drinking water? We should not

allow our public lands to become dumping grounds for unmarketable toxic products.
BLM does not have accurate, affordable and easily available ways to monitor where these substances go, what they do and what they become especially when mixed.
BLM and EPA are too often relying on the industry to determine impact on human and environmental health. This is NOT adequate. If you were selling herbicides, wouldn't you pressure the manager of 15,7 million acres to purchase your products?
The BLM shows disregard for health costs and crop losses.

In the winter of 2009, the 6th circuit court of appeals (Ohio) unanimously ruled that pesticides are pollutants under federal law and therefore must be regulated under the Clean Water Act to minimize the impacts on human health and the environment. Considering the fact that BLM manages 25% of all of Oregon, use of these products could significantly impact drinking water throughout the state. Neither the BLM nor the EPA have done due diligence in protecting the public from the increasing accumulation of chemicals in the drinking water. The toxicity of these 18 industrial products, many of whose ingredients are proprietary and thus undisclosed, is documented in the PEIS.

for example.. Clopyralid 59% "inert ingredients" proprietary + undisclosed.

"no information is available on the toxicity of Clopyralid to humans"

"all of this information is contained in unpublished studies submitted to US EPA as part of the registration process"

"Hexachlorabenzine (impurity in Clopyralid) has shown carcinogenic activity in 3 mammalian species and has been classified as a potential human carcinogen by the US EPA."

"Virtually all individuals have detectable concentrations of hexachlorobenzine in their bodies"

IN BOLD. "Absolute Safety cannot be proven and the absence of risk can never be demonstrated"

"tendency of hexachlorobenzine to bioconcentrate from water into fish"

ecological risk assessment
"the toxicity of Clopyralid is relatively well characterized in experimental mammals, but few wildlife species have been assayed relative to the large number of non-target species that might be potentially affected by the use of Clopyralid"

"concern for water contamination is increased because Clopyralid is not tightly bound to soils and thus may have a tendency to leach from soil into groundwater"

"in addition to systemic toxicity, hexachlorobenzine has been shown to cause tumors of the liver, thyroid and kidney in test animals"

"The data on toxicity to fish are limited, No chronic studies or even long-term studies on fish, egg and fry have been encountered."

"the risk characterization for both terrestrial and aquatic animals is limited by the relatively few animal and plant species on which data are available compared to the large numbers of species that could potentially be exposed"

"No published reviews regarding human health or ecological effects of Clopyralid have been encountered. Moreover, almost all of the mammalian toxicity studies and most of the ecotoxicity studies are unpublished reports submitted to the US EPA as part of the registration process for Clopyralid.

" there is very little direct information on which to assess the immunotoxic potential of Clopyralid"

" data regarding the inhalation toxicity of Clopyralid are extremely limited" (call from manufacturer)

Again, this is only one of the 18 toxins being promoted for more extensive use in Oregon by the BLM. What are you thinking? Why is the PEIS separate from the draft EIS?

The targeted plants do not cause adversity to human health. The chemicals do. To blame plants for fire is unscientific, To blame plants for disrupting the landscape is misdirected. There is no evidence that the status quo of management - i.e. extract resource, then poison - has benefit to human health, ecological health or long term productivity of our public lands. Alternative 1, though undesireable to you, seems the only sane direction out of mismanagement of public assets.

All quotes are from BLM documents.

- Draft Environmental Impact Statement Vegetative Treatments Using Herbicides on BLM Lands in Oregon
- PEIS - Programmatic Environmental Impact Statement for 17 western states.
- NCAP

(over)

Please send names, contact information and credentials of "team" members who review public comments.

RECEIVED

DEC 02 2009

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Audrey Slater 16250 Pacific Hwy. #42 L.O., OR

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

812

RECEIVED

DEC 02 2009

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Dudley Slater 5621 SW Edgemont Pl Portland OR 97239

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

813

(814)

Vegetation Treatments EIS Team,

We, the people or Oregon, support Alternative 1: An alternative of No Herbicide Use (Alternative 1) is also included for comparison purposes. Herbicide is not the way to control nature without poisoning and destroying, what you were going to originally protect.

The Oregon Bureau of Land Management is currently proposing to increase toxic herbicide use on BLM public lands in Oregon from about 17,000 acres of herbicide spraying a year to control invasive plants to almost three times as much -- 45,000 acres a year, and to increase the number of herbicides used from four (two of which the Forest Service has stopped using due to high toxicity risks to the public, workers, and ground water) to 12 herbicides on the west-side of the Cascades and 16 on the east side, claiming that there is higher public acceptance of herbicide risks east of the Cascades. The BLM offers a narrow range of alternatives, rejecting public suggestions to increase the use of non-herbicide control methods, to reduce ground-disturbing activities that encourage the introduction and dispersal of invasive plants, to not allow aerial spraying of herbicides, which is more likely to damage crops, contaminate drinking water, and affect non-target native plants, wildlife, and people, and to prohibit use of the very potent Acetolactate Synthase-inhibiting herbicides (Chlorsulfuron, metsulfuron methyl, sulfometuron methyl, imazapic, and imazapyr) which are particularly risky to use in aerial spraying or boom spray applications.

Failing to incorporate or combine any of these public proposals and the suggestion of only using herbicides as a last resort, the BLM is offering 5 alternatives, four of which use herbicides, with alternative 1 being no herbicide use, which they admit they are not taking seriously, saying it is for comparison purposes only. Alt. 2 is the current amount of herbicide use with four herbicides, three of which (2,4-D, dicamba, and picloram) we think should be prohibited from use due to high toxicity, high potential for ground-water contamination, and long persistence in soils. Alt 3 would increase herbicide use to 30,000 acres a year (almost twice current use) with 11 herbicides used west of the Cascades and 13 on the east-side, and the most extreme option, alt. 5, would increase herbicide use to 50,000 acres a year with 18 different herbicides available for use throughout all of Oregon BLM public lands. Both alternatives 4 (the BLM's preferred alternative) and 5 include toxic herbicide control of native plants (not just exotics) in rights of way, recreational sites, administrative sites, and for theoretical improvement of habitat for federally listed Threatened species like the Sage grouse, who could be hurt by the toxic chemical use itself - uses for herbicides not currently allowed. Alt. 5 would allow herbicide use for any purpose (unspecified) which BLM staff desire, and appears to be an illegal alternative in that this makes it impossible to predict and analyze potential environmental impacts.

Most of the herbicides proposed for use are highly toxic to native, non-target plants, including rare plants, federally listed plants, medicinal, and edible plants, and may limit the abundance of and contaminate edible mushrooms; several pose serious human health risks (eg. cancer, reproductive impairment, endocrine disruption, liver failure) to recreationalists, forest workers, Native American subsistence gatherers, mushroom pickers, etc.

Several of the herbicides proposed for use are known ground-water contaminants, some have high likelihood of damaging food or ornamental crops if aerially sprayed (aerial spraying is planned), some are toxic to fish, and some pose higher risks to wildlife - especially bees, birds, amphibians, and grazing mammals such as deer elk, pronghorn, and wild horses, as well as to small mammals and scavengers. Using a large number of herbicides, while touted as more effective for controlling invasive plants and often cheaper than using manual control methods, still means that in most cases they are redundant with each other for use on particular invasive plants, making most of them unnecessary.

Below are highlights of some of the reasons to be concerned about the BLM's proposal and information on which are the most toxic herbicides. The BLM could be asked to consider a potential compromise alternative using a smaller selection of only the least toxic herbicides only on exotic invasive plants, along with more emphasis on preventing the introduction and spread of invasive and using non-herbicide control methods more effectively and wherever possible.

IMPACTS TO HUMAN HEALTH:

The following herbicides are assessed by the Bureau of Land Management and the Forest Service to be of the greatest risks to human health of those proposed for use: bromacil, diuron, tebuthiuon, diquat, 2,4-D, Hexazinone, and Triclopyr. Clopyralid and Picloram pose a potential cancer risk through contamination with hexachlorobenzene. 2,4-D, bromacil, diuron, tebuthiuron, and diquat pose risks to workers even at typical application rates.

Here's an example of the kind of human health risks one herbicide can present: "Pilots and aerial mixer-loaders face a risk for systemic, reproductive, and cancer effects from typical and maximum exposures to bromacil. Backpack and hand applicators, and ground applicators, mixer-loaders, and applicator/mixer-loaders are also at risk for systemic and reproductive effects from maximum exposures. Risks for systemic, reproductive, and cancer effects to workers and the public are associated with accidental scenarios of spill to skin..., direct spray...., consumption of fish from a directly sprayed water body..., consumption of directly sprayed berries..., and drinking water contaminated by a truck spill or a jettison of mixture..." (BLM EIS p. 316 - no cancer risk cited for all by spills to skin exposure)

The variety of risks from diuron and tebuthiuron read similarly. Diuron is a suspected carcinogen and possible endocrine disrupter. The Natural Resources Defense Council has petitioned the EPA to cancel all registrations of the herbicide formula ingredient 2,4-D and all allowances for presence in food or water due to the EPA's failure to consider 2,4-D's effects of endocrine disruption, neurotoxicity, mutagenicity, increased skin absorption under common conditions, and adverse developmental effects at doses below those in the EPA risk assessment for exposure of infants to 2,4-D in breast milk. (EIS p. 91) For applications at maximum rates or in accidental spill scenarios, the following herbicides also pose "low" to "high" risks to workers and the public" fluridone, chlosulfuron, clopyralid, and glyphosate. (EIS pp. 314-317)

The BLM admits that there would be less adverse effects to the public with only using non-herbicide methods and that they are already using non-herbicide control methods (weed-pulling, mowing, burning, grazing, etc.) for invasive plants over 716 acres and for native plants (eg. poison oak) over 400 acres. Yet the BLM plans to increase use of herbicides in recreational sites (campgrounds, rafting put-ins, viewpoints, Wilderness Areas, etc.) and thereby increase the potential for accidental exposure of recreationists and herbicide applicator workers to toxic chemicals. Popular berry-picking areas, commercial and recreational mushroom gathering areas, and Native cultural plant gathering areas could also be sprayed with toxic herbicides.

Aerial spraying of herbicides poses a greater risk to the public (as well as to crops, native plants, water quality, fish, and wildlife) due to off-site drift, yet the BLM still proposes it, only completely banning aerial use of dicamba with diflufenzopyr and sulfometuron. This allows aerial spraying of other herbicides highly toxic to humans such as 2,4-D and tebuthiuron. In Idaho in 2001 a "by the books" typical aerial spraying of sulfometuron methyl resulted in severe damage to thousands of acres of adjacent farmland crops the following year. (EIS p. 86) The EPA is considering prohibition of its use within 100 feet of water and in situations typical of dry Eastern Oregon (low annual rainfall and powdery dry soil or light sandy soil), suggesting that aerial spraying of the potent ALS-inhibiting herbicides should be prohibited. Aerial spraying should be avoided in general. Boom broadcast applications such as by ATV's are more hazardous to the public, fish, water quality, crops, and native plants than spot-spraying, yet spot-spraying is more risky to the workers, indicating the need to avoid the use of the most toxic herbicides. Children are at greater risk than adults.

