945

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

12/21/09

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.

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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,

D. A. Beauchamp
580 Morton St.
Ashland, OR 97520

RECEIVED
DEC 28 2009

946

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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RECEIVED
DEC 2 8 2009

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Sincerely,

David Hess
120 Wightman St. #3
Ashland, OR 97520

947

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely,

Dana Donaldson
1010 NW Roanoke Ave #6
Bend OR 97701

RECEIVED
OCT 28 2008

948

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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Jenni Hess
120 Wightman #3
Ashland, OR 97520

RECEIVED
DEC 28 2009

949

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orvegtreatments@blm.gov
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Sincerely, Diane Amarotico DIANE AMAROTICO

205 Alta Ave
Ashland OR 97520

RECEIVED
OCT 28 2009

(950)

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely,

Keith Quick
1010 NW Roanoke #6
Bend, OR 97701

RECEIVED
DEC 28 2006

951

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PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely,

Karen Sue Bower
812 Beach Street
Ashland, Oregon 97520

RECEIVED
OCT. 28 2008

952

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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RECEIVED
NOV 28 2008

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Sincerely, Steve Janusse-Siegel
320 Oak St. Ashland, OR
97520

953

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely,

Kathryn M. Cleland-Sipfle

Ms. Kate Cleland Sipfle
811 Palmer Rd.
Ashland, OR 97520-3356

RECEIVED
DEC 29 2009
BLM

954

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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RECEIVED
SEP 28 2010

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Sincerely,

Jonathan Geoly

3200 Oak St. Ashland OR 97520

955

Vegetation Treatments EIS Team
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orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely,

Scott Englisk
324 Telfair St
Ashland OR 97520

956

RECEIVED DEC 28 2005

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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575 Auburn St
Ashland, OR 97520

957

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RECEIVED
OCT 29 2008

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MARK ADAMS
327 Cambridge
Ashland, OR 97520

958

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orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely,

Winn Frankland
WINN FRANKLAND
127 HIGH ST.
ASHLAND, OR. 97520

RECEIVED
OCT. 29 2008

959

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PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely, Wendy Kranz

Keith D & Wendy K Kranz
789 Leonard St
Ashland, OR 97520-3332

RECEIVED
JAN 28 2008

960

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely,

Kathleen Meagher
561 C St.
Ashland, OR 97520

RECEIVED
JUL 29 2008

961

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Sincerely,

Paul Stone
555 Prim ST.
Ashland OR 97520

RECEIVED
OCT 26 2009

962

RICHARD G. CHENOWETH
RANDYE D. JENSEN
2305-C ASHLAND ST, PMB 407
ASHLAND, OR 97520

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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DEC 28 2009

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Richard G. Chenoweth MD
12/19/2009

963

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ed_shepard@blm.gov

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Sincerely,

Stefan Amter
785 Twin Pines Circle
Ashland, OR

RECEIVED
APR 28 2009

RECEIVED
DEC 22 2009
Bureau of Land Management
Eugene District Office

(964)

RECEIVED state office
DEC 28 2009

30306 Fox Hollow Road
Eugene, OR, 97405
December, 18, 2009

Director, Bureau of Land Management
P. O. Box10226
Eugene, OR 97440

Dear Sir,

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
30306 Fox Hollow Rd.
Eugene, OR. 97405

Reida Kimmel

(A)(8) rec 12/28

HE THAT WOULD MAKE HIS OWN LIBERTY SECURE
MUST GUARD EVEN HIS ENEMY FROM OPPRESSION;
FOR IF HE VIOLATES THIS DUTY HE ESTABLISHES
A PRECEDENT THAT WILL REACH TO HIMSELF.

--Thomas Paine

cellphone 541 941 1541

Sat. 12-19-09
Ashland, Oregon

Dear Vegetation Treatment TEAM,

I wasn't able to respond when I first got the E.I.S. draft; but skimming as far as p 214 this week I REALLY HAVE TO TALK TO YOU, heart-to-heart, I mean: I've been reading RISK/BENEFIT volumes since 1982, starting with nuclear power plants, going on to conifer release and salvage sale "restoration".....

TODAY'S LETTER will be brief:

1. The public and public agencies should & must use every pressure (boycott moratorium) until "inert ingredients" are DISCLOSED/

[redacted]

release and salvage sale "restoration"...

TODAY'S LETTER will be brief:

1. The public and public agencies should & must use every pressure (boycott... moratorium) until "inert ingredients" are DISCLOSED / TESTED (properly) / with risk factors analyzed! BEFORE ANY MORE USAGE. What a charade (spelled right) to do all those chapters of numbers crunching without any reference to some of the most toxic ingredients ever invented!

2. In the past, risk/benefit analyses for DEISs have concentrated on cancer causing tests. What is becoming abundantly clear is that endocrine disrupters are a greater threat to human life by a factor of hundreds of times more sinister. NO MORE !!!

Kindler Stout 130 Orange Ashland 97520

(966)

"Sally ODonnell"
<sallyod9@att.net>
12/29/2009 07:54 PM

To <orvegtreatments@bim.gov>
cc
bcc
Subject herbicides on public land

I do not support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways

The DEIS should address the root causes of the spread of invasive plants. They should ***not*** justify a **massive** increase in herbicide use based on calculations of the spread of invasive plants that does not take into accounts efforts to slow the spread with preventative measures.

The BLM should limit herbicide use to invasive plants and should use spot treatments to limit impact to non-target organisms and waterways.

The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

Thank you,

Sally O'Donnell

(967)

David Stone <dns@efn.org>
12/29/2009 08:13 PM

To orvegtreatments@blm.gov
cc
bcc
Subject No on increasing herbicide use on BLM land

I do not support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways.

The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations of the spread of invasive plants that does not take into accounts efforts to slow the spread with preventative measures.

The BLM should limit herbicide use to invasive plants and should use spot treatments to limit impact to non-target organisms and waterways.

The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

Thank you.

David Stone
1085 W. 12th Ave.
Eugene, OR 97402

dns@efn.org

968

Margot Fetz
<margotf@mac.com>
12/29/2009 08:20 PM

To orvegtreatments@blm.gov
cc
bcc
Subject Pesticides

Please do not increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways.

The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations of the spread of invasive plants that does not take into accounts efforts to slow the spread with preventative measures.

The BLM should limit herbicide use to invasive plants and should use spot treatments to limit impact to non-target organisms and waterways.

The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

Thank you for your consideration. Sincerely, Margot Fetz, Eugene, Oregon.

969

Sandy Cabraser
<sandycab1@comcast.net>
12/29/2009 11:40 PM

To orvegtreatments@blm.gov
cc
bcc
Subject Re: Herbicides

To the BLM:

I do not support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways.

The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations of the spread of invasive plants that does not take into accounts efforts to slow the spread with preventative measures.

The BLM should limit herbicide use to invasive plants and should use spot treatments to limit impact to non-target organisms and waterways.

The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

Thank you.

Sandra Cabraser
Eugene, OR.

970

Miriam Champer
<mchamper@gmail.com>

12/30/2009 12:00 AM

To orvegtreatments@blm.gov
cc
bcc
Subject Herbicide

To whom it may concern,
I do not support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways.
The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations that do not take preventative measures into account.
The BLM should limit herbicide use to invasive plants only and should use spot treatments to limit impact to non-target organisms and waterways.
The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.
Sincerely,
Miriam S. Champer

(971)

Jackson Champer
<jtchamper@yahoo.com>
12/30/2009 12:06 AM

To orvegtreatments@blm.gov
cc
bcc
Subject BLM Proposal

I do not support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways.

The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations that do not take preventative measures into account.

The BLM should limit herbicide use to invasive plants only and should use spot treatments to limit impact to non-target organisms and waterways.

The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

Sincerely,
Jackson Champer

(972)

Julia Siporin
<jsiporin@mac.com>
12/30/2009 01:48 AM

To orvegtreatments@blm.gov
cc
bcc
Subject "NO" vote on BLM/Herbicide proposal

Greetings,
I do not support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways. The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations of the spread of invasive plants that does not take into accounts efforts to slow the spread with preventative measures.

The BLM should limit herbicide use to invasive plants and should use spot treatments to limit impact to non-target organisms and waterways.

The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

Thank you,
Julia Siporin

973

Cleotl <cleotl@aol.com>
12/30/2009 08:07 AM

To orvegtreatments@blm.gov
cc
bcc
Subject proposed herbicide use

Re: **proposal to increase the use of herbicides on public lands**

We do not support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways.

Rather than a blanket use of herbicides the public and our forests and the wildlife which inhabits them would be better served if the DEIS would choose to address the root causes of the spread of invasive plants. Justifying a massive increase in herbicide use based on calculations of the spread of invasive plants does not take into accounts efforts to slow the spread with preventative measures.

The BLM should limit herbicide use to invasive plants and should use spot treatments to limit impact to non-target organisms and waterways.

The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

Sincerely,

Dr and Mrs Jonathan S Levy

Eugene OR 97402

974

darryl wisner
<darrwiz@earthlink.net>

12/30/2009 10:42 AM

To orvegtreatments@blm.gov
cc
bcc
Subject herbicides on public lands

I do not support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways.

The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations of the spread of invasive plants that does not take into accounts efforts to slow the spread with preventative measures.

The BLM should limit herbicide use to invasive plants and should use spot treatments to limit impact to non-target organisms and waterways.

The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

Thank you.
Darryl Wisner

(975)

Christy and Ron
<christyandron@qwest.net>
12/30/2009 04:57 PM

To orvegtreatments@blm.gov
cc
bcc
Subject BLM herbicide proposal

To Whom It May Concern:

I do not support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways.

The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations of the spread of invasive plants that does not take into accounts efforts to slow the spread with preventative measures.

The BLM should limit herbicide use to invasive plants and should use spot treatments to limit impact to non-target organisms and waterways.

The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

Thank you.

Ron Renchler
54 Cedar Street
Eugene OR 97402

976

serfurth@comcast.net
12/30/2009 06:54 PM

To orvegtreatments@blm.gov
cc
bcc
Subject Increased herbicide use on public lands.

I do not support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways.

The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations of the spread of invasive plants that does not take into accounts efforts to slow the spread with preventative measures.

The BLM should limit herbicide use to invasive plants and should use spot treatments to limit impact to non-target organisms and waterways.

The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

Thank you,
Elizabeth Erfurth

977

Kat & Bill
<katandbill@yahoo.com>
12/31/2009 11:40 AM

To orvegtreatments@blm.gov
cc
bcc
Subject Herbicide Use on Public Lands

As a native Oregonian and outdoor enthusiast, I **do not** support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways.
The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations of the spread of invasive plants that does not take into accounts efforts to slow the spread with preventative measures. Want help with manual labor? Guaranteed you could get volunteers to help instead of using poisons.
The BLM should limit herbicide use to invasive plants and should use spot treatments to limit impact to non-target organisms and waterways.

