

Blue Mountains Biodiversity Project (BMBP) Action Alert

Oregon BLM Herbicide Use Plan

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 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 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 labels 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 prerogative 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, 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 Mountain 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/vegreatmentseis/>. 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, POB 2965, Portland, OR 97208-2965, or email (but confirm receipt) to: orvegtratments@blm.gov