DRINKING WATER, STREAM, AND FISH CONTAMINATION:

Glyphosate can persist in the bottom sediments of aquatic environments with a degradation half-life of 12 days to 10 weeks. Recent studies detected solution phase glyphosate in 36% of 154 stream samples, and its acid degradation product in 69% of the samples. Glyphosate formulas with polyethoxylated tallow amine (POEA) surfactant is considerably more toxic to aquatic species – including fish- than other formulas. Yet glyphosate is registered for aquatic use and would be applied to wetlands and aquatic plants emerging from the water. (EIS p. 163)

Bromacil is mobile in soil, has a high potential to leach into groundwater, and is a known groundwater contaminant. (EIS p. 164) Chlorsulfuron is persistent in soils, has a long potential half-life in water (24 days to more than a year) and has high potential to leach into groundwater. Dicamba is mobile in soil, can contaminate surface water and has high potential to leach into ground water. It is a known groundwater contaminant in Delaware, Maryland, and Virginia.

The EPA has set health advisory concentration levels for dicamba but has failed to set maximum concentration limits for drinkable water. The EPA recently placed diuron on the drinking water contaminant candidate list (EPA 2008) yet the BLM is still proposing its use. Known aquatic dissipation half-lives of diuron range from 3 to 177 days. Movement through soil is known to have transported diuron and its metabolite to a stream and adjacent shallow groundwater. (Field et al 2003, EIS p. 165) :

Hexazinone and its degradates persist, are highly mobile, and are readily washed into surface waters. Hexazinone has been identified as a groundwater contaminant in seven states. The EPA requires a groundwater advisory on all product lables states that hexazinone should not be used on permeable soils. In areas where irrigation water is contaminated with hexazinone or where groundwater discharges to surface water, hexazinone residues in water could pose a threat to plants." (EIS p. 165)

Hexazinone has been detected in streams near terrestrial application sites up to 30 days after application and reported in run-off up to 6 months post-application in a forest dissipation study. (Neary and Michael 1996; Michael et al. 1999, EIS p. 165) Potential for displacement of hexazinone and consequent impacts to crops or native plants seem too high for the BLM to be using it.

Imazapic is a new herbicide which has received little study. The herbicide label for the "Plateau" formula in which imazapic is the active ingredient, indicates that imazapic is a groundwater contaminant. (BASF 2004, EIS p. 165) Metsulfuron methyl has high potential to leach into groundwater but so far is not a reported groundwater contaminant according to the EIS. The three added herbicides – bromacil, diuron, and tebuthiuron- proposed for use in alt. 4 (but not alt 3) are all known groundwater contaminants.

Alt. 5 would add the use of diquat, a known groundwater contaminant that can de-oxygenate water if applied in large areas of water, hurting fish and other aquatic species. Yet this destructive herbicide is proposed for use largely to control Giant salvinia, which is not even known to occur in Oregon, which appears to be outside of its ecological habitat range. Alt.s 4 and 5 would also apply herbicides to more roads and rights of way.

As the EIS admits: "As more roads and rights-of-way (and thus more ditch lines) are treated, there is more potential for herbicide to enter water... bromacil, diuron, and tebuthiuron... are all persistent and mobile herbicides." (EIS p. 174) "Picloram can move off site through surface or subsurface runoff, and has been detected in the groundwater of 11 states (Howard 1991). Picloram... is not degraded rapidly in the environment (Tu et al. 2001). Concentrations in runoff have been reported to be great enough to damage crops, and could cause damage to certain submerged aquatic plants (Forsyth et al. 1997 cited in Tu et al. 2001)... the EPA reported it stable to hydrolysis and unlikely to degrade in ground water, even over several years (EPA 1995). Maximum picloram runoff generally occurs following the first significant rainfall, after which runoff concentrations drop to levels that persist up to 2 years post-application." (EIS p. 166) The toxicity, high mobility, and high persistence of picloram have caused us to advocate for prohibition of its use.

PROHIBIT USE OF THE MOST TOXIC HERBICIDES:

Given that other, apparently less toxic and persistent herbicides are now available for use, the BLM should exercise its perogative and officially prohibit the use of the most toxic, persistent, mobile, and non-selective herbicides, including 2,4-D, picloram, dicamba, glyphosate with POEA surfactant, triclopyr BEE, bromacil, diuron, hexazinone, and tebuthiuron, which is another persistent groundwater contaminant known to contaminate streams and degrade slowly in aquatic systems. Just as the Forest Service Region 6 has dropped the use of 2,4-D and dicamba and is not even considering use of the very toxic diquat, diuron, bromacil, teburhiuron herbicides, so too can the BLM drop the planned use of the most toxic herbicides listed above plus picloram.

Sincerely,

Shawn Carroll,

A concerned Oregonian.

(815) Karen Coulter

To: Vegetation Treatments EIS Team
P.O. Box 2965
Portland, OR 97208-2965

November 30th, 2009

From: Blue Mountains Biodiversity Project,
League of Wilderness Defenders
Karen Coulter, Director
27803 Williams Lane
Fossil, OR 97830
(541) 385-9167

Additional Comments re: "Vegetation Treatments Using Herbicides on BLM Lands in Oregon" DEIS (aka DEIS)

After thoroughly reading the DEIS and submitting comments, I went to the www.pesticides.org website and found the following disturbing information about just two of the herbicides proposed for use, most or all of which was not disclosed or discussed in the DEIS, which failed to discuss such conflicting or readily available additional and relevant science. This omission is probably just the tip of the iceburg since we only looked up two of the proposed herbicides to see what additional information on impacts was out there. The kind of information we found, if disclosed to the public in the DEIS, could easily have changed the opinion of members of the public and decision-makers as to whether these particular herbicides should be used, and should have been included in the DEIS:

Re: Clopyralid: Its inability to bind with soils means it is highly mobile and a contamination threat to water and non-target plants. It can cause severe eye damage, including permanent loss of vision if splashed into the eyes (eg. in a worker accident.) It is relatively persistent in soil, water, plants. When applied to cold, dry soils or to water-logged soils, clopyralid residues may persist for several years. (Pik et al. 1977) It generally takes a year or more for clopyralid to decrease to undetectable levels in soils. (Pik et al. 1977 and Smith and Aubin 1989) Elliot et al. (1998) found that clopyralid leached to depths as great as 180 cm. within 20 days of application. Following aerial application to soils Leitch and Fagg (1985) recorded clopyralid in a nearby stream. Clopyralid can be persistent in plants, even in non-susceptible species (DowElanco 1997.) Because clopyralid is not degraded rapidly in plants, wildlife could ingest clopyralid

>

while feeding on contaminated plants. Clopyralid has been found retained in the livers and kidneys of laboratory animals studied. Direct soil application of clopyralid may prevent germinating seedlings from emerging. (Dow Elanco 1997) The ~~above~~ ~~below~~ above citations and information on clopyralid is from M. Tu, C. Hurd, R. Robinson and J.M. Randall. ~~in the~~ Info. below fr sulfometuron methyl is from the Journal of Pesticide Reform, Winter 2002, Vol. 22, No. 4 ~~as recounted by Caroline Cox~~, ~~and has~~ we are made ~~us~~ wary of supporting the use of clopyralid, based on information not disclosed in the DEIS. An organic farmer and Oregon Tilth organic certification inspector also informed us that clopyralid presents tremendous problems fr organic farmers as it can be transferred to non-target crop plants even through compost piles as well as soil residues or off site leaching or run-off. This was also not disclosed in the DEIS.

Sulfometuron methyl and the "Oust" formula: In laboratory tests, sulfometuron methyl has caused anemia, atrophied testicles, testicular lesions, and increased incidence of fetal loss. A sulfometuron methyl break-down product causes DNA damage in the colon of laboratory animals. The U.S. Geological Survey has found sulfometuron methyl in rivers in the Midwest and the U.S. Forest Service has found it in streams following forestry applications. Enough sulfometuron methyl to kill desirable plants can persist in soils fr a year after application. Minute amounts (smaller than fr plant kill) can disrupt plant reproduction. Drift from roadside and invasive plant applications of Oust have resulted in widespread crop damage totalling millions of dollars. Exposure of people to polyvinyl pyrrolidone, an "inert" ingredient of Oust, "may be accompanied by pulmonary fibrosis and ~~pnemonia~~ pneumonia" according to the International Agency fr Research on Cancer. Polyvinyl pyrrolidone can also damage human sperm. Sulfometuron methyl can break-down to saccharin, which causes genetic damage. It has also caused local tumors in mice, rats, and rabbits. (ibid) Oust damage to desirable plants has been reported fr Tennessee, Pennsylvania, Arkansas and Washington. Sulfometuron methyl causes developmental effects in frogs thought to be due to disruption of thyroid function, including inhibited tadpole tail resorption, malformed limbs, and increased mortality. On top of all this, 73 invasive plants have developed resistance to sulfometuron methyl. Yet all this relevant information seems to be missing from the DEIS. We are concerned by the extent and significance of such omissions.

619

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Nathaniel Schattschneider 3366 W. 17th Ave Eugene OR 97402

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED

DEC 02 2009

DEC 03 2009

RECEIVED

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Melissa Breed 80574 Hazelton Rd. Cottage Grove, OR

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

(619)

DEC 03 2009

RECEIVED

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Rusty Reaves 2624 Friendly Eugene

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Jennifer Marcus Eugene, OR

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Doug Furlong 7060 W 28th Eugene OR 97405

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

1028

RECEIVED

DEC 02 2008

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Marc Donofrio 385 River Rd 97404

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED

DEC 02 2009

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Kiley Gwynn, 740 Anderson Lane Springfield, OR 97477

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

822

DEC 02 2009

RECEIVED

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Melvin G. Rice 882 Almaden St Eugene OR 97402

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2.4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

(823)

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Chris Garrison 882 Almaden St. Eugene, OR 97402

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

824

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Sulgita Crimmel 7036 NE 8th Ave PDX OR 97211

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

(825)

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Tom Maxwell 1035 SE Miller St Portland OR 97202

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

826

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Lisa Mischke 121 Bauer La. Eugene, OR

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

DEC 02 2009

RECEIVED

827

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Karen Lefer 505 River Road Eugene OR 97404

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2.4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

DEC 02 2009

RECEIVED

828

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Christina Sasser 81868 Lost Valley Lane Dexter, OR. 97431

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED
DEC 02 2009

629

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: ______________________

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED

DEC 02 2009

830

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Aaron Madzt, Eugene, OR

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED
DEC 02 2009

831

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Talicia Brown, Eugene, OR

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED
DEC 02 2009

832

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Lisa-Marie DiVincent, CP

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2.4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED

DEC 02 2009

633

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Hannah Torres 2123 West 12th Ave #1 Eugene OR 97402

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED
DEC 02 2009

834

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: David Africa 17845 [illegible] RD. 97761

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED
DEC 02 2009

835

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Marie Roehrich, 882 Almaden St. Eugene 97402 OR

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED

DEC 02 2009

836

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Anna Miller

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED

DEC 02 2009

837

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: David Klausman Eugene Oregon

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

8338

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: [illegible] [illegible] [illegible]

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED
DEC 02 2009

839

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, *my name and address are:* LU LAVERDE 48 MADISON AVE ASHEVILLE NC 28801

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED

DEC 02 2009

0848

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Misha Gomez PO Box 702 Oakland Or 97462

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED
DEC 02 2009

1148

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Luna Marcus / 85344 Forest Hill Ln Eugene OR 97405

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED

DEC 02 2005

842

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Chad Nicholson 4111 S. Lehawk Spokane, WA 99223

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED
DEC 02 2009

(843)