The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.
On behalf of the birds and other creatures that have not yet learned to type, thank you for your time.
Kathleen Allison
125 Arbor Drive
Eugene OR 97404

(978)

Kim Leval
<kleval@pesticide.org>
12/31/2009 06:05 PM

To orvegtreatments@blm.gov
cc
bcc
Subject Comments on DEIS on Vegetation Treatments Using Herbicides on BLM Lands in Oregon

To: orvegtreatments@blm.gov

From: Kim Leval, Executive Director, Northwest Coalition for Alternatives to Pesticides (NCAP)

Subject: Comments on the Draft Environmental Impact Statement on Vegetation Treatments Using Herbicides on BLM Lands in Oregon

Date: January 4, 2010

Please find our comment letter attached. If you have difficulty opening this attachement please contact me. Thank you! Kim Leval

BLM_DEIScomments_NCAP_Dec09finalwsig.doc

Kim Leval, Executive Director
Northwest Coalition for Alternatives to Pesticides
PO Box 1393
Eugene, OR 97440
Phone (541) 344-5044 ext. 15
kleval@pesticide.org

NCAP's work is supported in large part by dues from our members. If you are not already a member, please consider joining! Our dues are $25 per year, $15 limited income. Members receive a quarterly publication, as well as periodic Action Alerts on timely pesticide reform topics. Use this link to join on-line http://www.pesticide.org/joinNCAP.html or give us a call.

Northwest Coalition for Alternatives to Pesticides

Protecting the health of people and the environment by advancing alternatives to pesticides

To: orvegtreatments@blm.gov

From: Kim Leval, Executive Director, Northwest Coalition for Alternatives to Pesticides (NCAP)

Subject: Comments on the Draft Environmental Impact Statement on Vegetation Treatments Using Herbicides on BLM Lands in Oregon

Date: January 4, 2010

We appreciate the opportunity to comment on the DEIS for Vegetation Treatments Using Herbicides on BLM Lands in Oregon. The Northwest Coalition for Alternatives to Pesticides is a non-profit 501 (c) 3 organization working in Oregon, Idaho, Washington, California, and Montana. We have over 2,000 paying members and over 30,000 people who have received information about alternatives and are in our database. Our mission is to protect the health of people and the environment by advancing alternatives to pesticides.

Our efforts to seek BLM's compliance with the National Environmental Policy Act resulted in the 1984 U.S. District Court injunction issued in Northwest Coalition for Alternatives to Pesticides, et al. v. Block, et al. (Civ. No. 82-6273-E) and which was modified by the court in 1987. The modified injunction permits the use of only four herbicides: 2,4-D, dicamba, glyphosate, and picloram. Furthermore, the use of these herbicides is limited to the control and eradication of noxious weeds.

While we understand your interest in limiting the adverse effects of noxious and invasive weeds we think the current DEIS fails to address the root causes that spread noxious and invasive weeds. These root causes include land management practices that disturb soil and native vegetation.

Preferably, we would like to see reduction in the use of these four herbicides. However, this DEIS proposes that additional herbicides be added for allowable use on BLM lands, not only to control noxious and invasive weeds, but also to control native vegetation in some cases such as preserving BLM infrastructure through invasive control around buildings, parks, and other structures.

The preferred, Alternative 4, includes the use of the following herbicides (E=East side only, all others would be statewide): 2,4-D, Bromacil, Chlorsulfuron (E), Clopyralid, Dicamba, Diuron, Fluridone, Glyphosate, Hexazinone, Imazapic, Imazapyr, Metsulfuron methyl, Picloram, Sulfometuron methyl (E), Tebuthiuron (E), and Triclopyr. It also includes no aerial spraying West of the Cascades.

P.O Box 1393
Eugene, OR 97440
(541) 344-5044
(541) 344-6923 Fax
info@pesticide.org
www.pesticide.org

Printed on 100% post-consumer recycled paper, processed chlorine-free

It is our expectation that BLM's vegetation management plan must be based on the following principles:

(1) Support continued strict controls on the use of herbicides on federal lands.

(2) Use herbicides only as a last resort when other options are not feasible. Furthermore, they should only be used within an integrated program that emphasizes prevention, early detection and control.

(3) Use herbicides in a very limited and targeted way when non-herbicidal options are not feasible, BLM should not use any broadcast applications but instead spot applications. Furthermore, sensitive sites including endangered species habitat and waterways should be avoided.

(4) Avoid activities that spread weeds. Activities that increase soil disturbance and decrease cover of native vegetation are the biggest problems, including: roads, logging, grazing, OHVs, fire suppression, altered fire regimes, and mining.

(5) Fully disclose weed spreading consequences of land management activities such as logging, roads, fuel treatments, roads, grazing, OHVs, mining, fire suppression, and altered fire regimes. Furthermore, BLM should explore limiting these activities as a way to avoid the spread of weeds.

(6) Consider alternatives to herbicides at all stages of decision-making: program, plan, and project.

(7) Evaluate the risks of all herbicides ingredients, including all "inert" ingredients. Furthermore, these ingredients should be disclosed to the public.

These principles do not seem to be well represented in the DEIS.

From our perspective there are many problems with the proposed expansion in herbicide use that Alternatives 3, 4 and 5 propose.

BLM's final EIS must evaluate the impact of eliminating root causes of weed infestation in order to prevent new infestations.

We urge the BLM to do even more to prevent the spread of noxious and invasive species. As we presented in our scoping comments (Norma Grier, July 25, 2008), "[P]revention must be the priority for the environmental analysis for vegetation treatments. The BLM must consider prohibiting disturbance that exacerbates invasive species and preventing introductions of undesired plants on vehicles, boats, animals, or other methods. The BLM needs to consider whether noxious and invasive species can be better controlled by increasing the use of herbicides, or decreasing these root causes.

Prevention must not be confused with early treatment of unwanted species. Prevention addresses the conditions that encourage the introduction and establishment of target plants." An example of this is the management of understories where all brush is cleared and burned creating space for noxious and invasive species to take over. Management practices that encourage noxious and invasive species to flourish must be changed.

Consider the recent study by Dodson & Fiedler (2006) showing that fuel reduction efforts are of particular concern for the spread of weeds because of the large scale of planned treatments and the combined effect of canopy reduction and soil disturbance. Comparing the invasive weed effects of untreated control, thin-only, burn-only and thin-burn treatments, they found that the treatments that were both thinned and burned consistently had the greatest abundance of both exotic and undesirable species, and this pattern was consistent across all scales of analysis. In fact, the thin+burn treatments had almost an order of magnitude higher cover of undesirable and exotic species than any of the other treatments. The thin-only treatment had the second highest levels of exotic abundance. ERICH K. DODSON and CARL E. FIEDLER. 2006. Impacts of restoration treatments on alien plant invasion in Pinus ponderosa forests, Montana, USA. Journal of Applied Ecology (2006) 43, 887–897. http://www.blackwell-synergy.com/doi/abs/10.1111/j.1365-2664.2006.01206.x

See also, Dodson, Erich. Monitoring change in exotic plant abundance after fuel reduction/restoration treatments in ponderosa pine forests of Western Montana. Masters Thesis University of Montana. May 2004.
http://www.fs.fed.us/ffs/docs/lubrecht/Dodson%20Final%20thesis.pdf

> "While the thin-only and burn-only generally showed increases in exotic richness and cover greater than that of the control, adding together the effects of each treatment does not explain all of the invasion observed in the thin/burn, suggesting a synergistic relationship. … In fact, understory productivity in ponderosa pine forests has been shown to be limited by competition from trees for soil nutrients and water, not light (Riegel et al. 1992). When combined, treatments may reach a threshold of resource availability necessary for exotics to invade or establish. Individually treatments may not be sufficiently intense to reach this threshold. There is evidence to support the idea of disturbances (fire and mechanical cutting) acting in a synergistic fashion to promote invasion (Hobbs and Huenneke 1992). … Moreover, fire may be the type of disturbance that promotes colonization for C. biebersteinii [spotted knapweed] (Sheley et al. 1999). Adding nitrogen to a system, which may occur the first year after burning (Deluca and Zouhar 2000), has been shown to shift the competitive advantage to C. biebersteinii (Blicker et al. 2002)."

BLM's EIS should evaluate the possibility of including the Restoring Native Ecosystems Alternative. Important parts of this alternative were deemed outside the scope and excluded from consideration in BLM's earlier PEIS, but should be included in this DEIS. The native ecosystems alternative meets the purpose and need better than any

of the other alternatives because it avoids the causal actions that would perpetuate the 12% annual increase in invasive species.

Appendix I to the PEIS for the 17 Western States:
http://www.blm.gov/pgdata/etc/medialib/blm/wo/Planning_and_Renewable_Resources/veis/final_eis_vol_2/final_eis_appendixes.Par.78552.File.dat/Final%20PEIS%20Appendix%20I%20-%20RNEA%20Alternative%20%28June%202007%29.pdf

BLM does not adequately consider the use of non-herbicidal controls or least toxic herbicides. Alternative weed control methods should be included in BLM's EIS. Control techniques vary depending on the weed species being addressed. Still, BLM should consider implementing non-herbicidal alternatives.

Several methods have been proven to produce positive results in stopping noxious weeds and other invasive species. For example, manual removal, as well as the use of tools and other machines, has fewer unforeseen impacts than herbicide application. See NCAP's factsheets on bindweed, blackberries, english ivy, knapweed and other unwanted plants (http://www.pesticide.org/factsheets.html#alternatives).

The use of goats to simply eat the targeted noxious and invasive plants can be an effective means of weed control (http://www.pesticide.org/pubs/alts/goats/goats.html).
Finally, other less toxic 'herbicides' such as vinegar, which has stopped invasion of unwanted species targeted in the DEIS, are available, but have not been considered by BLM (http://www.pesticide.org/pubs/alts/weeds/vinegarinherbicides.html).

Because the BLM does not adequately explore other readily available, proven and effective alternatives to herbicide use in detail, the DEIS is inadequate and does not comply with the mandates of NEPA.

Scope of the DEIS is broad and herbicide use beyond use for noxious weeds requires greater analysis and public input. You propose that the additional herbicide use will allow you to, "..treat any vegetation to meet safety and operation objectives in administrative sites (including schools and parks)," and to "...treat any vegetation as needed to control pests and diseases," and to "...treat any vegetation to achieve habitat goals specified in approved Recovery Plans.." (pg 6) etc. As we cautioned in our scoping comments, BLM must specifically state what is covered and what is not. This is wide open and would allow all types of actions outside of the main intent to control high priority plants. We believe that when BLM proposes a program of this magnitude, NEPA requires a detailed analysis of environmental impacts that cannot be deferred until a later time.

Full disclosure and analysis of all herbicide ingredients must be included in the EIS. The U.S. Environmental Protection Agency announced its intent to require pesticide manufacturers to disclose to the public the inert ingredients in their products. The EPA decided that drafting a new regulation will "increase transparency" and help protect public health. We urge the BLM to consider EPA's decision and analyze the risks of the

inert ingredients in the herbicide formulas proposed for use. The effects of these inert ingredients should also be analyzed in order to comply with NEPA.