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Calum Flowers 3032 SW 4th Ave Unit 11 Portland OR, 97201

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED

DEC 02 2009

848

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides 4483 SW 94 Ave

Dear BLM, my name and address are: Brigitte Kranabitl Pdx 97225

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED
DEC 02 2005

845

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Brandon Stewart 6536 N Michigan Ave Portland OR 97217

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED

DEC 02 2009

846

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Caroline Koester 4404 NE 9th PDX, OR 97211

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED

DEC 02 2009

847

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Heather Welburn P.O. BOX 8415 Eugene OR 97408

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED

DEC 02 2009

848

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Erik de Buhr 878 Almaden St 97402

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED
DEC 02 2009

849

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Peter Holden 462 Polk Eugene OR 97402

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED
DEC 02 2009

0058

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Fay Carter 878 Almaden St. Eugene

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED

DEC 02 2009

1158

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: John C. Monroe 1623 W. Bradbury Eugene OR

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

852

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: JOEL S DEESE 878 ALMADEN ST Eugene OR 97402

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED
DEC 02 2009

853

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Karly Dillard 882 Almaden Eugene Or 97402

* I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

* I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

* I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

* I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

RECEIVED

DEC 02 2009

859

RECEIVED

DEC 3 2 2009

DEC 02 2009

RECEIVED

Fill Out the Following Coupon NOW and Mail it to BLM Before the Public Comment Period Ends!
Mail coupon to: Vegetation Treatments EIS Team, Box 2965, Portland, OR 97208

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Arjen Hoekstra / 1631 W Broadway Eugene OR 97402

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

855

856

Joanna Wnorowski -Pecoraro
<joanna@cyberpc.com>
12/02/2009 11:49 PM
Please respond to
joanna@cyberpc.com

To orvegtreatments@blm.gov
cc
bcc
Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Joanna Wnorowski-Pecoraro

,

(857)

stulips@hotmail.com
12/03/2009 02:40 PM

To Oregon Vegetation Treatments Draft EIS Comments <orvegtreatments@blm.gov>
cc
bcc
Subject Oregon Vegetation Treatments Draft EIS Comments - stuart phillips

Requestor: stuart phillips
E-mail address: stulips@hotmail.com

Comments:
I Endorse Alternative 1 (the no-herbicide option). No herbicides, pesticides or toxic chemicals should be sprayed or applied to any blm forestlands in oregon ever, for any reason! thankyou

858

HARNEY COUNTY COURT

Office of Dan Nichols, Commissioner
450 North Buena Vista, Burns, Oregon 97720
Phone: 541-493-2440 Fax: 541-493-2440
E-mail: dannichols@wildblue.net
Websites: www.co.harney.or.us ♦ www.harneycounty.org

November 29,2009

To Whom It May Concern,

After review and consideration of the Draft EIS for Vegetative Treatments it is the consensus of the Harney County Court to support Alternative 5 as the preferred alternative. After 23 years of losing the battle with invasive weeds because of the restrictive and inadequate availability of effective herbicides it is clear that the broadest base of herbicides should be incorporated into the EIS.

The EIS summary estimates that Alternative 5 would only increase herbicide use by 10% over Alternative 4. The summary also correctly points out that more than 90% of that increase would be in Eastern Oregon where environmental risk is lower, advantages more apparent and public acceptance of herbicide use is higher. The extremely limited use of herbicides for the past 20 years has allowed for major infestations of medusahead, knapweeds and thistles in Eastern Oregon. Alternative 5 would allow for the use of diflufenzopyr – dicamba combination for the treatment of knapweeds and thistle species. Their control is of significant importance to the overall health and sustainability of Eastern Oregon rangelands.

Developing an EIS that would exclude the potential for the treatment of the total array of noxious weeds and invasive plants on BLM lands would once again leave the BLM restricted in its management opportunities to the detriment of the public lands. The initial cost of effective, comprehensive treatment is much more practical than attempted restoration or potential loss of valuable resources. Please, do not build a notable restriction into this necessary EIS document.

The Harney County Court requests that you strongly consider Alternative 5 as the Preferred Alternative that would allow for the comprehensive management of all noxious and invasive weeds on BLM lands.

Thank you for moving forward to resolve an issue of paramount importance to the health and sustainability of BLM managed lands.

Sincerely,

Dan Nichols

RECEIVED
DEC 04 2009

Dan Nichols
Commissioner, Harney County Court

DN;sj

859

Ms. Lydia Garvey
429 S 24th St
Clinton, OK 73601-3713

11-29-09

Dear EIS Team,

I strongly urge "Alternative 1"! Herbicide is lethal to wildlife (incl. fish), the public, workers and groundwater. It's highly toxic to native, non-target plants (incl. endangered & edible ones) & causes serious human health risks (cancer, reproductive impairment, endocrine disruption, liver failure) to recreatinists, forest workers, Native Americans, subsistence gatherers.

Prohibit toxic herbicides!

Your attention to this most urgent matter would be much appreciated by all present & future generations of all species.

Thank you,

RECEIVED
DEC 04 2009

861

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ECOSYSTEMS, TRIBAL AND
PUBLIC AFFAIRS

December 4, 2009

RECEIVED

DEC 07 2009

Vegetation Treatments EIS Team
P.O. Box 2965
Portland, Oregon 97208-2965

RE: U.S. Environmental Protection Agency (EPA) review and comments for the Vegetation Treatments Using Herbicides on Bureau of Land Management (BLM) Lands in Oregon Draft Environmental Impact Statement (DEIS). EPA Project Number: 08-045-BLM

Dear Vegetation Treatments EIS Team:

This review was conducted in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. Under our policies and procedures, we evaluate the environmental impact of the proposed action and the adequacy of the impact statement. We have assigned a Lack of Objections (LO) rating to the DEIS. A copy of our rating system is attached.

We agree that invasive plants and noxious weeds are a serious environmental problem. Invasive plants threaten native plant communities and change fire behavior. They reduce water quality, soil productivity, wilderness characteristics, recreation values, and habitat and forage for wildlife and livestock. To limit these adverse impacts we strongly support the principles of Integrated Pest Management (IPM). IPM includes many tools - one of which is herbicides - and we support increasing the BLM's ability to select the most effective methods with the least amount of risk to non-target resources.

Due to persistent uncertainties associated with the safety and effectiveness of herbicide use and in the interest of encouraging a cautious approach we have focused our review on monitoring and adaptive management. This focus reflects EPA's July 30, 2007 comments on Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Final Programmatic EIS (PEIS). Namely, "EPA would expect regional and site specific NEPA documents to include information ensuring adequate monitoring and description of evaluation methods to determine if application rates are effective, buffers are sufficient, drift is minimized and specific goals and endpoints are being met."

In our enclosed comments we recommend that Part II of Appendix 3, "Potential Monitoring" be incorporated into all action alternatives. We also recommend that this "Potential Monitoring" be further developed and (i) establish minimum effectiveness monitoring requirements for site specific project planning, (ii) include additional information on the Oregon BLM's State Office vision of an adaptive management framework, and, (iii) describe how data retention guidelines will facilitate long term effectiveness monitoring.

EPA REGION 10 DETAILED COMMENTS FOR THE VEGETATION TREATMENTS USING HERBICIDES ON BLM LANDS IN OREGON DEIS

Monitoring and Adaptive Management

To help bolster and define your monitoring plans we recommend you consider the following suggestions for incorporation into your FEIS and Record of Decision.

Potential Monitoring

For clarification, we recommend that the FEIS explicitly identify different Potential Monitoring as either implementation or effectiveness monitoring. For example, "Monitoring for Concerns Identified in the EIS" might be more broadly understood as State-wide implementation monitoring. The DEIS describes two major effectiveness monitoring proposals - "Five-year Examination of Weed Spread" and "Monitoring Specific Concerns Identified in the EIS". We recommend that all of these Potential Monitoring proposals be further developed and incorporated into the action alternatives.

The "Five-year Examination of Weed Spread" should be incorporated into the action alternatives because it – or something similar - would provide a mechanism to measure the effectiveness of the chosen control strategy relative to EIS projections (e.g., Table 2-3). We believe coordinating large scale evaluations with relevant State and Federal agencies and publishing the results would greatly increase their relevance.

"Monitoring Specific Concerns Identified in the EIS" should be incorporated into all action alternatives because it would help to ensure that adverse impacts on non-target resources have been effectively avoided or mitigated. Please also consider a more operational title for this effectiveness monitoring proposal, e.g., "Effectiveness Monitoring on the Avoidance and Mitigation of Adverse Impacts to Non-target Resources".

In addition to incorporating Potential Monitoring on the avoidance of adverse environmental impacts from herbicide use we recommend the proposal be amended to explicitly identify minimum site specific requirements. These requirements should provide guidance on how site specific project planning and NEPA analyses will consider the costs and benefits of monitoring impacts on air, vegetation, soil and water. We do not believe descriptions such as, "Water quality monitoring, would be conducted at the discretion of the district." and "There might also be a need to determine if the standards and protection measures were effective at reducing potential effects to Federally Listed species and/or designated critical habitat." sufficiently disclose how districts will develop and implement adequate effectiveness monitoring for environmental and human health concerns (p.422).

Adaptive Management Framework

The DEIS has numerous references to monitoring and adaptive management. Appendix 3, for example, references BLM Manual Sections 9011, 9014, and 9015; and, BLM Technical Reference 1730-1 etc. Appendix 3 also states, "Adaptive management strategies require implementation monitoring to determine whether we followed the plan and obtained the expected results"; and, "If treatment was not effective, the decision maker would review the strategy (USDA 2005:2-15)". Appendix 6 adds to the DEIS's disclosure of BLM monitoring

U.S. Environmental Protection Agency Rating System for
Draft Environmental Impact Statements
Definitions and Follow-Up Action*

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

(860)

Comments On the DEIS Summary of

Vegetation Treatments Using Herbicides on BLM Lands in Oregon

page 2: "What Action is Proposed?"

comment: Proposed herbicide treatment program fails to maintain the distinction between invasives control and routine vegetation management.

Repeated use of herbicides for maintanance creates ideal conditions for "invasives."

RECEIVED

DEC 04 2009

Reference to "undetected invasive plants near roads" makes clear this is not a program carefully targeting individual species, but a "Kill Everything and see what happens" program.

Applications on "rights-of-way, administrative sites, or recreation sites" make public exposure scenarios inevitable.

Page 9: "Alternative 4"

"These treatments would... reduce the adverse visual effects of mowing..."

Comment: Who in the world thinks dead poisoned vegetation looks better than mowed vegetation?

In sum, we prefer Alternative One, No Herbicide use.

Use forest practices that make herbicide poisons unnecessary and use other finely-crafted prevention measures for dealing with "invasives". The BLM in Oregon has been doing fine without herbicides for 25 years. Don't start now.

Jym Bowers
Forestland Dwellers
P.O. Box 5954
Eugene OR
97405

(862)

1867

GRANGE

People ◦ Pride ◦ Progress

Mohawk Grange

P.O. Box 635, Marcola, Oregon 97454

Julia Mooney, Grange Master

RECEIVED

DEC 07 2009

Greetings.
The enclosed letter is sent under the auspices of our local Grange.

We're glad of the opportunity to express our strong viewpoint against the use of herbicides
in our valley.