The Endangered Species Act analysis in the DEIS is insufficient and does not properly address potential impacts to listed species and critical habitat. We appreciate the BLM's acknowledgement of recent federal efforts to bring pesticide uses into compliance with the Endangered Species Act. The U.S. Environmental Protection Agency found that current labeled uses of 2,4-D, diuron and triclopyr BEE are likely to adversely effect Oregon's threatened and endangered salmon and steelhead. These three herbicides should not be proposed for use in BLM's EIS. BLM should wait until the National Marine Fisheries Service releases final Biological Opinions for these herbicides and the U.S. Environmental Protection agency implements any Reasonable and Prudent Alternatives. The current DEIS does not go far enough to respond to the risks that the uses of 2,4-D, diuron and triclopyr BEE could have on listed species

The protection of endangered species should be a priority to BLM. BLM must include measures to ensure the protection of threatened and endangered species in every alternative considered in the EIS.

BLM's EIS must consider special concerns of Sulfonylurea (SU) herbicides.
As stated in our scoping comments, the Sulfonylurea's (SU) are a troubling group of herbicides, given that they are phytotoxic at extremely low rates of application that cannot be detected. Ecologists have been concerned about impacts on non-target plants, because SUs are capable of interfering with the reproduction of plants, even at exposure levels that show no damage to the plant. A rare or sensitive native annual plant may be unintentionally damaged if it is unable to properly reproduce due to exposure to a SU. Please refer to the work of John Fletcher and Thomas Pfleeger, including the following: Fletcher, JS, Pfleeger, TG, and Ratsch HC. 1993. Potential environmental risks associated with the new sulfonylurea herbicides. Environmental Science and Technology, October: 2250-2252. See also, Fletcher, JS, Pfleeger, TG, Ratsch, HC and Hayes R. 1996. Potential impact of low levels of chlorsulfuron and other herbicides on growth and yield of non-target plants. Environmental Toxicology and Chemistry. 15(7): 1189-1196. In addition, BLM rangeland uses of SUs in Idaho have resulted in a lawsuit due to damage to sugar beet crops from applications some distance away. These concerns must be analyzed in the EIS.

Again, we appreciate the chance to comment. We urge you to consider these important concerns and suggestions. Please contact me should you have questions. My extension is (541) 344-5044 extension 15.

Sincerely,

Kim Leval

Kim Leval
Executive Director, Northwest Coalition for Alternatives to Pesticides

979

"Rich Nawa"
<rich@siskiyou.org>

12/31/2009 09:35 PM

Please respond to
rich@siskiyou.org

To <orvegtreatments@blm.gov>

cc

bcc

Subject Vegetation Treatments Using Herbicides

blm herbicide impact statement 2.docx

Laetz et al. synergitic toxitcity 2009.pdf

SISKIYOU PROJECT

Protecting the Siskiyou Wild Rivers region for future generations

December 31, 2009

Edward W. Shepard, State Director
United States Department of Interior
Oregon/Washington Bureau of Land Management
PO Box 2965
Portland, OR 97208
orvegtreatments@blm.gov

Regarding: Draft Environmental Impact Statement Vegetation Treatments Using Herbicides on BLM [Bureau of Land Management] Lands in Oregon

Dear Mr. Shepard:

The Siskiyou Project recommends you choose Alternative 1-No Herbicide Use. Complex mixtures of pesticides commonly occur in fish habitats. Studies have shown that over 90% of waterways affected by urban or agricultural land uses contain two or more pesticides (Northwest Fisheries Science Center 2009). New information (as per NEPA) published since the Biological Opinion Issued by the NMFS on June 26, 2007 for the PEIS indicates that "[s]ingle-chemical risk assessments are likely to underestimate the impacts of these insecticides on salmon in river systems where mixtures occur. Moreover, mixtures of pesticides that have been commonly reported in salmon habitats may pose a more important challenge for species recovery than previously anticipated" (Laetz et al. 2009: 348). Although Laetz et al. (2009) did not test the herbicides proposed for use by BLM, the fact remains that pesticides found to be not lethal singly may become lethal when mixed (Laetz 2009:348) and with toxicity that greatly exceeds what would be expected from merely additive effects (i.e. synergistic effects). The DEIS:196 acknowledges the potential for synergistic effects: "[t]here is some uncertainty in this evaluation because herbicides in tank mixes may not interact in an additive manner; this may overestimate risk if the interaction is antagonistic, or it may underestimate risk if the interaction is synergistic. In addition, other products may also be included in tank mixes and may contribute to the potential risk." Published studies (e.g., Laetz et al. 2009) now indicate that synergistic effects lethal to coho salmon have been demonstrated. The DEIS fails to report that significant synergistic effects from various mixtures of pesticides is likely already affecting coho salmon in western Oregon since these chemicals are commonly found in surface waters of large river basins such as the Willamette (Laetz et al. 2009:349). This is important because BLM has failed to report pesticide detection frequency in Western Oregon streams where the potential exists for proposed BLM herbicides to mix with those pesticides already present in streams inhabited by federally listed coho salmon. Watersheds with agricultural uses are

particularly vulnerable for synergistic effects because agricultural practices make use of a myriad of pesticides including those tested by Laetz et al. 2009. At a minimum and prior to any decisions, the BLM must make a good faith effort to acquire pesticide detection data from the following watersheds with intermingled BLM and private lands: Bear Creek, Applegate River, Little Butte Creek, Illinois River, Cow Creek, and any other streams where commercial pesticide use is suspected. Merely reporting toxic effects from mixing the proposed herbicides fails to consider or analyze the effects of BLM herbicides with those already present in western Oregon streams. Based on recent research (Laetz et al 2009), such mixtures are likely to have synergistic and potentially lethal effects to federally listed coho salmon.

The DEIS has failed to factor in the cost of monitoring pesticide detections in streams draining areas where the herbicides will be applied. BLM must pay for this surface water monitoring because they are proposing to use these pesticides. Due to synergistic effects, all likely pesticides need to be monitored. The BLM must coordinate with other agencies with water sampling expertise and authority (Oregon DEQ and USGS) to provide the NMFS baseline pesticide detections from streams draining watersheds where these herbicides will likely be used. Bear Creek with intermingled BLM and private land is the western Oregon stream most likely to have high numbers of pesticides that would affect coho salmon synergistically.

The DEIS is defective because it fails to provide baseline conditions of potentially affected streams (existing detections of pesticides).

The DEIS is defective because it implies that the BLM herbicides will be applied to areas where synergistic and lethal effects to coho salmon are not occurring and cannot occur.

The DEIS is defective because it appears to assume that regardless of baseline conditions (i.e. pesticide detections in surface water), it is safe to add an additional 18 chemicals to the stream environment.

The DEIS is defective because it fails to disclose the increasing frequency of pesticide detections over time for watersheds affected by the DEIS. For example the DEIS fails to disclose that Alternative 1(no herbicides) would result in the least number of pesticide detections in streams whereas, alternative 5 could have up to 18 additional pesticide detections.

The DEIS fails to disclose that all people place water quality above the BLM's fear mongering about adverse effects of invasive plants because people drink water. No one on the planet perceive herbicide control of invasive plants as being more important than water quality. If given the choice between no herbicide detections in streams (Alternative 1) or an increase of up to18 herbicide detections in streams (Alternative 5),100% would choose Alternative 1.

Finally, the June 26, 2007 Biological Opinion (DEIS:11) cannot be used for herbicide proposals/decisions in this DEIS because of new scientific information about unexpected synergistic (lethal) effects to coho salmon from pesticide combinations.

Citations:

Laetz, C.A. , D.H. Baldwing, T.K. Collier, V.Hebert, J.D. Stark, and N.L. Scholz. 2009. The Synergistic Toxicity of Pesticide Mixtures: Implications for Risk Assessment and the Conservation of Endangered Pacific Salmon. Environmental Health Perspectives 117(3)348-353. March. Accessed 12/31/2009 at http://ehp.niehs.nih.gov/members/2008/0800096/0800096.pdf

Northwest Fisheries Science Center. 2009. Pesticide Mixtures: Deadly Synergy in Salmon. Accessed 12/31/2009 at http://www.nwfsc.noaa.gov/features/pesticide_mixtures/pesticide_mixtures.cfm

Sincerely

Richard K. Nawa

Richard K. Nawa
Staff Ecologist
Siskiyou Project
950 SW 6th
Grants Pass, Oregon 97526

Enc: Laetz, C.A. , D.H. Baldwing, T.K. Collier, V.Hebert, J.D. Stark, and N.L. Scholz. 2009. The Synergistic Toxicity of Pesticide Mixtures: Implications for Risk Assessment and the Conservation of Endangered Pacific Salmon. Environmental Health Perspectives 117(3)348-353.

(980)

"Fred and Sandra Austin"
<freda@efn.org>
01/01/2010 11:44 AM

To <orvegtreatments@blm.gov>
cc
bcc
Subject Herbicide use

I do not support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways.

The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations of the spread of invasive plants that does not take into accounts efforts to slow the spread with preventative measures.

The BLM should limit herbicide use to invasive plants and should use spot treatments to limit impact to non-target organisms and waterways.

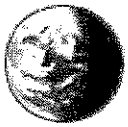
The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

Thank you.

Sandra Austin

Lane County Oregon

981



amber cobourn
<cobourn.amber@gmail.com
>

01/01/2010 12:36 PM

To orvegtreatments@blm.gov
cc
bcc
Subject regarding DEIS

I do not support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways.
The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations that do not take preventative measures into account.
The BLM should limit herbicide use to invasive plants only and should use spot treatments to limit impact to non-target organisms and waterways.
The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

Thank you

Amber Cobourn

982

Jai Shayla
<jrs_troll@yahoo.com>
01/01/2010 02:27 PM

To orvegtreatments@blm.gov
cc
bcc
Subject Herbicide? No thanks, I'm not terribly fond of it.

I do not support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives... See More" proposed in the DEIS present too great a risk to people, wildlife, and waterways.
The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations that do not take preventative measures into account.
The BLM should limit herbicide use to invasive plants only and should use spot treatments to limit impact to non-target organisms and waterways.
The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

This is obviously a form letter, but it's one I agree with whole-heartedly.

Jai Shayla

983

Josh Soran
<saxman173@hotmail.com>
01/01/2010 02:59 PM

To <orvegtreatments@blm.gov>
cc
bcc
Subject Herbicide Proposal

To Whom it May Concern:

This is a message regarding the plan to increase the use of herbicides on public lands. I do not support this proposal in the least as it presents yet another health risk to both wildlife and to people. Hasn't the environment been effected negatively by human actions enough?

This situation involving invasive plant species does not call for such a ignorant reaction, it should be handled in a safe and thoughtful manor rather than spewing more toxins onto the earth that can end up in the water supplies, effecting every living thing within an unmeasurable radius. A natural and environmentally safe alternative must be found.

Regards,
Joshua Soran

Hotmail: Trusted email with Microsoft's powerful SPAM protection. Sign up now.