In your Draft Environmental Impact Statement for Vegetation Treatment etc.,
you acknowledge the very real proven dangers of herbicides to fish, wildlife and humans--
and IMMEDIATELY AFTERWARDS, your agency goes on to propose a major increase in their use,
particularly the most toxic ones! We regard this as illogical at best, especially when there exist
simple and nontoxic ways to deal with unwanted species.

(The enclosed letter is signed by many who felt it necessary to also print their names
as required when certifying voter registration.)

Sincerely,

Julia Mooney

Julia Mooney
Master, Mohawk Valley Community Grange

TO BLM re: **POSSIBLE INCREASED USE OF PESTICIDES**
From: **Members, Neighbors & Friends of the Mohawk Valley Community Grange**

We oppose any increase in the use or types of pesticides in Oregon forests.
Oregon uses more pesticides than any other state.
We have more children with ADD and autism than any other state.
We know that a toxic environment leads to illness and abnormalities in humans and the entire animal kingdom.
We know that even pesticide ingredients described as 'inert' are as toxic as active ingredients.
There are those among us who advocate for NO pesticide use at all.
We are aware that BLM has been presented with non-invasive ways to manage invasive species.
We say that the health and well-being of our populations is the most important consideration here.
We say LISTEN TO US, and not to lobbyists who speak for the poison pesticide industries.

Below are signatures of those in agreement...

Katrina (Carol) Mangiafico
Wendy Kimball
Linda K Mooney
Kellie Hoops
Toni Loeffler
[illegible]
Sybil Mooney
Charlotte Higgins-Lee
Ellen A Furstner
[illegible]
Ayala Talpai
John M. Leighty

[illegible]

[illegible]

[illegible] Abraham Mooney

Carla Mooney Carla Mooney

Grant Landreth GRANT LANDRETH

[illegible] Lyle Tavernier

Mia Furstner

Linda Mello Linda Mello

[illegible] Mart Ahre

[illegible] Chris Mooney

Deborah Herrell

Althea Herrell Althea Herrell

Michael Mooney

Susan Smith

Susan Maner

Julia Mooney, Mohawk Grange Master

R Talpai Richard Talpai

Licia A Shultz Licia A Shultz

Dottie Shultz

RECEIVED

DEC 07 2009

Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: RANDALL GICKER
1324 WASHINGTON, EUGENE OR 97401

I oppose your plan to increase use of pesticides. I support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would increase the use of pesticides, including the deadly 2,4-D and the carcinogenic Diuron.

I protest the fact that your DEIS did not include an analysis of the inert ingredients and relied on a Bush-Administration legal definition of the term "drift" that eliminated the consideration of vapor as drift.

I protest that you pretend to offer five alternatives but admit that numbers one and two are "only for comparison."

I object to the fact that your 'Proposed Option, Alternative Four', would change your current authority "to spray only noxious weeds" to have new legal authority to "spray all vegetation", including at schools on leased BLM lands, campgrounds, and picnic areas. Children before profits!

863

(864)

FYI, Phil

Blue Mountains Biodiversity Project

Action Alert

Oregon BLM Herbicide Use Plan Needs Comments by December 1st!

The Oregon Bureau of Land Management is currently proposing to increase toxic herbicide use on BLM public lands in Oregon from about 17,000 acres of herbicide spraying a year to control invasive plants to almost three times as much—45,000 acres a year, and to increase the number of herbicides used from four (two of which the Forest Service has stopped using due to high toxicity risks to the public, workers, and ground water) to 12 herbicides on the west-side of the Cascades and 16 on the east-side, claiming that there is higher public acceptance of herbicide risks east of the Cascades. The BLM offers a narrow range of alternatives, rejecting public suggestions to increase the use of non-herbicide control methods, to reduce ground-disturbing activities that encourage the introduction and dispersal of invasive plants, to not allow aerial spraying of herbicides, which is more likely to damage crops, contaminate drinking water, and affect non-target native plants, wildlife, and people, and to prohibit use of the very potent Acetolactate Synthase-inhibiting herbicides (Chlorsulfuron, metsulfuron methyl, sulfometuron methyl, imazapic, and imazapyr) which are particularly risky to use in aerial spraying or boom spray applications. Failing to incorporate or combine any of these public proposals and the suggestion of only using herbicides as a last resort, the BLM is offering 5 alternatives, four of which use herbicides, with alternative 1 being no herbicide use, which they admit they are not taking seriously, saying it is for comparison purposes only. Alt. 2 is the current amount of herbicide use with four herbicides, three of which (2,4-D, dicamba, and picloram) we think should be prohibited from use due to high toxicity, high potential for ground-water contamination, and long persistence in soils. Alt. 3 would increase herbicide use to 30,000 acres a year (almost twice current use) with 11 herbicides used west of the Cascades and 13 on the east-side, and the most extreme option, alt. 5, would increase herbicide use to 50,000 acres a year with 18 different herbicides available use throughout all of Oregon BLM public lands. Both alternatives 4 (the BLM's preferred alternative) and 5 include toxic herbicide control of native plants (not just exotics) in rights of way, recreational sites, administrative sites, and for theoretical improvement of habitat for federally listed Threatened species like the Sage grouse, who could be hurt by the toxic chemical use itself—uses for herbicides not currently allowed. Alt. 5 would allow herbicide use for any purpose (unspecified) which BLM staff desire, and appears to be an illegal alternative in that this makes it impossible to predict and analyze potential environmental impacts.

Most of the herbicides proposed for use are highly toxic to native, non-target plants, including rare plants, federally listed plants, medicinal, and edible plants, and may limit the abundance of and contaminate edible mushrooms; several pose serious human health risks (eg. cancer, reproductive impairment, endocrine disruption, liver failure) to recreationists, forest workers, Native American subsistence gatherers, mushroom pickers, etc. Several of the herbicides proposed for use are known ground-water contaminants, some have high likelihood of damaging food or ornamental crops if aerially sprayed (aerial spraying is planned), some are toxic to fish, and some pose higher risks to wildlife—especially bees, birds, amphibians, and grazing mammals such as deer, elk, pronghorn, and wild horses, as well as to small mammals and scavengers. Using a large number of herbicides, while touted as more effective for controlling invasive plants and often cheaper than using manual control methods, still means that in most cases they are redundant with each other for use on particular invasive plants, making most of them unnecessary. Below are highlights of some of the reasons to be concerned about the BLM's proposal and information on which are the most toxic herbicides. The BLM could be asked to consider a potential compromise alternative using a smaller selection of only the least toxic herbicides only on exotic invasive plants, along with more emphasis on preventing the introduction and spread of invasives and using non-herbicide control methods more effectively and wherever possible.

Impacts to Human Health: The following herbicides are assessed by the Bureau of Land Management and the Forest Service to be of the greatest risks to human health of those proposed for use: bromacil, diuron, tebuthiuron, diquat, 2,4-D, Hexazinone, and Triclopyr. Clopyralid and Picloram pose a potential cancer risk through contamination with hexachlorobenzene. 2,4-D, bromacil, diuron, tebuthiuron, and diquat pose risks to workers even at typical application rates. Here's an example of the kind of human health risks one herbicide can present: "Pilots and aerial mixer-loaders face a risk for systemic, reproductive, and cancer effects from typical and maximum exposures to bromacil. Backpack and hand applicators, and ground applicators, mixer-loaders, and applicator/mixer-loaders are also at risk for systemic and reproductive effects from maximum exposures. Risks for systemic, reproductive, and cancer effects to workers and the public are associated with accidental scenarios of spill to skin ..., direct spray..., consumption of fish from a directly sprayed water body..., consumption of directly sprayed berries..., and drinking water contaminated by a truck spill or a jettison of mixture...."(BLM EIS p.316—no cancer risk cited for all but spills to skin exposure) The variety of risks from diuron and tebuthiuron read similarly. Diuron is a suspected carcinogen and possible endocrine disrupter. The Natural Resources Defense Council has petitioned the EPA to cancel all registrations of the herbicide formula ingredient 2,4-D and all allowances for presence in food or water due to the EPA's failure to consider 2,4-D's effects of endocrine disruption, neurotoxicity, mutagenicity, increased skin absorption under common conditions, and adverse developmental effects at doses below those in the EPA risk assessment for exposure of infants to 2,4-D in breast milk. (EIS p. 91) For applications at maximum rates or in accidental spill scenarios, the following herbicides also pose "low" to "high" risks to workers and the public: fluridone, chlorsulfuron, clopyralid, and glyphosate. (EIS pp. 314-317)

The BLM admits that there would be less adverse effects to the public with only using non-herbicide methods and that they are already using non-herbicide control methods (weed-pulling, mowing, burning, grazing, etc.) for invasive plants over 716 acres and for native plants (eg. poison oak) over 400 acres. Yet the BLM plans to increase use of herbicides in recreational sites (campgrounds, rafting put-ins, viewpoints, Wilderness Areas, etc.) and thereby increase the potential for accidental exposure of recreationists and herbicide applicator workers to toxic chemicals. Popular berry-picking areas, commercial and recreational mushroom gathering areas, and Native cultural plant gathering areas could also be sprayed with toxic herbicides.

Aerial spraying of herbicides poses a greater risk to the public (as well as to crops, native plants, water quality, fish, and wildlife) due to off-site drift, yet the BLM still proposes it, only completely banning aerial use of dicamba with diflufenzopyr and sulfometuron. This allows aerial spraying of other herbicides highly toxic to humans such as 2,4-D and tebuthiuron. In Idaho in 2001 a "by the books" typical aerial spraying of sulfometuron methyl resulted in severe damage to thousands of acres of adjacent farmland crops the following year. (EIS p. 86) The EPA is considering prohibition of its use within 100 feet of water and in situations typical of dry Eastern Oregon (low annual rainfall and powdery dry soil or light sandy soil), suggesting that aerial spraying of the potent ALS-inhibiting herbicides should be prohibited. Aerial spraying should be avoided in general. Boom broadcast applications such as by ATVs are more hazardous to the public, fish, water quality, crops, and native plants than spot-spraying, yet spot-spraying is more risky to the workers, indicating the need to avoid use of the most toxic herbicides. Children are at greater risk than adults.