(984)

"Barbara Kelley"
<cedar776@comcast.net>
01/01/2010 05:51 PM

To <orvegtreatments@blm.gov>, <vegeis@nv.blm.gov>

cc "kim kauffman" <kimakauffman@hotmail.com>, "Celia & Mike" <wildflower26@peoplepc.com>, "bob and Sharee Berman" <westsidetrail@yahoo.com>, "Barbara Kelley"

bcc

Subject Vegetation treatments Using Herbicides on BLM Lands--COMMENTS

To Todd Thompson and Brian Amme, Bureau of Land Management. (Oregon alone , and also the 17 Western States Program based in Nevada)

From Save Our ecoSystems, inc (SOS), Barbara Kelley

Re: Vegetative Treatments in Oregon (alone, and also the Seventeen Western States). These are my Comments on both programs (I sent comments on the Western States program in 2007, but did to receive written notice of a decision, which I was accustomed to receiving in prior years. Instead, I now realize that I had received a CD, but did not know that a decision had been made I was not yet acquainted with receiving a decision by CD... And so I missed the chance to appeal, which I would like to re-claim. I therefore re-submit my comments from 2007 , asking for your re-consideration, as I now add additional comments for both the Western States program, and address the Oregon only one..

In **Save Our ecoSystems, Plaintiff, v. William P Clark, Secretary of the Interior,** argued December 5, 1983, decided January 27, 1984, the Ninth Circuit Court of Appeals ruled:

"We affirm the district court's holding in SOS v Clark. . . .The district court erred, however, in limiting the scope of the injunctions in both cases. (Our case was merged with that of Paul Merrell v.John Block, Secretary of Agriculture) **"The entire spraying programs of both agencies should be halted until they comply with NEPA** (FN18). The district court shall award attorneys' fees in both cases for services below and on appeal, in amounts to be determined by the trial court.

"Because we have ordered **a full injunction**, the issue of the district court's refusal to permit 42 individuals to intervene in Merrell is moot. . . . ."

This ruling has not been reversed or dissolved. When defendants appealed to the Supreme Court, they were refused a hearing, and therefore **Save Our ecosystems (or "SOS") prevailed.**

And so, I believe that the spraying programs that we fought in the 80's is

still **illegal on BLM lands.**

Why do you pursue so harmful a program, which is unpopular, unethical (you are poisoning public lands), and illegal--having been shot down in a series of lawsuits in the 1980's? I know there is the issue of invasives, which I will address in these comments, but that does not justify a program that poisons our waters, fish, wildlife, children, farm animals, all of us, everything. There is always a better way, which I will also address,

I did not sign the Mediated Agreement in which Paul Merrell and Mary O'Brien (for Northwest Coalition for Alternatives to Pesticides --NCAP) gave up the hard won injunction barring spraying on USFS lands in which so many women lost their babies due to miscarriage and/or those other mothers who gave birth to tragically deformed anencephalic babies who died shortly after birth. There are thousands of articles from the 80's on these pesticide caused birth defects in the archives of magazines, newspapers, and the courts. The eminent medical professor Dr. Samuel Epstein, and many other professionals, joined the ranks of protesters when it was revealed that forest pesticides were found in the breast milk of Oregon coast mothers. The Forest Service and the BLM were wrecking the most basic workings of nature on a grand scale. No wonder the Ninth Circuit granted a full injunction, after reading convincing accounts of these agency caused horrors. And now you want to keep it going, and enlarge upon it!?

The dissolution of the injunction on USFS lands **in no way dissolves the injunction my organization (SOS) won on the BLM lands.** I, as its founder and director, could not object more strenuously.

Please record that I, we, favor Alternative one--**No Herbicides.**

Since I have not had the time or energy to again research the thousands of pages of your EIS (who has?), I must put to you some questions that I, and surely the general public, if they only knew your plans, need to know. If you cannot answer them perhaps you can hire someone who can. Your program seems to have an almost infinite amount of (taxpayer?) money, even in these hard times.. I, we, will most likely want answers for a judge.

Question 1. What are the names of the **inerts (or "other")** ingredients in each chemical that you intend to use upon our public lands? Although

these ingredients are considered proprietary, or secret, you no doubt have the power to demand this information through a Freedom of Information inquiry--especially since it is your plan to expose the entire environment to these substances.

Question 2. What are the effects of these inert ingredients? On humans? Animals? Plants? Soil? Fish? Birds?

Question 3. Which of these chemicals, both active, and "inert" (a euphemism) will wind up in water? What will be the effects of both the active and inert chemicals , and other parts of the compounds, on fish? Will these chemicals travel up the food chain? Affect land animals? , food animals? Humans? Crops? Birds? Will chemicals that contaminate soil find their way into the tissues of the plants that grow upon them? Can any part of the compounds you use cause hormonal changes?

Question 4. How long will each chemical, active or inert, or other parts of the compound, remain in the soil? While in the soil and before migrating into water, can any of these chemicals mutate he plants?

Question 5. Have any funds for the support of this program been contributed by Monsanto, Dow, other chemical or timber corporations? Land grant universities such as Oregon State University? What are the relative amounts of revenue from corporations, universities, and taxpayers?

Question 6. Your program in its entirety strikes me as wildly extravagant, especially in these hard times. I would like to see your budget of revenue and expenses, all inclusive, from those on payroll in any capacity such as those who scope, meet, design, write, develop policy, respond to critics of your program.? How much do you contemplate for legal expenses in the likely event that you will be sued.? How much do you pay your attorneys? What is the cost of printing all materials relevant to the program? What is the cost of helicopters, back packs spraying equipment, chemicals, etc?
There are people losing their homes and jobs, others actually going hungry, including children, people without medical coverage, some of whom die for want of needed services. In this economic climate, have you considered how you might make wholesome jobs on public lands, hand pulling by the root, invasives where they are actually causing a problem? (And how are we to know whether or not the problem is valid, or perhaps

really serving the interests and sales of Monsanto for whom you must be a major customer.?) How much of your budget goes to Monsanto, Dow, or other major, wealthy corporations? Have you considered how this public money might be better spent on poor and struggling Americans--in hand work? Have you considered forming a Civilian Conservation Corps such as that initiated in the Franklin Delano Roosevelt era--a program which did environmental work and helped establish our national parks? Or even a prison work program which would certainly be helpful to occupy prisoners, keep them out of trouble, and which should cost very little?

In short, your values are all askew, and we Americans are trying to get you to be accountable to us, the owners of the public land environments that you are always wrecking one way or another. Cutting and poisoning instead of protecting wildlife, water, plants, and us?.

Your New Focus

You have replaced your old silvacultural focus of saving the forests with poison (an insane idea, I think), that you managed to get away with for several decades with the help of "hire education" university experts. Now you propose to wipe out invasives by poisoning entire environments--an idea just as wrong as the first. My motto is there is always a better way, and I have suggested a couple of better ways to you. In that regard, here is **another question:** does your present program of eliminating invasives with poison represent in any way a **business alliance** you may have with Monsanto or other corporations?

Have you seen **The World According to Monsanto?** We have all heard about the revolving door in which highly placed corporation executives appear as government regulators one year, and before long they are back to their corporation, pulling strings with their former co-workers in the FDA, EPA, Department of the Interior perhaps?. I am now wondering if BLM has a revolving door in which manufacturers of deadly pesticides are in and out of the BLM, or are perhaps just very cozy? It is a natural way for Monsanto executives to behave apparently, as demonstrated by their travels in and out of government regulatory agencies and the corporations they are supposed to regulate. All this is shown in the DVD mentioned above. Please let me know when and if you see this revealing video. (Put on your helmet--it is very disturbing).

When the silvacultural excuse for using poison on public land was repeatedly bashed by the people and their courts, did the chemical

corporations then cooperate with you in finding a **new way** to use their destructive products--as in "kill the invasives?" (**That is another question to answer)**

These are difficult, perhaps embarrassing, questions to put to you. But the American public, and their legal representatives in the courts, do have a **right to know.**

Agent Orange, Dow Chemical, and Chemical Warfare

Before World War II, Dow Chemical under a government contract, developed the capacity to manufacture Agent Orange for the "Defense" Department. But WW II was over before they could mobilize and get it into the war. So they searched, and eventually found so many uses that our country was hit with thousands of pounds of this new chemical weapon. It was used to "deal with unwanted growth" in forests, on roadsides, parks, golf courses, and even schoolgrounds. Yes even on the grasses where children played, to kill dandelions!

Then in the 60's, a new "enemy" emerged: South Vietnam. Dow saw, with dollar signs, a huge new profitable domain, and sold the devastating new chemical Agent Orange in prodigious amounts to the US government.. South Vietnam, we were told, was the target of the North Vietnam communists, whose soldiers were coming down the Ho Chi Min trail, to conquer and claim the South. We were told of the "domino effect," in which country after country would fall in a cascade like dominoes to the communists, who were building an empire.

Although there may have been some truth to this, or there may not, what our country did in response has been a scar on our country's moral image ever since Worse, it cause an epidemic of mutations and birth defects, among other problems, that continue in Vietnam to this day. A mutation is forever, until the family stops reproducing altogether.. We dropped millions of pounds of bombs and Agent Orange on the innocent rice farmers in small South Vietnamese villages--supposedly to deprive the Communists from claiming their prize, the fertile lands and peoples of a beautiful country,. No reparations for our destruction have ever been made. We had special projects to poison their crops and cropland, on which their staple food rice was grown. We had projects to destroy their forests (so that we could see the soldiers coming down from the North), and we had

corporations drilling oil in the Gulf of Tonkin, and other enterprises on land, such as mining tungsten for the space program. This war was a disaster, and yet the brave people of Vietnam finally defeated us, despite all our fire and chemical power.

But the tragedy of the ongoing birth defects (again, a mutation is forever) soon came home to the US. Birth defects of children born to the soldiers exposed to Agent Orange in Vietnam were now showing up at home. American taxpayers are currently paying for these Agent Orange-connected deformities (especially anencephaly and spinal bifida), as well as diabetes, skin problems and many other afflictions in the soldiers who have not yet died.

When the war was finally over in the mid seventies, Dow was once again looking for a profitable way to dispose of its remaining stocks of Agent Orange. Dr. Michael Newton, a professor "forest ecology" at Oregon State University (OSU) stepped up to the plate. He had been in the Air Force during the war and was able to get some Agent Orange shipped to him for "experimental use" on Oregon's forests.

to be continued

I will send the next installment shortly, before the deadline, on January 4th

Barbara Kelley

(985)

"Barbara Kelley"
<cedar776@comcast.net>
01/02/2010 05:07 PM

To <orvegtreatments@blm.gov>

cc "Barbara Kelley" <cedar776@comcast.net>, "bob and Sharee Berman" <westsidetrail@yahoo.com>, "kim kauffman" <kimakauffman@hotmail.com>, "Celia & Mike"

bcc

Subject Vegetative Treatments Using Herbicides on BLM Lands--COMMENTS, continued

Second Submission

This is a continuation of my COMMENTS on Vegetative Treatments, submitted yesterday, Friday January 1, 2010, by me for Save Our ecoSystems, inc (SOS). I will start with the last line of yesterday's Comments:

Dr. Michael Newton, a professor of "forest ecology" at Oregon State University (OSU) stepped up to the plate. He had been in the Air force during the war and was able to get some Agent Orange shipped to him for "experimental use" on Oregon's forests.

. . . . . .

This situation was covered by Jerry Uhrhammer in the Register-Guard of Eugene, Oregon. (sorry, my copy is not dated). I quote, in part:

Newton's experiments with "Agent Orange" on some 350 acres of western Oregon timberland were first described in 1973 by the Register-Guard. The surplus military herbicide, which the US Air force stopped using in Vietnam after reports of birth defects and stillbirths in sprayed areas, had been shipped to Oregon without a proper permit from the US Environmental Protection Agency. EPA officials confiscated the unused material.

Newton had been working on an informal cooperative basis with Air Force herbicides researchers and was proposing that surplus "Orange" be used for brush control on Pacific Northwest timberlands, rather than be destroyed.

"Agent Orange" is the military name for the 2,4,5-T herbicide (plus one half 2,4-D--B Kelley) **used in Vietnam--some of it with high dioxin levels. The most controversial of the dioxins is the highly toxic TCDD, capable of causing birth defects, chromosome damage, and other problems.**

The article goes on to describe lawsuits that followed the use of 2, 4,5-T in the Siuslaw National Forest, and the widespread complaints of miscarriage and birth defects related to its use, by many coastal women in Oregon.

There were many reports of this in the media, especially following the good detective work of Bonnie Hill, relating her own, and her neighbors' miscarriages to spray contracts (Bonnie's at eight months pregnancy), the distance of the spraying from the women involved, and their doctors' records. This was probably the final straw that caused the emergency cancellation of "T", while 2,4-D went almost unaddressed. The EPA had been receiving thousands of reports before this of illness following forest spraying.

We all owed a debt to the Register-Guard for continuous investigative reporting during this era (the 70's and 80's), so that when the many lawsuits were filed, the information in them went before judges and a public

already very wary of the herbicides to which the whole population, especially those in rural areas, was being exposed. The herbicides were being used in forests, along roadsides, in golf courses, parks, and even schoolgrounds. Water samples, when tested, were coming up contaminated with herbicide sprays.

2,4-D

What was often overlooked at this time, during the recognition of the horrors of 2,4,5-T and its emergency cancellation by the EPA, were the equal horrors of it's sister 2,4-D. Apparently this was not just an accidental oversight, according to Billee Shoecraft (I will explain shortly.)

The heavy use of 2,4-D, considered valuable in American agriculture, continues to this day. It is contaminated with its own dioxin (there are at least 75 of them), and is just as birth deforming as 2,4,5-T. (to be addressed) A document you at BLM may be relying on, in your use of 2,4-D on public lands, is before me. It is called **2,4-D--RED Facts,** issued by the EPA. It is a piece of remarkabe obfuscation and permissive language, for those who want to use 2,4-D. Many of its sentences use highly technical language, so that a person not versed in this kind of science, would not understand . 2,4-D is called here a Class D carcinogen, which seems to mean that there is no definite proof, but allot of controversy. It is either a carcinogen or it is not! The document is more forthcoming however that there is evidence of reproductive harm and neuropathology.

Their process? page 1--**"In evaluating pesticides for reregistration, EPA obtains and reviews a complete set of studies from pesticide manufacturers, describing the human health and environmental effects of each pesticide."** Of course the pesticide manufacturers are making huge profits on these chemicals. So, from the beginning then, we have here a **conflict of interest.** Then, who evaluates these highly questionable studies from the manufacturers? Scientists of course, but who are they? In 1996 a " Science Advisory Board/Scientific Advisory Panel Joint Committee" decided that there was insufficient data to conclude that there is a cause and effect relationship between exposure to 2,4-D and non-Hodgkin's lymphoma"--a form of cancer. **Another Question:** Do any of these scientists use the revolving door between business corporations and regulatory agencies so well depicted in **The World According to Monsanto?** Is it possible to obtain their names and

histories?

The Bionetics Study and Billee Shoecraft

(This is my second set of comments, I will **continue tomorrow.)**

(986)

"Barbara Kelley"
<cedar776@comcast.net>
01/03/2010 03:02 PM

To <orvegtreatments@blm.gov>

cc "Barbara Kelley" <cedar776@comcast.net>, "kim kauffman" <kimakauffman@hotmail.com>, "Celia & Mike" <wildflower26@peoplepc.com>, "bob and Sharee Berman"

bcc

Subject vegetative Treatments Using Herbicides on BLM Lands--COMMENTS, continued

this will be my third installment of Comments, on your proposed vegetative treatments with Herbicides on BLM lands in Oregon. submitted by Barbara Kelley for Save Our ecoSystems, inc (SOS).

In regard to the installment submitted yesterday, there was a problem with page one appearing too low on the screen and may not have been found by you. If this is the case, will you please scroll down until you find it? Thank you and I would appreciate a **rsvp** about this. As before, I will repeat the last line of installment 2, and then continue with installment 3:

THE BIONETICS STUDY AND BILLEE SHOECRAFT

Prior to the spraying of the Tonto National Forest, Billee and her young family had found their personal paradise in a homestead adjacent to their "mountain home." (Globe Arizona was a couple of miles away.) They acquired domestic animals and grew gardens, in a dream scenario almost precisely predictive of my own northern migration to Dorena Oregon, where my own animals died, and my family became very ill, and I developed lifelong diabetes just like the Vietnam Veterans who were exposed to Agent Orange abroad, and which would later be used in the forests behind our own small farm.(in the mid 1970's)

Unknown to Billee and her husband, the USFS had big plans for their mountain. The government and its agencies had acquired the chemical war weapon Agent Orange--a new "miracle drug" as they explained to Billee, that would kill the brush on the forest floor and "open up" the forest to sunshine. This was apparently the first major undertaking of this kind on our public lands, using chemicals developed for chemical warfare. Between 1965 and 1969, the Tonto National Forest was heavily and repeated sprayed with a combination of 2,4,5-T, 2,4-D, and 2,4,5-TP, This last was a slight variation, adding propionic acid the mix, and given the alluring name of "Silvex" Now that doesn't sound so bad? But in actuality, this was a modified, and possibly stronger version of Agent Orange. The results were almost immediately apparent. Complaints started pouring in from Billee and other residents of damage to plants and small animals. As

the spraying went on, for years, deformities in larger animals and in the forest trees were found. (The phenoxy herbicides are known to act as estrogens, and some of the trees grew enormous as well as deformed)._ In Billee's book, there are pictures of these wildly overgrown trees, of a sheep with two heads, and a guinea pig with eyes that never opened. On the back cover, is shown a rather glamorous young woman in her prime, mother of young children--Billee before her tragic exposure to Agent Orange.

As time went on, Billee herself became quite ill, and predicted her own death, which did occur about a decade later. . .She put the intervening years to good use, researching the information which was accumulating about these devastating chemicals in Washington DC. She managed to acquire copies, and publish extensive information in her book **Sue the Bastards.** And she filed a lawsuit against Dow Chemical, the manufacturer, which the courts kept stalling. So she died before it could come to a hearing. "Sue the Bastards" was published by Franklin Press, copyright 1973 (The year I came to Oregon to relive her story) This amazing book is no longer published, but can no doubt be found by companies that acquire important books no longer published.

One vital book that Billee seems to have missed was by a soul mate whose eloquent language and groundbreaking information, could have helped her a great deal.. the *New Yorker* magazine published a series of three articles in 1960 that stopped many of us in our tracks. Their author, a then unknown scientist , **Rachel Carson,** literally shook the reading world (and made some of us tremble too),. Her articles were soon gathered by Houghton Mifflin and published in 1962 in perhaps the most famous environmental book ever written, and certainly one of the earliest. It was called of course **Silent Spring.** The chemical companies, and their many advocates in Congress, the public agencies, and perhaps some well meaning scientists as well, all decried and discredited this lone harbinger bell ringer, Rachel Carson-- in loud voice and bold print. However, she would literally change the course of history with the power of the Word!

However, Billee found the information she was seeking in an unpulbished 700 page report in Washington DC. It seems that the terrible chemicals that destroyed Billee's life were well understood, as voluminous damining evidence was gathered, before and during the war. Dow knew.

THE BIONETICS REPORT

(987)

Sue Supriano
<sue@suesupriano.com>
01/03/2010 12:36 PM

To orvegtreatments@blm.gov
cc
bcc
Subject DO NOT POISON BLM LAND

I enjoy recreating on BLM land, and I don't want my children or myself exposed to poisons while doing so. My son,like so many others, has breathing challenges. We should have the ability to enjoy what's left of our forests without worrying about being exposed to herbicides which are poisons used to kill plants but do harm and can even kill other organisms, including people.

PLEASE DO NOT PUT MORE POISONS INTO OUR ENVIRONMENT. There are other ways.

And please send me something letting me know you got this communication and are paying attention to the pubic.

THANKS-

Sue Supriano

Sue Supriano - Steppin' Out of Babylon: Audio Interviews
http://www.suesupriano.com

"In Germany first they came for the Communists, and I didn't speak up because I wasn't a Communist. Then they came for the Jews, and I didn't speak up because I wasn't a Jew. Then they came for the trade unionists, and I didn't speak up because I wasn't a trade unionist. Then they came for the Catholics, and I didn't speak up because I was a Protestant. Then they came for me-and by that time no one was left to speak up." -- Pastor Martin Niemoller

---

May all beings everywhere, with whom we are inseparably interconnected, be fulfilled, awakened and free. May there be peace in this world and throughout the entire universe...

(988)

Julia Mooney
<jmooney@efn.org>
01/03/2010 02:23 PM

To orvegtreatments@blm.gov
cc
bcc
Subject BLM Poisen Plan Comment

To Whom I am Sending this to:
Please stop and give more thought to your spraying in our forest. I am a caregiver and master of the Grange in the Mohawk Valley. I am a active volunteer and citizen. I know that many residents are having nasal and lung problems in this valley. We have people who need employment. I would love to brag about BLM an their innovation in working with my community. This shows a business who has a focus, a brain and cares about their community. Please don't disappoint yourself have integrity. Let me know you receive my email.

Julia Mooney
Master of the Mohawk Valley Community Grange

989

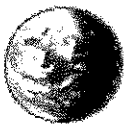
David Lawrence
<dvdlwrnc8@yahoo.com>
01/03/2010 03:58 PM

To orvegtreatments@blm.gov
cc
bcc
Subject BLM Veg Trtmnt

I favor Alternative 1 of the options in your Vegetation Treatments environmental impact statement. Please do no further harm to our public lands by reapplying toxic herbicides to a landscape which is only now ecovering from decades of BLM spraying. I am an outdoor enthusiast, recreational lands user and taxpayer.

David Lawrence
PO Box 502
Springfield, OR 97477-0078

990



mary moffat
<moffatmj@gmail.com>
01/03/2010 04:03 PM

To orvegtreatments@blm.gov
cc senator@merkley.senate.gov, senator@wyden.senate.gov
bcc
Subject We support BLM EIS Option 1) continuation of manual control of weeds

Using any of the currently legal chemical herbicides is like using an atom bomb when a shovel will do. They have so many negative consequences at so many levels of our resource base, from macroinvertebrates, native plants, all the way to mammals, and humans, not to mention soil, air, and water quality. And there are alternatives, hand control, fire, timely mowing.