Drinking water, stream, and fish contamination: Glyphosate can persist in the bottom sediments of aquatic environments with a degradation half-life of 12 days to 10 weeks. Recent studies detected solution phase glyphosate in 36% of 154 stream samples, and its acid degradation product in 69% of the samples. Glyphosate formulas with polyethoxylated tallow amine (POEA) surfactant is considerably more toxic to aquatic species—including fish—than other formulas. Yet glyphosate is registered for aquatic use and would be applied to wetlands and aquatic plants emerging from the water. (EIS p. 163) Bromacil is mobile in soil, has a high potential to leach into groundwater, and is a known groundwater contaminant. (EIS p. 164) Chlorsulfuron is persistent in soils, has a long potential half-life in water (24 days to more than a year) and has high potential to leach into groundwater. Dicamba is mobile in soil, can contaminate surface water and has high potential to leach into groundwater. It is a known groundwater contaminant in Delaware, Maryland, and Virginia. The EPA has set health advisory concentration levels for dicamba but has failed to set maximum concentration limits for drinkable water. The EPA recently placed diuron on the drinking water contaminant candidate list (EPA 2008) yet the BLM is still proposing its use. Known aquatic dissipation half-lives of diuron range from 3 to 177 days. Movement through soil is known to have transported diuron and its metabolite to a stream and adjacent shallow groundwater. (Field et al. 2003, EIS p. 165) "Hexazinone and its degradates persist, are highly mobile, and are readily washed into surface waters. Hexazinone has been identified as a groundwater contaminant in seven states. The EPA requires a groundwater advisory on all product labels stated that hexazinone should not be used on permeable soils. In areas where irrigation water is contaminated with hexazinone or where groundwater discharges to surface water, hexazinone residues in water could pose a threat to plants." (EIS p. 165) Hexazinone has been detected in streams near terrestrial application sites up to 30 days after application, and reported in run-off up to 6 months post-application in a forest dissipation study. (Neary and Michael 1996; Michael et al. 1999, EIS p. 165) Potential for displacement of hexazinone and consequent impacts to crops or native plants seems too high for the BLM to be using it. Imazapic is a new herbicide which has received little study. The herbicide label for the "Plateau" formula in which imazapic is the active ingredient, indicates that imazapic is a groundwater contaminant. (BASF 2004, EIS p. 165) Metsulfuron methyl has high potential to leach into groundwater but so far is not a reported groundwater contaminant according to the EIS. The three added herbicides—bromacil, diuron, and tebuthiuron—proposed for use in alt. 4 (but not in alt. 3) are all known groundwater contaminants. Alt. 5 would add the use of diquat, a known groundwater contaminant that can de-oxygenate water if applied to large areas of water, hurting fish and other aquatic species. Yet this destructive herbicide is proposed for use largely to control Giant salvinia, which is not even known to occur in Oregon, which appears to be outside of its ecological habitat range. Alt.s 4 and 5 would also apply herbicides to more roads and rights of way. As the EIS admits: "As more roads and rights-of-way (and thus more ditch lines) are treated, there is more potential for herbicide to enter water....bromacil, diuron, and tebuthiuron....are all persistent and mobile herbicides." (EIS p. 174) "Picloram can move off site through surface or subsurface runoff, and has been detected in the groundwater of 11 states (Howard 1991). Picloram...is not degraded rapidly in the environment (Tu et al. 2001). Concentrations in runoff have been reported to be great enough to damage crops, and could cause damage to certain submerged aquatic plants (Forsyth et al. 1997 cited in Tu et al. 2001)....the EPA reported it stable to hydrolysis and unlikely to degrade in ground water, even over several years (EPA 1995). Maximum picloram runoff generally occurs following the first significant rainfall, after which runoff concentrations drop to levels that persist up to 2 years post-application." (EIS p. 166) The toxicity, high mobility, and high persistence of picloram have caused us to advocate for prohibition of its use.

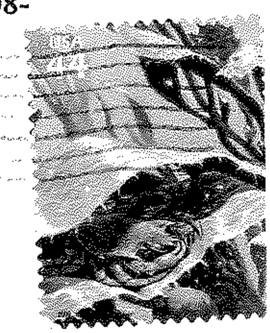
Prohibit use of the most toxic herbicides: Given that other, apparently less toxic and persistent herbicides are now available for use, the BLM should exercise its perogative and officially prohibit the use of the most toxic, persistent, mobile, and non-selective herbicides, including 2,4-D, picloram, dicamba, glyphosate with POEA surfactant, triclopyr BEE, bromacil, diuron, hexazinone, and tebuthiuron, which is another persistent groundwater contaminant known to contaminate streams and degrade slowly in aquatic systems. Just as the Forest Service Region 6 has dropped the use of 2,4-D and dicamba and is not even considering use of the very toxic diquat, diuron, bromacil, and tebuthiuron herbicides, so too can the BLM drop the planned use of the most toxic herbicides listed above plus picloram.

We hope you'll help us fight needless risk to our wild land ecosystems, people, native plants, fish, and wildlife by sending in your comments so the BLM is aware of broader public concern. Thank you! Blue Mountains Biodiversity Project is also in great need of public financial support if you can contribute to help keep our work going. Please send donations to: League of Wilderness Defenders (for tax deduction), Blue Mountains Biodiversity Project, 27803 Williams Lane, Fossil, Oregon 97830. Call us with any questions: voice mail: (541) 385-9167

The Draft Environmental Impact Statement, "Vegetation Treatments Using Herbicides on BLM Lands in Oregon" are available online at http://www.blm.gov/or/plans/vegtreatmentseis/. Or call Todd Thompson, BLM Restoration Coordinator at (503) 808-6326 for a hard copy to be mailed to you.

* **Mail comments to**: Vegetation Treatments EIS Team, P.O. Box 2965, Portland, OR 97208-2965, or email (but confirm receipt) to: orvegtreatments@blm.gov

PENDLETON OR 97801
PM
NOV 23
2004



Karen Coulter, BMBP
27803 Williams Lane
Fossil, OR 97830

Sue Bastian
20362 Rock Canyon
Bend, OR 97701

865

Comments On the DEIS Summary of

Vegetation Treatments Using Herbicides on BLM Lands in Oregon

Page 2: "What Action is Proposed?"

comment: Proposed herbicide treatment program fails to maintain the distinction between invasives control and routine vegetation management.

Repeated use of herbicides for maintanance creates ideal conditions for "invasives."

In sum, we prefer Alternative One, No Herbicide use.

Use forest practices that make herbicide poisons unnecessary and use other finely-crafted prevention measures for dealing with "invasives". The BLM in Oregon has been doing fine without herbicides for 25 years.

Don't start now.

Jym Bowers
Forestland Dwellers
P.O. Box 5954
Eugene OR
97405

Reference to "undetected invasive plants near roads" makes clear this is not a program carefully targeting individual species, but a "Kill Everything and see what happens" program.

Applications on "rights-of-way, administrative sites, or recreation sites" make public exposure scenarios inevitable.

Page 9: "Alternative 4"
"These treatments would... reduce the adverse visual effects of mowing..."
comment: who in the world thinks dead poisoned vegetation looks better than mowed vegetation?

(866)

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Clare Sands

10655 Agate Rd.
Eagle Point, OR.
97524

RECEIVED
DEC 07 2009

(867)

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Lisa Wale
125 Lincoln St #9
Ashland, OR 97520

RECEIVED
DEC 07 2009

(8668)

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Matt Witt 2721 Quail Run Rd
Talent OR 97540

RECEIVED
DEC 07 2005

869

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Rob Joseph, Ashland
163 W. Nevada St 97520

RECEIVED
DEC 07 2008

(870)

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Greg Marsh

RECEIVED
DEC 07 2008

871

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Kate Kelley McCabe

RECEIVED
DEC 07 2009

(872)

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Lanzhammer
Lida Lazhamm
163 W. Nevada St
Ashland OR

RECEIVED
DEC 07 2009

(873)

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,
Pamela C Varro Ashland, OR

RECEIVED
DEC 07 2009

874

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Dr Matthew E. Sheehan, D.C.
175 Deborah Dr.
Talent OR 97540

875

RECEIVED

DEC 07 2009

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Robert Dubow

(876)

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

MATT Locklin

877

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely, Tracy Harding

(878)

RECEIVED

DEC 07 2009

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Al Gross
524 Barnes Ave
Medford OR 97504

879

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely, Caroline Bouwene

RECEIVED
DEC 07 2009

880

RECEIVED
DEC 07 2005

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely, Soldom

881

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

RECEIVED

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely, [signature] Ashland, Or

882

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

RECEIVED
DEC 07 2005

883

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

RECEIVED DEC 07 2008

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Cherry Gregory
445 Sunrise Av
Medford OR 97504

(884)

RECEIVED

DEC 07 2009

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Peter & Diane Ware
19797 Antioch Rd.
White City, OR 97503

885

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

RECEIVED
DEC 07 2009

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Mary Ann Terral
422 Hedman
Ashland OR 97520

886

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RECEIVED
DEC 07 2009

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Paula [signature]

5887

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

RECEIVED
DEC 07 2006

(888)

RECEIVED
DEC 07 2009

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

889

RECEIVED
DEC 07 2009

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely, Frances Petschek
999 Morton St
Ashland OR 97520

(890)

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Renee Razzano, Ashland, OR

891

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Janet LaFountain
683 Blue Moon Dr
Central Point OR 97502

892

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Sherry Straus
Sherry Straus

2217 Dellwood Ave
Medford OR 97504

RECEIVED
DEC 07 2009

(893)

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

RECEIVED
DEC 07 2009

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Eric Marsh
9710 Takilma Rd
Cave Junction OR 97523

(894)

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

RECEIVED
DEC 07 2009

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Melissa Marsh
715 S. Holly St
Medford OR 97501

895

RECEIVED
DEC 07 2009

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

9710 Takilma Rd
Cave Junction
OR

(896)

RECEIVED

DEC 07 2009

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Jeff Thompson
33 Black Oak Dr
Medford, OR 97504

897

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely, Maggie R Thompson

MAGGIE THOMPSON
33 BLACK OAK
MEDFORD, OR
97504

RECEIVED
DEC 07 2005

(898)

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

RECEIVED
DEC 07 2005

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely, Howard Sands

10655 Agate Rd
Eagle Point, OR 97524

(899)

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Central Point, OR

900

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

RECEIVED
DEC 07 2009

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely, Judy Marshall

(901)

RECEIVED

DEC 07 2005

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Donald M. Marshall
3800 Walker Creek Rd
Central Point, OR 97530

(902)

cathy macay
<cathymacay@yahoo.com>
12/06/2009 07:45 AM
Please respond to
cathymacay@yahoo.com

To orvegtreatments@blm.gov
cc
bcc
Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

cathy macay

,

903

John Applegarth
<actinemys@earthlink.net>
12/07/2009 03:49 PM

To orvegtreatments@blm.gov
cc
bcc
Subject herbicide DEIS

Vegetation Treatments EIS Team:

Thank you for the copy of the DEIS of September 2009 concerning "Vegetation treatments using herbicides on BLM lands in Oregon."

You fail to address the cumulative impact of herbicide on oceanic phytoplankton. There are already dead zones off the coast of Oregon (and a huge one at the mouth of the Mississippi River), there is a real possibility that herbicides contribute to the death of oceanic phytoplankton, and oceanic phytoplankton are thought to be the primary source of atmospheric oxygen the loss of which could be serious.

Furthermore, the cover photo does not show an invader that must be stopped. Rather, it shows overgrazed rangeland where weeds have taken over, and the spraying of herbicide on the landscape will not make up for overgrazing. Biological invasions have naturally occurred for billions of years, and each one provides impetus for the adaptation of biological communities and the evolutionary changes that have led to the present diversity of plants and animals. Taxpayer dollars and toxic chemicals are unlikely to stop "exotic" species that are already well established (our money would be better spent preventing new invasions). Management of well established "weeds" can be done IF the agencies would delegate care of the public lands to the public -- to NGOs, businesses, families, and individuals. I like to practice what I preach, so there is a 40-acre unit of BLM land in the Eugene District that is now free of scotchbroom because I have been pulling it over the past 9 years (NE of NE of section 23, T 19 S, R 4 W).

Good luck!

Sincerely yours,

John S. Applegarth

904

Stephanie Tidwell
<stephanie@kswild.org>

12/09/2009 04:59 PM

Please respond to
stephanie@kswild.org

To orvegtreatments@blm.gov

cc

bcc

Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Stephanie Tidwell

,

905

Julia Burwell
<jules0342@msn.com>

12/10/2009 04:26 PM

Please respond to
jules0342@msn.com

To orvegtreatments@blm.gov

cc

bcc

Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Julia Burwell

,

906

Jim Oxyer
<kylthrfaerie@insightbb.com>

12/10/2009 05:02 PM

Please respond to
kylthrfaerie@insightbb.com

To orvegtreatments@blm.gov

cc

bcc

Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Jim Oxyer

1210 S Brook St Unit 1
,

907

Wandalea Walker
<wandalea9@hotmail.com>
12/10/2009 05:05 PM
Please respond to
wandalea9@hotmail.com

To orvegtreatments@blm.gov
cc
bcc
Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Wandalea Walker

4393 Ulua St.
,

908

Carolyn Self
<cself@jeffnet.org>

12/10/2009 06:48 PM

Please respond to
cself@jeffnet.org

To orvegtreatments@blm.gov

cc

bcc

Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Carolyn Self

,

(909)

stu phillips
<stulips@hotmail.com>
12/10/2009 10:21 PM
Please respond to stulips@hotmail.com

To orvegtreatments@blm.gov
cc
bcc
Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

stu phillips

1228 arthur

,

910

Wayne Kelly
<waynekins@hotmail.com>
12/11/2009 12:01 AM
Please respond to
waynekins@hotmail.com

To orvegtreatments@blm.gov
cc
bcc
Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Wayne Kelly

,

911

James Freeberg
<jfreeberg0@aol.com>
12/11/2009 12:37 AM
Please respond to
jfreeberg0@aol.com

To orvegtreatments@blm.gov
cc
bcc
Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

James Freeberg

,

(912)

Fred Lifton
<fredlf@earthlink.net>

12/11/2009 09:35 AM

Please respond to
fredlf@earthlink.net

To orvegtreatments@blm.gov

cc

bcc

Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Fred Lifton

(913)

Keira Harrison
<keiralani@yahoo.com>
12/11/2009 09:51 AM
Please respond to
keiralani@yahoo.com

To orvegtreatments@blm.gov
cc
bcc
Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Keira Harrison

97520
,

(914)

Janet Glassberg
<allwazebutoh@yahoo.com>
12/11/2009 02:12 PM
Please respond to
allwazebutoh@yahoo.com

To orvegtreatments@blm.gov
cc
bcc
Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Janet Glassberg

,

915

Judy Newton
<niamagic@mind.net>
12/13/2009 09:14 PM
Please respond to niamagic@mind.net

To orvegtreatments@blm.gov
cc
bcc
Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Judith Newton

Judy Newton

(916)

SILVIES
VALLEY
RANCH
ESTABLISHED 1883

RECEIVED
DEC 14 2009

November 3, 2009

U.S. Department of the Interior
Bureau of Land Management
Vegetation Treatment EIS
P.O. Box 2965
Portland, OR 97208

Re: Support of Alternative 4 – Treatment of Noxious Weeds in Eastern Oregon

To whom it may concern:

This letter is being written **in support** of Alternative 4 of the Vegetation Treatments Draft EIS that would make available 12 herbicides west of the Cascades and 16 herbicides east of the Cascades to help control noxious weeks on BLM lands in Oregon.

As one of the owners of Silvies Valley Ranch, located in the Silvies Valley in Eastern Oregon, we lease several thousands of acres of BLM range land that surround our ranch-owned property and have seen firsthand the incursion of noxious weeds that have overtaken native plants and increased the risk of wildfire. We hope that in Oregon the BLM will revise its practice to include all of the herbicides currently utilized by the rest of the Bureau in other western states.

Regards,

Robb Foster
Vice President – Land, Facilities & Equipment

/kcp

cc: Kenny McDaniel, District Manager
BLM – Burns District Office
28910 Hwy 20 West
Hines, OR 97738

12000 Hwy 395 N
Burns, OR 97720
541-602-2612

Caring for our environment, livestock and families.

917

Christopher W. Lee
P.O. Box 1065
Burns, OR 97720

RECEIVED
DEC 14 2009

November 3, 2009

U.S. Department of the Interior
Bureau of Land Management
Vegetation Treatment EIS
P.O. Box 2965
Portland, OR 97208

Re: Support of Alternative 4 – Treatment of Noxious Weeds in Eastern Oregon

To whom it may concern:

This letter is being written **in support** of Alternative 4 of the Vegetation Treatments Draft EIS that would make available 12 herbicides west of the Cascades and 16 herbicides east of the Cascades to help control noxious weeks on BLM lands in Oregon.

Living and working in Eastern Oregon, as well as being an avid hunter and outdoorsman, I am happy to hear that the BLM is proposing proactive measures to control the spread of noxious weeds on BLM lands in Oregon. I have seen firsthand the incursion of noxious weeds that have overtaken native plants and increased the risk of wildfire. We hope that in Oregon the BLM will revise its practice to include all of the herbicides currently utilized by the rest of the Bureau in other western states.

Regards,

Chris Lee

Chris Lee

/kcp

cc: Kenny McDaniel, District Manager
BLM – Burns District Office
28910 Hwy 20 West
Hines, OR 97738

918

David A. Bossuot
P.O. Box 593
Burns, OR 97720

RECEIVED
DEC 14 2009

November 3, 2009

U.S. Department of the Interior
Bureau of Land Management
Vegetation Treatment EIS
P.O. Box 2965
Portland, OR 97208

Re: Support of Alternative 4 – Treatment of Noxious Weeds in Eastern Oregon

To whom it may concern:

This letter is being written **in support** of Alternative 4 of the Vegetation Treatments Draft EIS that would make available 12 herbicides west of the Cascades and 16 herbicides east of the Cascades to help control noxious weeks on BLM lands in Oregon.

Living and working in Eastern Oregon, as well as being an avid hunter and outdoorsman, I am happy to hear that the BLM is proposing proactive measures to control the spread of noxious weeds on BLM lands in Oregon. I have seen firsthand the incursion of noxious weeds that have overtaken native plants and increased the risk of wildfire. We hope that in Oregon the BLM will revise its practice to include all of the herbicides currently utilized by the rest of the Bureau in other western states.

Regards,

David Bossuot

Dave Bossuot

/kcp

cc: Kenny McDaniel, District Manager
BLM – Burns District Office
28910 Hwy 20 West
Hines, OR 97738

919

Matthew A. Richardson
71195 S. Foley Drive
Burns, OR 97720

RECEIVED
DEC 14 2009

November 3, 2009

U.S. Department of the Interior
Bureau of Land Management
Vegetation Treatment EIS
P.O. Box 2965
Portland, OR 97208

Re: Support of Alternative 4 – Treatment of Noxious Weeds in Eastern Oregon

To whom it may concern:

This letter is being written **in support** of Alternative 4 of the Vegetation Treatments Draft EIS that would make available 12 herbicides west of the Cascades and 16 herbicides east of the Cascades to help control noxious weeks on BLM lands in Oregon.

Living and working in Eastern Oregon, as well as being an avid hunter and outdoorsman, I am happy to hear that the BLM is proposing proactive measures to control the spread of noxious weeds on BLM lands in Oregon. I have seen firsthand the incursion of noxious weeds that have overtaken native plants and increased the risk of wildfire. We hope that in Oregon the BLM will revise its practice to include all of the herbicides currently utilized by the rest of the Bureau in other western states.

Regards,

Matt Richardson

Matt Richardson

/kcp

cc: Kenny McDaniel, District Manager
BLM – Burns District Office
28910 Hwy 20 West
Hines, OR 97738

(20)

Stephen J. Foster
P.O. Box 842
Hines, OR 97738

RECEIVED
DEC 14 2009

November 3, 2009

U.S. Department of the Interior
Bureau of Land Management
Vegetation Treatment EIS
P.O. Box 2965
Portland, OR 97208

Re: Support of Alternative 4 – Treatment of Noxious Weeds in Eastern Oregon

To whom it may concern:

This letter is being written **in support** of Alternative 4 of the Vegetation Treatments Draft EIS that would make available 12 herbicides west of the Cascades and 16 herbicides east of the Cascades to help control noxious weeks on BLM lands in Oregon.

Living and working in Eastern Oregon, as well as being an avid hunter and outdoorsman, I am happy to hear that the BLM is proposing proactive measures to control the spread of noxious weeds on BLM lands in Oregon. I have seen firsthand the incursion of noxious weeds that have overtaken native plants and increased the risk of wildfire. We hope that in Oregon the BLM will revise its practice to include all of the herbicides currently utilized by the rest of the Bureau in other western states.

Regards,

Steve Foster

Steve Foster

/kcp

cc: Kenny McDaniel, District Manager
BLM – Burns District Office
28910 Hwy 20 West
Hines, OR 97738

921

Roderick K. Baca
626 N. Buena Vista
Burns, OR 97720

RECEIVED
DEC 14 2009

November 3, 2009

U.S. Department of the Interior
Bureau of Land Management
Vegetation Treatment EIS
P.O. Box 2965
Portland, OR 97208

Re: Support of Alternative 4 – Treatment of Noxious Weeds in Eastern Oregon

To whom it may concern:

This letter is being written **in support** of Alternative 4 of the Vegetation Treatments Draft EIS that would make available 12 herbicides west of the Cascades and 16 herbicides east of the Cascades to help control noxious weeks on BLM lands in Oregon.

Living and working in Eastern Oregon, as well as being an avid hunter and outdoorsman, I am happy to hear that the BLM is proposing proactive measures to control the spread of noxious weeds on BLM lands in Oregon. I have seen firsthand the incursion of noxious weeds that have overtaken native plants and increased the risk of wildfire. We hope that in Oregon the BLM will revise its practice to include all of the herbicides currently utilized by the rest of the Bureau in other western states.

Regards,

Rodk Baca

Ken Baca

/kcp

cc: Kenny McDaniel, District Manager
BLM – Burns District Office
28910 Hwy 20 West
Hines, OR 97738

922

David Spiciarich <david_spinach@yahoo.com>

12/27/2009 11:19 PM

Please respond to david_spinach@yahoo.com

To orvegtreatments@blm.gov

cc

bcc

Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

David Spiciarich

,

923

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

ROBERT COCHRAN
587 N LAUREL ST APT B
ASHLAND OR 97520

924

RECEIVED
DEC 17 2003

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Yvonne Fried

Yvonne Fried
1320 Prospect St.
Ashland, OR. 97520

925

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely, Barbara Orsow

Mr. Ken Orsow
810 Leonard St
Ashland OR 97520-3353

926

RECEIVED
DEC 17 2009

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Georgia Peters
134 High St
Ashland, OR 97520

927

RECEIVED
DEC 17 2009

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Stacy Page
840 Cambridge, Ashland

928

RECEIVED

DEC 17 2009

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Georgia Kollanda
566 Helman St.
Ashland, Or. 97520

929

RECEIVED
DEC 17 2009

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Reider Peterson

Reider Peterson

930

RECEIVED
DEC 17 2008

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Al + Shawna Hanan
140 Nursery St.
Ashland, Oregon
97520

931

RECEIVED
DEC 17 2009

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Giuliana Haim

Sincerely,

Giuliana Haim

85 Nursery St.
Ashland, OR 97520

932

RECEIVED

DEC 17 2009

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Janice Goldstein
J Goldstein
258 Greenbriar Pl.
Ashland, OR. 95720

933

RECEIVED

DEC 17 2008

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely, [signature]

595 Monroe Street
Ashland, OR 97520

934

RECEIVED
DEC 17 2008

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Aisha Wand

Aisha Wand
811 Twin Pines Cir
Ashland, OR
97520

935

RECEIVED

DEC 17 2005

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Nancy Anderson

Nancy and Bert Anderson
612 Chestnut Street
Ashland, OR 97520

936

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Willard Wash
670 Chestnut St.
Ashland OR 97520