The EPA itself at the federal level is now looking into the safety of herbicides and pesticide. In fact, a couple of years ago the state EPA did a study in Hood River, in cooperation with fruit growers, which confirmed that chemicals the orchardist were using appeared downstream and correlated their use with a die off in the macroinvertebrates, the base of the salmon food chain.

I'm a member of the Native Plant Society of Oregon, and know how sensitive natives are to herbicides. Much as I dislike "noxious weeds" spraying them is NOT a sustainable practice.

My husband and I already volunteer with the National Forest Service, to do manual trail maintenance, mostly in wilderness areas. All kinds of groups are involved in this effort, horse riders, mountain bikers, outdoor enthusiasts. I'm sure many folks would volunteer in supporting BLM weed control, it's very similar work, hard physical labor, but in a great environment: an Oregon forest.

The public is becoming more and more aware of this issue and much prefer seeing "weeds" to obviously sprayed ground. Just 3 examples I know of personally,

1)Lane Co is using herbicides as a last resort only on county roads maintenance,
2)ODOT is doing a pilot project on the coast on roadside management without hemical herbicides.
3)All the publicly owned land in Quebec Province in Canada is now managed thout any chemical use.

and our neighbors have been working on restoring native salmon riparian tat in the Coast range and yes it's hard work to cut down blackberries, pull up

scotch broom and other invasive, plant and fence off trees but we do it, without any chemical use and for free because we have a vision of seeing coho runs in the 100s of thousands per year as they were in the early 1900s. Believe me, if we thought chemicals really were a sustainable answer we'd use 'em. And we are saddened to see clear cutting followed by helicopter spraying on nearby private timber land and then the inevitable heavy rains which wash the soil down the steep banks into the very salmon bearing creeks we are working so hard to restore. We know their rationale is a slightly larger tree to cut down in 30 years and the health of the entire resource base is not their first priority. However, we DO expect the health of the entire resource base to be the first priority of those in charge of OUR public lands.

Please put the long term good of all before the short sighted use of herbicides on public land. Continue to set the wonderful example you've been doing, protect our shared resource and let us feel safe when we take our grandchildren to visit our favorite BLM places on both sides of the Cascades.

Sincerely

Mary Moffat and David Webb
Landowners
Walton, Oregon

Please let me know you've received this email.

991

Cathy Raymer
<cmraymer@gmail.com>
01/03/2010 04:07 PM

To "orvegtreatments@blm.gov" <orvegtreatments@blm.gov>
cc
bcc
Subject BLM spraying

To Whom it may concern:
I am writing.regarding BLM herbicide spraying. Please consider my request and know that many others are affected like I am. I live near BLM forests and also like to walk along nearby roads. I am asking you to please refrain from using chemicals to control unwanted vegetation. There are other alternatives available so please choose another way for the sake of our children and all of us. I particularly am sensitive having recently recovered much of my health back after a neurological illness. I love being able to enjoy nature and be out in my own yard without fear of drift from herbicide.

Thank you for your time and consideration,
Cathy M. Raymer
PO Box 1064
Waldport, OR 97394

992

"claudia gray"
<claudia.cloud@q.com>
01/03/2010 05:53 PM

To <orvegtreatments@blm.gov>
cc <orvegtreatments@blm.gov>
bcc
Subject Dear Ones,Please do not use herbicides in our forests.

Dear Ones,
Please do not use herbicides in our forests. The forests are the homes for so many creatures. And we humans have such a proprietary attitude toward the Earth. We were given dominion over the planet and the animals, as caretakers. We are abusing our position! Our responsibility is to take care, to do no harm. It is about caring for the planet and all the inhabitants.

Herbicides do harm. You *want* to believe they don't, but *they do harm* . Other letters have sited the data...the science is there, 2,4-D is found in Agent Orange. Would you like to go picnic on a field sprayed with that?

I respectfully request that you reconsider your maintenance policies. Your poisons spread to thousands of homes. If you continue this way you are opening the door to law suits, bad feelings between neighbors. Worst of all, knowingly and with forethought, you are doing harm to others. There are greater losses headed your way should you continue to knowingly cause harm to others.

I hope you will find greener ways to keep your replanted areas cleared. Many people need work. Hire some. It is good to work out in the air, in the light. Much better than to spread poison all over the place.

Sincerely,
Claudia Gray

(993)

Denise For Peace <denise_for_peace@yahoo.com>

01/03/2010 06:01 PM

To orvegtreatments@blm.gov
cc
bcc
Subject No Increased Herbicide Use on BLM Lands

To Whom It May Concern:

Your practices of spraying herbicides on BLM lands pose serious health risks to human applicators, humans visiting the forest, animals and plants (including rare ones) that live in the forest. In addition, the synergistic effect of multiple herbicides on humans, when studied, often reveals an exponential health risk. Why wait for a law suit? Do the right thing in the first place. ***Your grandchildren will thank you, too.***

Please adopt **Alternative One** for future herbicide use: Instead of increasing the variety, amount and frequency of herbicide use on BLM lands, **ELIMINATE HERBICIDE USE**. NOTE: the Forest Service has stopped using two of the proposed herbicides due to concerns about toxicity.

Sincerely, Denise-Christine

Denise-Christine
1355 Taft Street
Eugene OR 97402
541-688-1442

Tax Payer, Voter, Hiker, Camper, Activist, *Human*

994

dave maize
<daize@frontiernet.net>
01/03/2010 10:02 PM

To orvegtreatments@blm.gov
cc
bcc
Subject herbicide plan

Hello - Regarding the proposed Herbicde EIS, I do not want there to be any herbicides used on public lands.I would prefer hand removal or other non-toxic means to control invasive plants.

Sincerely,

Dave Maize, 9549 Takilma Rd.

Cave Junction, OR 97523

995

Pete von Hippel
<petevh@molbio.uoregon.edu>

01/03/2010 11:04 PM

To orvegtreatments@blm.gov
cc
bcc
Subject We are strongly opposed to increases in use of herbicides on public lands!!

Dear BLM staff:

We write in response to the request for public comment on the proposal from your agency to increase the use of herbicides on public land. We strongly oppose the "action alternatives" proposed in the DEIS, which present too great a risk to people, to wildlife and to waterways.

The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations of the spread of invasive plants that does not take into accounts efforts to slow the spread with preventative measures.

The BLM should limit herbicide use to invasive plants and should use spot treatments to limit impact to non-target organisms and waterways.

The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

Thank you for your consideration of our point of view.

Sincerely yours,

Josephine and Peter von Hippel

****
Peter H. and Josephine B.R. von Hippel
1900 Crest Drive
Eugene, Oregon 97405
Telephone: 541-344-3659
e-mail: petevh@molbio.uoregon.edu
jovh@rio.com
****

(996)

John Gardiner
<john.l.gardiner@gmail.com>

01/03/2010 11:16 PM

To orvegtreatments@blm.gov
cc
bcc
Subject Please Adopt Alternative One!

Dear Sirs,

I am a 63-year old Professional Engineer with over 40 years of (global) experience in watershed management and river restoration. I am still very much involved as a river restoration specialist on the West Coast of the US, as is my wife Dr Christine Perala Gardiner, a botanist and geomorphologist. She is a native Oregonian who has extensive experience and knowledge of the many West Coast issues that have arisen over the last 30 years. Frankly, we find it difficult to believe that the BLM plans to carry out aerial spraying for invasive plants on the scale proposed, when there is so much at stake. There are known adverse effects of at least some of the herbicides to be used, while insufficient research has been undertaken into the possible effects of multiple herbicide use; Rich Nawa has covered this issue in his response on behalf of the Siskyou Project. We are particularly interested to know in detail how Alternative 1 can lead to a decrease in water quality, compared with either the No Action or other options.

We also fully support and echo the comments from Oregon Wild's Center for Biodiversity, which cover a number of issues we would want to highlight ourselves.

On a personal level, we are deeply concerned that ourselves, family and friends may be exposed to these poisons while enjoying the unique regional landscapes in Oregon. As a botanist who recently wrote the WeedWise program for Clackamas County, my wife is appalled at your dismissal of either prevention or other (environmentally sound) means of control. She is well aware of the issues and their appropriate means of resolution, many of them novel and perhaps not considered sufficiently by the BLM.

We are very concerned about the impacts of clear-cutting (even leaving a few trees standing, which of course are likely to fall without the support of their forest) on the geomorphology, flora and fauna of our valuable river systems. Any increased justification for pesticide use in areas that are subject to (near) clear-cutting is simply throwing tax dollars away on a false premise - while compounding the problems.

We have only just now seen the summary EIS, having been away on business elsewhere since August. We ask to see that part of the draft EIS concerning the economic justification for this decision. I have long been involved with economic justification and have taught it in relation to the need for more sustainable river basin and watershed management. Essentially, I am highly skeptical that you have proved the case on economic grounds without externalizing significant social and environmental costs; are you claiming to have done so?

From my wife's recent (research) work, we know that there are several satisfactory but not generally well-known ways to remove invasive weeds while practicing sustainable forestry and protecting environmental resources, not least water quality. If you have any doubts about this, we would be happy to advise on how the BLM might achieve greater sustainability while maintaining - and enhancing - its credibility.

We look forward to hearing from you in this matter, and request replies to my inquiries before you consider final decisions

Yours faithfully,

John L. Gardiner MBE, PhD, PE(Oregon) & Christine Perala Gardiner PhD
WaterCycle Inc
PO Box 2451,
Cave Junction,
Oregon 97523
cell: 541 415 2613

(997)

micheal sunanda
<michealspun@yahoo.com>
01/04/2010 02:35 AM

To orvegtreatments@blm.gov
cc
bcc
Subject supporting Alternative One

Dear BLM

I support & encourage Alternative One because:
1) we need prevention of causes & 'needs' for poisoning & ignoring natural functions of herbs called "invasive species of weeds" should come first, with natural healthy forest ecology.

2) herbicide research has generally been inadequate to determine long-term consequences and the results of exposure to mixtures of herbicides (quite common in the field but virtually never tested in the lab), & there's vast proof of toxic dangers to human, fish & wildlife health from herbicide sprays since 1970s.

3) even milder herbicides can be especially detrimental to children and aquatic organisms already negatively impacted by herbicides from private forest lands that are routinely poisoned (40,000 Oregonians live within a half-mile of BLM land, and the BLM is proposing to spray the areas most frequently visited by people), and many old evidence of health damage & rules preventing sprays are ignored to promote more killing natural habitats with logging, spraying & mono crop tree farms

4) we could create green jobs by putting people to work doing nontoxic weed removal. The BLM is least likely to choose Alternative One without a lot of public pressure in favor of One.

5) we need to encourage local protecting & restoring health native forest habitat ecology in many ways above & replanting native varieties toward growing old growth forest foodwebs of life.

6) am also against the banning & killing so called 'invasive species of' weeds' to you & are really organic herbal plant made into tonics, remedies & good for soil building & native varieties feeding life there.

7) I wish, pray & support your agency becoming wholistic for our health & forest habitat ecology & stop promoting poison spraying that's known to damage human health, watershed purity.& wildlife after total clear- cut logging.

Naturallyours micheal sunanda

EcoForestry Restoration Projects: Protection, Planting & Growing Healthy Forest Habitats in USA

(998)

Charles Otter McSweeney
<chasmcsweeney@yahoo.com>
01/04/2010 09:17 AM

To orvegtreatments@blm.gov
cc
bcc
Subject STOP THE KILLING!!!!

please STOP spraying poison, STOP killing plants,animals,fish and birds that are part of the balance of nature that directly supports our lives! STOP hiding behind terms like herbicide it's poison that kills, and it's killing us slowly but surely. WAKE-UP to the truth! do you have family and or friends with cancer?? perhaps your grandchildren will all die horrible deaths? do you really know what you are doing! WHAT YOU DO does matter, take responsibility for YOUR ACTIONS! it's never too late to do the right thing-NOW ! wishing you and your posterity many blessings,
sincerely, charles otter mcsweeney

(999)

Kris Kirkeby
<k2kirk@comcast.net>

01/04/2010 09:31 AM

Please respond to k2kirk@comcast.net

To orvegtreatments@blm.gov
cc
bcc
Subject BLM Proposed Herbicide Use

To whom it may concern...

I believe human beings are beginning to be the most invasive species on this plant.

I do not support the BLM proposal to increase the use of herbicides on public lands. The "action alternatives" proposed in the DEIS present too great a risk to people, wildlife, and waterways.

The DEIS should address the root causes of the spread of invasive plants. They should not justify a massive increase in herbicide use based on calculations of the spread of invasive plants that does not take into accounts efforts to slow the spread with preventative measures.

The BLM should limit herbicide use to invasive plants and should use spot treatments to limit impact to non-target organisms and waterways.

The DEIS should contain an alternative that makes use of the Risk Assessments by proposing to use only those herbicides in the no- or low-risk categories.

Thank you.

Kristine Kirkeby
Eugene, OR

(1000)

"Mark and Robin Winfree-Andrew" <masstudio@earthlink.net>

01/04/2010 10:33 AM

Please respond to "Mark and Robin Winfree-Andrew" <masstudio@earthlink.net>

To <orvegtreatments@blm.gov>

cc

bcc

Subject BLM vegetation management plan

I am writing to express my concern about your plan to increase logging and use of herbicides on BLM land. I often walk on BLM land, and my children have grown up doing so as well. BLM land is near where I live, and I am concerned that herbicide poisons will affect my children and grandchildren. The youngest among us are often the first to become sick from the use of pesticide poisons.

Many weeds can be controlled using other methods; it is time we stopped depending on poisons which adversely affect every living member of the ecosystem!!!!

Our forests should be protected and kept to offset carbon emissions.

I am a taxpayer, homeowner, small woodland owner, mother, grandmother, and outdoors enthusiast.
Thank you,
Robin Winfree
29775 Fox Hollow Rd.
Eugene, Oregon 97405
541-343-1557

1001

Gmail by Google

Maya Gee <danandmaya@gmail.com>

My comment and recommendations to BLM on DEIS ---Maya Gee

1 message

Maya Gee <danandmaya@gmail.com>
To: DANANDMAYA@gmail.com

Wed, Nov 25, 2009 at 2:39 PM

RECEIVED
DEC 30 2009

COMMENT AND RECOMMENDATIONS ON BLM'S DEIS

By -----Maya "Healer" Gee

INTRODUCTION:

I am a practicing Master Herbalist.I am very educated on the healing properties of the plants that you label invasive alien species as well as the ones you label native.
These plants,as I will later list and reveal in summery their medicinal healing properties are the plants of great value to all human beings that need them for healing.We no longer can depend on the synthetic chemical,patented drugs that have detrimental long term side effects.The medicines from Nature have much longer and effective history in healing the cause of illness. The synthetic chemicals on the other end only cover up the symptoms and actually cause other ill symptoms to appear.
That revelation is causing many people to question the entire synthetic approach and turn to Nature for help. As one of my Master healer teachers says:
" There have never been in a past ,present and in future any synthetic drug more powerful than herbal plants.the only problem is that people have forgotten which plants to use and how to use them!"

Well many of us that choose true way have not forgotten! We the herbalists of natural way find it interesting that all of our Ancient,Folklore herbal medicines are confirmed in the scientific laboratories today,yet the chemical industries are eager to destroy our wild crafting medicines?

The way chemical industries, which by the way are linked to the synthetic Medical industries have shown to push their products by CAUSING THE PROBLEM and then "finding" the so called solution.
How ?
In the case of synthetic drugs I have already illustrated above.
However in the case of the plan to push their toxic synthetic chemicals=pesticides=herbicides unto PUBLIC LANDS this is how they intended to do it ("They " signifies all top people in the Corporations that choose to ignore the facts of good science which reveals the detrimental effects of poison to all life forms,"they" stands for all the minds labeled as scientists that choose profit over truth):

THIS BELOW CAN BE CONFIRMED BY THE THE VERY FACT THAT CHEMICAL CORPORATIONS ,FORMED THE NISC (NATIONAL INVASIVE SPECIE COUNCIL) IN THEIR AGENDA OF FORMING THE SCIENCE THEY FUNDED ,AND ARE PROPOSING TO USE OUR TAX DOLLARS TO POISON

OUR AIR,WATER SOIL,AND MEDICINE!
THE ENTIRE INVASIVE SPECIE PROPAGANDA IS BEING EXPOSED NOW BY THE GOOD SCIENCE!

So ,"they" invented the problem by the "observation" and "tests" and collecting "data" on various plants,and artificially created the time frame that certain plants lived in certain location,and labeled them as native or invasive a.k.a alien ,and tried to brainwashed the public .They called the attention for SO CALLED "restoration" .They took artificially created border lines ,called states and listed the plants for each man drawn border lines (as if real for Nature) and named the so called problem specie in every state.
WE DO NOT NEED THEIR TOXIC ,FALSE ,SO CALLED RESTORATION,FOR THE ARTIFICIALLY INVENTED SO CALLED PROBLEM!
But these plants are"choking" the Earth,and the economics ,and other natives they say!
WHO CAN PROVE THAT THIS PARTICULAR SO CALLED NATIVE,OR SO CALLED INVASIVE WAS OR NOT HERE A BILLION OF YEARS AGO PER SAY?
OR THAT TIME PERIOD ALSO NEEDS TO BE ARTIFICIALLY CREATED?
NO SCIENTIST HAS A PROOF THAT PARTICULAR PLANT WAS OR WAS NOT HERE A BILLION OF YEARS AGO!
IT IS ALL SPECULATION IN THE NAME OF SCIENCE!
WE SAY THAT POISONS=PESTICIDES/HERBICIDES ARE CHOKING THE EARTH AND ALL LIVING SPECIES!

BY THE WAY WHO OF US IS NATIVE HERE IN THE US?

ARE WE THE ESTABLISHED INVASIVE SPECIES , JUST LIKE THE BLAMED PLANTS ?

OR ARE WE SIMPLY HUMAN BEINGS THAT ARE TRAVELING LIKE EVERYTHING IN NATURE,AND SETTLING WHERE WE LIKE THE CONDITIONS,SINCE ENTIRE EARTH IS OUR MOTHER?

And then they pulled their poisons as an "answer" (SURPRISE,SURPRISE !) in hopes that enough people have been brainwashed with their sophisticated technocratic language of absurdness, and that any other methods of weeding do not work ,or are to time consuming ,or risky ,etc. ,but this "lesser of evil".
Well of well what a mistake!
WE ARE ALL AWARE HOW POLLUTED OUR EARTH IS, AND THE VERY ILLNESSES OF CANCER ESTIMATED TO INVADE EVERY OTHER INDIVIDUAL IS A GREAT PROOF OF THAT ,SO I ASK YOU MY FRIEND ARE WE IN NEED OF MORE POISON OR ARE WE IN NEED OF DETOX RIGHT AWAY?!
THIS DETOX RESTORATION CAN BE ACHIEVED BY MICORESTORATION PROJECTS AND OTHER MENTIONED BELOW THAT I AM HAPPY TO ASSIST.
THIS RESTORATION OF DETOX NEEDS TO BE DONE, BUT FIRST WE NEED TO SIMPLY STOP THE USE OF TOXINS!

AGAIN who of you scientists can PROVE TO US that one particular so called native,and so called invasive a.k.a alien plant was or was not here billion years ago, per say?

WHO?

Also why are certain plants disappearing,and others are thriving?
Is it the very pollution caused by the very chemically poisoned world and the changes in climate that are causing certain plants that are more vigorous and vital to "invade" and area?
Is the so called INVADING simply a NATURE'S WAY OF HEALING THE LAND?

IS THERE A REASON,A HIGHER PURPOSE for this specie?

Of course that every plant specie grown by Nature and The Highest Intelligence that governs all Natural cycles wind,rain, movements of continents through Evolution, all animal and human lives HAS ITS PURPOSE!

EVERY PLANT SPECIE HAS IT'S PURPOSE I REPEAT AND THERE IS A VALID REASON WHY IT IS WHERE IT IS.

Now that does not mean that we as humans can not choose to weed our own gardens (WHICH WISE CHOOSE TO WEED WITHOUT POISON!) but for the places on Earth that are determined wild ,public/people lands WE CHOOSE ZERO POISONS!
IN FACT THE RIGHTEOUS ONES CHOOSE ZERO POISONS PERIOD!

Now for the ranchers that choose to weed out certain plants , I suggest first find out why is Nature covering that area with certain specie, which is always for healing of that soil from either pollution with toxins , lack of minerals microorganisms,etc. and or for land stabilization,etc. , then choose to be intelligent and respectful to air,soil and water by choosing not to poison them and therefore oneself, and implement NATURAL solutions to heal that soil faster by mineralization (through various methods) and by detoxification through various NATURAL methods,and replant it with desired species.

Natural solution,for an example is to spray Compost Tea ,spread Rock dust that will unlock the nutrients ,heal and in reach the area with beneficial microorganisms ,and minerals instead of poisonous pesticides/herbicides!

Also,healing happens by planting the large diversity of plants , since the bigger the diversity of plants the healthier the Eco System and all organisms start to supports each other . For and instance deep rooted plants draw moisture and nutrients for middle and short rooted plants, as well as provide shade,and bring in beneficial insects and important pollinators,etc.

BLM NEEDS TO RESTORE BY PLANTING DIVERSITY AND BY ELIMINATING POISONS ALL TOGETHER OR BY LEAVING THE HIGHEST INTELLIGENCE WITHIN NATURE AND ALL LIFE TO TAKE IT'S TIME TO RESTORE THE WILD LANDS,UNTIL THE INTELLIGENT METHODS OF NATURAL APPROACH IS IMPLEMENTED BY PEOPLE THAT KNOW THE CONNECTION OF ALL THINGS!
This is TRUE RESTORATION!

SPEAKING OF INTELLIGENCE , IT IS A KNOWN FACT THAT MOST PEOPLE DO NOT EVEN USE THE LARGEST PORTION OF THEIR BRAIN'S CAPACITY,SO CAN WE TRULY RELAY ON --- PEOPLE ----WITH ANY TITLES TO CAUSE REPEATED DAMAGE TO OUR ECO SYSTEM BY THE USE OF ARTIFICIAL POISONOUS CHEMICALS?