(937)

D. Champion
5 Cambridge
Ashland, OR
97520

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

RECEIVED DEC 17 2005

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Susan Champion

938

RECEIVED DEC 17 2009

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

RE: Herbicide Spraying on Public Lands

Dear BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program, and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM's proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM's commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM's proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Eileen M. Micke-Johnson
254 Cambridge St.
Ashland, OR 97520

727

Jim Oxyer
<kylthrfaerie@insightbb.com>
12/18/2009 04:14 AM
Please respond to
kylthrfaerie@insightbb.com

To orvegtreatments@blm.gov
cc
bcc
Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Jim Oxyer

1210 S Brook St Unit 1
,

(940)

kathy seabrook
<ladylane99@hotmail.com>

12/17/2009 09:07 PM

Please respond to
ladylane99@hotmail.com

To orvegtreatments@blm.gov

cc

bcc

Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

kathy seabrook

,

(941)

judy wolfe
<jmsvenska@earthlink.net>
12/17/2009 07:28 PM
Please respond to jmsvenska@earthlink.net

To orvegtreatments@blm.gov
cc
bcc
Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

judy wolfe

,

942

Grant Low
<melvingladys@yahoo.com>

12/17/2009 04:21 PM

Please respond to
melvingladys@yahoo.com

To orvegtreatments@blm.gov

cc

bcc

Subject Please Do Not Expose Me to Toxic Herbicides

Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208

orvegtreatments@blm.gov
ed_shepard@blm.gov

Dear Mr Shepard and the BLM,

I greatly value the public lands and watersheds managed by the BLM in Oregon. I am extremely concerned that the BLM is proposing to dramatically expand its herbicide spraying program and as a result place human health, fish, wildlife, non-target plants and water quality at risk.

While there is widespread agreement over the need to slow the spread of invasive weeds on public lands, I oppose the BLM?s proposal to expand its herbicide program to include the spraying of native vegetation along roads and recreation sites. I do not want myself or my family exposed to herbicides when we visit public lands. There is no compelling need to spray native vegetation with herbicides.

I am shocked that the BLM is proposing to spray the compound 2,4-D on public lands. 2,4-D is extremely toxic and exposure to it may result in serious human health effects. The inclusion of this herbicide in your plans makes me doubt the BLM?s commitment to human health.

Please consider alternatives to blanket herbicide spraying. Many Oregonians would like to work with the BLM to manually remove invasive weeds and to leverage funding for low-impact eradication efforts.

I am concerned that the BLM?s proposed approach will place human health and watershed values at risk through overzealous herbicide spraying.

Please develop and implement a more balanced and thoughtful approach to noxious weeds that addresses the root causes of the problem such as inappropriate grazing, road construction and logging activities that spread invasive plants.

Sincerely,

Grant Low

,

(943)

30306 Fox Hollow Road
Eugene, OR, 97405
December 18, 2009

Vegetation Treatment EIS Team
PO Box 2965
Portland, OR 97208

Dear Sirs,

I am writing to express my firm conviction that the only correct and environmentally sound alternative in your Vegetation Treatment EIS is the NO Action Alternative.

The BLM's proposed use of herbicide sprays in the control of invasive weed species is both environmentally dangerous and probably the least effective means of controlling invasives and 'weed' species. Admittedly, invasive weeds are a very serious threat to our public lands, but herbicides should not be the primary method of control. Researchers are now finding that herbicides, even the older, "safer" chemicals like atrazine and Roundup, have adverse, or deadly, effects on wildlife, especially invertebrate species and cold blooded vertebrates. In addition, the use of herbicides will harm native species struggling to compete with the invasive plants. Therefore, herbicides should not be the preferred control method for an agency charged with the protection of the public lands and their species. Manual control is effective on many invasives like Scotch broom. The use of burning, as in fuel reduction projects and other heat related techniques for killing plants are effective. Controlled, intensive grazing by sheep or goats is very effective in combating certain weeds, and gives a boost to local economies. It is very important to consider the causes for the spread of invasive species and to try to control them. Loggers and other vehicle users spread weed seeds on their tires. The closure of roads, the restriction of recreational ORV use, and a strong public education program to inform users of BLM land on the ways they can help to reduce the spread of alien invasive species would do a lot to reduce the future spread of unwanted weeds.

We hear often that chemicals are the only choice because they are the most cost-effective. With the increase in the price of fuel and petrochemical products this may not be the case very much longer. Even more importantly, as I see it, the herbicides are not always as effective as other approaches to the problem. Timber companies in my neighborhood spray repeatedly, three or four times in establishing a new crop of trees. Their lands here Western Oregon, in spite of the sprays, are a sea of broom, thistle, and blackberry. If herbicides don't even work very well, in spite of repeated applications, against these common invasive species, how can they hope to deal with leafy spurge? The BLM needs to establish a firm policy of control which decreases, instead of increases, the use of herbicides. The BLM should rely on conventional and innovative non chemical approaches to clearing our public lands of unwanted and harmful species.

The public lands by definition belong to all Americans. These lands are not just for the production of timber and beef. They are for recreation, fishing, hiking, hunting. The very minimal use of herbicides on public lands over the last three decades has meant that the BLM forests have been a refugia for native species. In many cases, the extreme use of chemicals on the privately owned timberlands have turned these forest plantations into ecological deserts . For the sake of clean water, healthy fisheries and untold numbers of species of plants and animals the BLM must not pursue this retrograde proposal to follow the path of chemical dependence.

Very truly yours,

Reida Kimmel

Reida Kimmel
30306 Fox Hollow Rd.
Eugene, OR. 97405

Oregon
Theodore R. Kulongoski, Governor

Department of Agriculture
OFFICE OF THE DIRECTOR
635 Capitol Street NE
Salem, OR 97301-2532
(503) 986-4552
FAX: (503) 986-4750

944

December 1, 2009

Todd Thompson
Restoration Coordinator
BLM Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208-2965

Dear Mr. Thompson:

The State of Oregon appreciates the opportunity to provide comments on the Bureau of Land Management's (BLM) Draft Environmental Impact Statement (DEIS) for Vegetation Treatments Using Herbicides on BLM Lands in Oregon. The State of Oregon believes it is essential to protect the state's natural resources and agricultural economy from invasive plants, noxious weeds and unwanted vegetation. We believe in an integrated approach utilizing all tools available for control projects. It is critical that BLM consider site-specific criteria in developing decisions for the use of the most effective tools while preventing negative effects on the environment. The following are specific comments from three state natural resource agencies that include: Oregon Department of Agriculture, Noxious Weed Control Program (ODA), Oregon Department of Forestry (ODF), and Oregon Department of Environmental Quality (DEQ).

Oregon Department of Agriculture

Noxious weeds are causing significant environmental impacts and costs Oregon millions annually in economic losses. As a large landholder, the BLM plays a critical role and is an essential partner in addressing Oregon's invasive noxious weed problems. The ODA supports an integrated approach to noxious weed management and advocates the use of all safe and effective methods to control invasive noxious weeds.

The Draft Environmental Impact Statement for Vegetation Treatments Using Herbicides on BLM Lands in Oregon (DEIS) addresses the need to update and provide the Oregon BLM Districts with many of the tools they need to address the challenges of protecting and restoring the range and forest lands administered by BLM. Because most non-herbicide methods are available to the BLM, the DEIS focuses primarily on what herbicides and application methods will be permitted on Bureau lands. The following comments also focus on this issue. ODA strongly supports BLM's Preferred Alternative 4 that expands the choice of herbicides from four to 16 and allows for the treatment of noxious weeds, invasive plants and the use of herbicides to treat rights of way, administrative and other select sites.

It is essential to allow the use of new advanced herbicide chemistry to effectively address the current and future invasive noxious weed control needs. The 1984 herbicide injunction and the existing four herbicides available to BLM in Oregon have limited the Bureau's ability to adapt to new weed invasions and effectively treat and control many of the current noxious weeds impacting BLM lands. This has contributed to the expansion and spread of noxious weed populations both on and off of BLM managed lands. Adopting Alternative 4 will provide the most critical herbicide tools needed to address this issue. The herbicides proposed in Alternative 4 are more effective, target specific and environmentally friendly. The BLM is facing many challenges and in order to implement an effective weed control program it is critical to have available a full complement of integrated management tools. This choice helps to fulfill the mission of the Oregon Noxious Weed Strategic Plan, National and BLM policy directives for the control of invasive plants, and many Oregon County and local noxious weed projects.

Thank you for the opportunity to comment and support the DEIS. If you have any questions or if we can be of assistance, please contact Tim Butler, Manager, ODA Noxious Weed Control Program, 503 986-4621.

Oregon Department of Forestry

The Oregon Department of Forestry (ODF) appreciates the opportunity to comment on the BLM Draft Environmental Impact Statement for Vegetation Treatments Using Herbicides on BLM Lands in Oregon. This alternative is a positive step to expand the toolkit available to the BLM in dealing with key issues such as control of noxious and invasive species and wildlife habitat improvement.

ODF agrees with the BLM's Preferred Alternative 4. This recommendation is supported by policies identified by the Oregon Board of Forestry in the 2003 Forestry Program for Oregon, which documents the board's strategic plan for all Oregon's forests. One of that program's major strategies is to "protect, maintain, and enhance the health of Oregon's forest ecosystems, watersheds, and airsheds within a context of natural disturbance and active management." The strategy applies to public and private forestlands. Specific actions to accomplish the strategy include the following:

1) Promote active vegetation and fuels management to support forest health;
2) Promote forest landscape conditions that are resilient to natural disturbances, reducing adverse environmental impacts and losses of forest resources to damaging agents in a cost effective, environmentally and socially acceptable manner;
3) Encourage state and federal agencies to closely monitor and aggressively act to prevent and mitigate the adverse effects of air pollution and invasive, non-native species on Oregon's forests.

The Board of Forestry has also adopted "best management practices" (BMPs) for forest pesticide use (Oregon Administrative Rules Chapter 620). These rules recognize that pesticide use is a key element in an integrated pest management program, to be used in an environmentally and economically sound manner to meet site-specific objectives. ODF's monitoring data on forestland indicate that if BMPs are followed, pesticides are not injurious to water quality or aquatic organisms. The BLM is further encouraged to engage with and share any water quality effectiveness monitoring data collected in support of this EIS with the Water Quality Management Plan Team (WQMPT). Initiated and led by ODA, the inter-agency WQMPT acts to review and respond to pesticide detections in Oregon's ground and surface water as described in the Pesticide Management Plan for Water Quality Protection (see http://www.oregon.gov/ODA/PEST/water_quality.shtml). As a Team member, ODF is keenly interested in expanding the knowledge base regarding pesticides use and water quality on forestlands.

While the selection of Alternative 4 is a good step in expanding the BLMs means of responding to invasive species, it is unclear if the scope includes the ability to preventatively remove host species of the invasive pathogen Sudden Oak Death (SOD or *phythophthora ramorum*) outside of infested sites. The BLM has been a critical partner with ODF, ODA, the USDA Forest Service, and private forest landowners in the effort to eradicate SOD from the forests of southwest Oregon. While eradication efforts have been effective in slowing the spread of this aggressive pathogen through treatment of infested sites, the ability to strategically remove host species outside of infested sites to halt advancement of the disease would greatly benefit the eradication program.

If you have any questions on our comments or if we can be of assistance, please contact Marganne Allen, ODF, 503 945-7240.

Oregon Department of Environmental Quality

Oregon Department of Environmental Quality (ODEQ) appreciates the opportunity to provide comments on the BLM Draft Environmental Impact Statement (DEIS) for Vegetation Treatments Using Herbicides on BLM Lands in Oregon. The programmatic DEIS addresses the effects of BLM's proposal to increase the number of herbicides from the 4 currently authorized to a total of 18 herbicides and to expand the uses of those herbicides beyond the control of noxious weeds. These herbicides will be used in BLM's existing noxious weeds, invasive plant, and other non-commodity (timber and livestock) vegetation management programs.

ODEQ recognizes that noxious weeds and invasive plant species present significant risks to ecosystem health and effective control mechanisms are needed to restore BLM lands. Together, the DEIS, the referenced BLM national 2007 Programmatic Environmental Impact Statement (PEIS), BLM's Integrated Vegetation Management (IVM), and the Programmatic Environment Report (PER), which covers non-herbicide controls of invasive plant species, identify 5 alternatives to effectively manage unwanted vegetation on BLM land.

The DEIS identifies a range of alternatives from No Action (with no herbicide use) to adding up to 14 more herbicides to the 4 in current use. Specifically, the current use herbicides include 2, 4-D, Dicamba, Glyphosate, and Picloram. The proposed additional herbicides are Bromacil, Chlorsulfuron, Clopyralid, Diflufenzopyr + Dicamba, Diquat, Diuron, Fluridone, Hexazinone, Imazapic, Imazapyr, Metsulfuron methyl, Sulfometuron methyl, Tebuthiuron, and Triclopyr.

The DEIS proposed action, Alternative 4, would add 8 herbicides west of the Cascades and 12 herbicides east of the Cascades to the four already in use. No aerial application would be permitted west of the Cascades. BLM estimates that herbicide use would increase from 16,700 acres per year currently to 45,000 acres per year under the proposed action. Because newer, more target-specific herbicides would be used, the actual pounds of herbicide applied, however, would increase less than 50 percent. All but 3,000 acres of the increase would be east of the Cascades.

ODEQ also understands that the DEIS does not analyze any specific treatments nor will the decision authorize specific projects. Specific projects will need to go through site-specific analysis and decision record under the National Environmental Policy Act (NEPA).

ODEQ asks that no matter which alternative is adopted, the comments below be taken into consideration for the protection of all beneficial uses of Oregon's waters, including drinking water:

Comments/Recommendations

ODEQ recommends that BLM use the non-herbicide treatments identified in the Programmatic Environment Report and the Integrated Vegetation Management practices, before using herbicides.

ODEQ realizes that herbicides will be needed in certain situations to control invasive species. BLM should use the practices identified in standard operating procedures (SOPs) for herbicide use and the DEIS mitigation measures to avoid both environmental and human impacts. These SOPs should be used in the design and implementation of site-specific plans, NEPA documents, and decision records.

On lands where herbicide use is authorized under the DEIS, the site-specific plan needs to clearly describe the decision-making process and risk considerations for selecting between herbicide and non-herbicide approaches. Expanding risk management decision-making process to carefully evaluate the least harmful control method for local conditions will help ensure that herbicides are used only in specific conditions where other methods are not feasible.
ODEQ strongly supports BLM's proposed action that no aerial application is permitted west of the Cascades.

In addition, the SOPs requirement for a minimum 10-foot stream buffer for hand treatments of upland labeled herbicides near a stream; 25-foot buffer for broadcast spray from a truck; and a 100-foot buffer for aerial applications should be revised to meet a 2002 federal court order that "buffer zones" be placed around salmon bearing streams for the application of certain pesticides. Generally, the buffers established by the Court are 20 yards for ground application and 100 yards for aerial application, adjacent to certain "salmon-supporting waters" in Oregon for any product containing one or more of the pesticides subject to the court order. ODEQ asks that BLM follow the court ordered buffers during the potential application of these pesticides, which includes some of the 18 herbicides. More information and maps of the affected areas can be found at http://www.epa.gov/espp/litstatus/wtc/maps.htm

While ODEQ currently does not have any requirements for the use of the herbicides listed, other than to follow label directions, there are few of the proposed 18 herbicides that are of concern.

ODEQ's draft cross-media toxics reduction strategy is an integrated approach to address toxic pollutants in the environment. A draft DEQ Priority Toxics Focus List (7/27/09) (available at http://www.deq.state.or.us/toxics/docs/DraftToxicsFocusList.pdf) identifies 2 of BLM's current use herbicides (2, 4-D and Glyphosate), and 1 proposed herbicide (Diuron) as toxics warranting analysis for reduction. The final draft Strategy will be presented to the Environmental Quality Commission for approval. Currently, the goal is to complete the draft Strategy by March 2010.

The Environmental Protection Agency (EPA) has developed a list of pesticides designated as Pesticides of Interest (POI)1 for water quality protection.

Oregon's Inter-Agency Pesticide Management Team has begun evaluating the EPA POIs, as well other state-designated POIs, to determine which ones warrant management strategies to protect water quality in Oregon. Pesticides requiring further management are designated as Pesticides of Concern (POC)2. Thirteen (13) of the 16 herbicides listed in proposed action, Alternative 4, are considered POIs or POCs by the State Pesticide Management Team. The 13 POIs or POCs are 2, 4-D, Dicamba, Glyphosate, Picloram, Clopyralid, Diuron, Hexazinone, Imazapyr, Metsulfuron methyl, Sulfometuron methyl, Tebuthiuron and Triclopyr. While none of these herbicides are currently considered POCs in Oregon, BLM should consider this information and various water protection methods when developing and implementing site-specific analysis and decision record under the National Environmental Policy Act (NEPA).

---

[1] POI is defined as a pesticide that has the potential to occur at concentrations approaching or exceeding a Federal, State, or Tribal human health or environmental reference point.

[2] POC is defined as a pesticide that poses a possible risk to human or ecological life when approaching or exceeding a human health or environmental reference based on water monitoring data.

The 2007 Oregon Legislature passed Senate Bill 737, which requires ODEQ to develop a list of priority persistent bioaccumulative toxics (Priority Persistent Pollutant (P_) List) that have a documented effect on human health, wildlife, and aquatic life. ODEQ's Final P_ List identifies 118 toxic pollutants, divided into two categories available at
http://www.deq.state.or.us/wq/SB737/index.htm. None of the 18 proposed herbicides are on this list because they do not meet specific toxicity, persistence, and/or bioaccumulation criteria for inclusion.

There is no National Pollutant Discharge Elimination System (NPDES) permit required by ODEQ for herbicide use at this time; however, a general NPDES permit for pesticide applications will be required in the future. On November 27, 2006, EPA published a Final Rule on Aquatic Pesticides. EPA determined that the application of a pesticide, into, over, or near to waters of the U.S., consistent with all relevant requirements of FIFRA, does not constitute the discharge of a pollutant that requires a NPDES permit under the Clean Water Act. A challenge to the rule resulted in the 6th Circuit Court decision disagreeing with EPA's determination, but the court did give EPA time to come up with a NPDES general permit. Therefore, until April 9, 2011 when the regulated community is expected to be covered under the permit, the final rule is still in effect. ODEQ will use EPA's general NPDES permit as the basis for their permit. The NPDES general permit will include conditions that must be followed by the applicant.

Many of the pesticides on the proposed list have been detected in surface or groundwater in the USGS National Ambient Water Quality Assessment (NAWQA) studies.
These include 2,4D, Atrazine, Bromacil, Dicamba, Diuron, Glyphosate, and Triclopyr (http://pubs.usgs.gov/circ/circ1161/nawqa91.d.html). These data suggest that standard application practices may result in measurable concentrations of these compounds in surface waters near application areas, sometimes above water quality standards. These results emphasize the need to limit use of chemical herbicide controls whenever feasible. Occurrence in Oregon of other BLM proposed herbicides, including Chlorsulfuron, Clopyralid, Hexazinone, Imazapyr, Picloram, and Tebuthiuron, are unknown due to lack of water quality data.

Oregon Toxics Monitoring Program Willamette River Basin Year One (2008) Summary Report DRAFT, September 29, 2009 (http://www.deq.state.or.us/about/eqc/agendas/attachments/2009oct/E-AttA-ToxicsMonitoring.pdf). DEQ in 2008 initiated a long-term program to monitor surface waters for toxic pollutants. Monitoring objectives were to collect data on pollutants known to present a substantial threat to human health or aquatic life and to gather information about the occurrence of chemicals of emerging concern in the Willamette River Basin. Water samples and fish were collected from mainstem and tributary locations throughout the basin and analyzed for a wide range of organic pollutants and metals. Most of the pesticides of interest and concern identified by the pesticide management team were included on the Toxics Monitoring Program's 2008 list of target pollutants. The currently used herbicides were the class of pesticides most commonly found in water samples and include Diuron and Atrazine (which were found in samples collected at locations throughout the basin). No pesticides were detected in concentrations that exceeded federal or Oregon water quality criteria although few criteria exist for current-use pesticides. Of the pesticides detected, Diuron is the only one included on BLM's current and proposed list of herbicides. Note: DEQ did not evaluate water samples for the most heavily applied herbicide, Glyphosate (635,000 lbs), because of analytical limitations. In addition, DEQ did not sample fish tissue for any of the BLM's proposed or currently used herbicides.

Despite a considerable body of data on acute exposure effects from the proposed list of herbicides, it is important to recognize that the chronic and sublethal risks are not yet well characterized. The historical record of pesticide toxicology reveals many cases of serious and unexpected adverse effects associated with pesticides that were not predictable from standard acute toxicity tests. Because of these unknown risks, we encourage use of non-chemical alternatives with known risks wherever feasible.

BLM should coordinate with ODEQ in sending data electronically for potential entry into our Laboratory Analytical Storage and Retrieval Database (LASAR). In addition, ODEQ would like copies of any monitoring reports of herbicide effectiveness and impacts on water quality and ecological conditions.

We recommend that BLM establish direct communication with the Public Water System operator or community liaison downstream of the BLM management areas. There are no requirements to develop or implement "drinking water protection plans" in Oregon, but the communities that elect to move forward voluntarily will request that BLM be involved in the planning and protection of that source area.

To prevent or minimize the impacts of herbicides and suspended sediments to public water supplies in Oregon, DEQ and DHS can provide technical assistance and consult with the BLM during the local planning phase of implementation of vegetative treatments. Generally, ODEQ recommends 100 or 200 feet buffers within 500 to 1,000 feet of a PWS intake. State agencies can provide site-specific best management practices that can be effective in protecting the drinking water for public intakes and wells. As with all of our state and federal partners, we request that BLM's management alternatives in the municipal watersheds/aquifers should be selected to support the overall goal of providing the highest quality water possible to downstream intakes and wells.

If you have any questions or comments about the DEQ section, please contact Don Yon, Nonpoint Source Coordinator, and DEQ, 503-229-6850.

On behalf of the State of Oregon and the above agencies, we thank you for the opportunity to provide comments on the Draft Environmental Impact Statement for Vegetation Treatments Using Herbicides on BLM Lands in Oregon. If you have specific questions concerning comments from an agency, please contact them directly.

Sincerely,

Katy Coba

Katy Coba
Director

cc: Marvin Brown, Oregon Department of Forestry
Dick Pedersen, Oregon Department of Environmental Quality