MAN IS A PART OF NATURE , YET HAS DEVIATED FROM THE NATURE AND FELL ASLEEP .MAN HAS DEVIATED FROM IT'S OWN BRAIN'S POTENTIAL,AND NEEDS TO WAKE UP NOW INTO ITS TRUE PRISTINE ORIGINS AND INTELLIGENCE,AND STOP POISONING THE VERY SOURCE OF HIS OWN LIFE!

Since the pseudoscience and the noxious chemicals are failing to convince the majority of people as an "answer".People have already uncovered the truth and many are awakening. Even the scientists that choose profit over truth are facing inner turmoil that reminds them every day that many human beings, animals , insects and bees have suffered day unto day ills caused by the very toxins.

Why did they choose to ignore?
Many mothers in tears of the lost off springs,many parents with forever crippled birth defected child, many suffering diabetes,MCS,MS,cancers of all sorts due to the very toxins their " neighbours,BLM,etc." release ,and choose to ignore.....

IT IS ALREADY PROVEN THAT BIRTH DEFECTS AND MISCARRIAGES ARE CAUSED BY EXPOSURE TO PESTICIDES!
PLEASE EDUCATE YOURSELVES WITH THE DATA FROM GOOD SCIENCE.MUCH INFO IS AVAILABLE THROUGH THE FACT SHEETS AT : WWW.PESTICIDE.ORG
I have many of those beautiful people that did not find help in Synthetic Artificial world of Conventional so called Medicine , that came to me to find out about TRUE Natural Medicines Of Herbs!

BUT HERE I NEED BY THE LAW MADE BY THE VERY CHEMICAL/MEDICAL CORPORATIONS PUT A LEGAL DISCLAIMER ,THAT I AM NOT A MEDICAL DOCTOR ,AND WILL BE PROVIDING THE TRUTH/INFO FOR THE INFORMATIONAL PURPOSES ONLY.
I DO WANT TO ADD TO THIS SCAM OF HAVING TO PUT DISCLAIMER (every time I speak the truth about Natural healing) THAT I HAVE MEDICAL DOCTORS IN FAMILY AND AMONG FRIENDS THAT ACTUALLY LEARN ABOUT PLANT'S HEALING PROPERTIES THROUGH MY GUIDENCE AND USE THEM INSTEAD OF DRUGS!

I AM ALSO VERY HAPPY THAT I AM NOT A MEDICAL DOCTOR ,FOR I WOULD OF NOT KNOWN MUCH ABOUT TRUE,NATURAL HEALING!
The word DOCTOR in Latin (which I studied) means TEACHER and that I am!

I am humbled to the Highest Intelligence that beats all of our hearts, that watches over our bodies while asleep , that Creates Life and Governs all processes within Nature! The Highest Intelligence that created THE ANSWERS TO ALL ILLS IF PEOPLE DEVIATE FROM THE LAWS OF LIFE ,BY THEIR OWN CHOICE.Yea,that same intelligence sheds the tear of compassion upon it's children that have deviated so far from Nature by poisoning their own lives and other life forms!

What have you and I done to bring ourselves to the GIFT called life?

Do we have the right to poison peoples health/life?

Are we going to harvest the seeds we sowed in our life reflected by our choices?

What is your harvest going to be in this in bodiment, and where ever your soul goes after ?

IT IS YOUR CHOICE,AND IT IS ONLY DETERMINED BY YOUR WORDS,THOUGHTS AND ACTIONS?

WILL YOU CHOOSE TRUTH,INSTEAD OF FALSENESS MASQUERADING AS TRUTH?

WILL YOU CHOOSE GOOD?

LISTING THE TRUE VALUE, AS WELL AN ECONOMIC VALUE OF SO CALLED

" INVASIVE" SPECIES

FOR THE HEALING OF HUMAN ILLNESSES AS LISTED BY CREDIBLE REFERENCES (ENTIRE RESEARCH LIST AVAILABLE PER YOUR

REQUEST)

MEDICINAL PROPERTIES,LISTS OF DISEASES THEY HEAL:
(NOTE:This is mostly physical healing properties in summary,it does not include ALL PROPERTIES,as well as the healing properties for animals,pollination,and wild life survival (I did mentioned it only in couple listings) and the value of weaving, dyeing basketry,pottery values,and other human uses.However I do mention some other uses,only to give you the idea.It does not include the interconnectedness with other important plants,that are not targeted by pseudoscience,as well as the not yet known to technocratic science HIGHER PURPOSE for the establishment. THIS SUMMARY DOES NOT INCLUDE HOW THESE PLANTS ARE TO BE USED,THAT IS THE KNOWLEDGE THAT WOULD TAKE BOOKS TO EXPLAIN,AND IS USED BY THE MASTER HEALERS FOR THE BENEFIT OF HUMANITY.I DO NOT CHARGE FOR MY ASSISTANCE,FOR I DO NOT DO HEALING,PLANTS AND GOD DOES!
For the ones that make sceptical comments,and mock,I say you just open your heart dear and do your own quest with Natural healing! For the ones that fear herbal power in healing I say even the science journals , and all the tecnocratic tests proved and can prove the validity .Learning HOW to prepare ,and GROW your own medicine, as well as the time of harvest for the most healing is what is given to the aspirant healers through our connection with the Highest Truth within Nature and ourselves! --

1. Solanum rostratum (Buffalobur):
A. ANTIVIRAL HEALING PROPERTIES
B.-USED FOR PROPER COLON AND BOWL FUNCTION
C. HEALS ULCERS,INCLUDING ECZEMA,WARTS,ITCHINESS
D. SKIN REJUVENATING PROPERTIES HELP IN HEALING WOUNDS
E. CONTAINS HAIR GROWTH STIMULATING AGENT:NINOXIDIL
IN THE BOOK OF ETNOBOTANY OF ZUNI INDIANS (1909) WE READ:
" A PINCH OF THE POWDERED ROOT IS PUT INTO A SMALL QUANTITY OF WATER AND THE INFUSION IS DRUNK TO RELIEVE SICK STOMACH.",etc.

2.Cirsium vulgare(Bull Thistle)
A.NUTRITIOUS HEALING FOOD :"BARBED LEAVES OF THE FIRST YEAR'S GROWTH CAN BE EATEN AFTER THE SPINES HAVE BEEN STRIPPED AWAY WITH A KNIFE.WEAR GLOVES WHEN HARVESTING ROOT AND LEAVES.ROOTS AND YOUNG SHOOTS MAY BE EATEN AFTER COOKING. FERTILE FLOWER BRACT (SEED POD) MAY BE BOILED AND EATEN LIKE ARTICHOKE(CAREFULLY).HESQUIAT PEOPLE CHEWED FLOWER HEADS TO GET NECTAR (FAVORITE NECTAR SITE FOR BEES,HUMMING BIRDS AND BUTTERFLIES)!
THOMPSON NATION DRIED ROOTS LATER SCRAPED AWAY DIRT AND SKIN AND COOKED IN STEWS AND SOUPS.FRESH ROOTS ARE ALSO COOKED AND EATEN."
B.ROOT POULTICE USED AS MEDICINE FOR SORE JAWS
C. THE WHOLE PLANT INFUSION TREATS RHEUMATIC JOINTS
D.BLEEDING PILES HAVE BEEN TREATED BY A DECOCTION OF A WHOLE PLANT USED INTERNALLY AND EXTERNALLY
E. ROOT POULTICE HEALS BURNS
F. HAS ASTRINGENT,TONIC AND DIURETIC PROPERTIES
G.KNOWN IN FOLK MEDICINE AS A COURAGE PLANT,etc.
Other interesting uses,for example: the down makes an excellent tinder that is easily lit by a spark from a flint.

3.Circium arvense (Canada Thistle):
A. Peeled stems are high in minerals,healing food
B.RICH IN SILICON IT IS A WONDERFUL WOUND HEALER
C. ASTRINGENT,TONIC AND DIURETIC (KIDNEY STONES) HEALING PROPERTIES
D.ANTI TUMOR AND ANTI CANCER HEALING PROPERTIES,etc.
E..IMPORTANT INSECT FOOD,ESPECIALLY BEES AND BUTTERFLIES

4.Linaria dalmatica (Dalmation Toadflex)
A.In flower essence healing it connects one heart to the true source of all life and Nature,by awakening the DNA to the spiritual self and reconnecting the heart to the mind by sensibility to ones true purpose of service to the Creator through purity of thought, word and deed.
B..the oil is used for healing and beautifying skin
C. LIVER TONIC AND HEALING PROPERTIES
D.KIDNEY TONIC
C.HEART TONIC PROPERTIES,etc.

5.Centaurea diffusa (Diffuse Knapweed)
A. HAS AMAZING HEALING PROPERTIES FOR THE NERVOUS SYSTEM
B. IT CONTAINS HEALING ANTI CANCER FLAVONOIDS
C. IN INFUSION IT COMES THE HEART TREMORS AND ANXIETY
6. Centaurea Maculosa (Spotted Knapweed)
A. ANTI FUNGAL
B.ANTIMICROBIAL
C.ANTIVIRAL
D.ANTI INFLAMMATORY
E. NERVOUS SYSTEM HEALING PROPERTIES
F. COOLING TO THE WOUNDS,etc.

6.Polygonum Cuspidatum (Japanese Knotweed)
A.ANTIMICROBIAL
B.ANTI FUNGAL
C.ANTI CANCER ANTIOXIDANTS
D.USED IN CONJUNCTION WITH OTHER HERBS FOR HEALING LYME DISEASE,etc.
E.BEES DEPEND ON IT IN THE LATE SEASON, THEREFORE HUMANS DEPEND UPON IT ,SINCE WE KNOW WHAT IS HAPPENING TO BEES DO TO PESTICIDES,AND WHAT THAT MEANS

7.Aegilops cylindrica (Jointed Goatgrass)
A. WOUND HEALING
B. HEALING PROPERTIES FOR DEPRESSION AND ANXIETY
8.Lythium salicaria (Purple Loosestrife)
A.HEALS SORE THROATS ----------very common after pesticide exposure , trust me since I was exposed to pesticide toxic drift and took me close to a year to get rid of ill symptoms!
B. WOUND HEALING IN DOUCHE
C. POWERFUL NERVINE , COMING THE ILL TEMPER CAUSED BY BODY'S OVERLOAD WITH ENVIRONMENTAL TOXINS!!!
NO WONDER WHY ALL THESE POWERFUL HERBS ARE PREVAILING , IS NATURE TRYING TO TELL US THAT MAJOR POPULATION ILLS CAUSED BY THE VERY POLLUTION NEEDS THESE VERY SO CALLED INVASIVE SPECIES FOR MEDICINE?!
9.Euphorbia Esula (Leafy Spurge)
A. DEPENDING UPON THE SOIL IT GROWS ON IT IS A VERY LOW ,HOMEOPATHIC DOSAGE ANTI CANCER,ANTI INFLAMMATORY HERB
B.ASTRINGENT HEALING PROPERTIES.
C.WOUND HEALING TOPICALLY
D.SKIN CANCER HEALING PROPERTIES,etc.

10.Carduus nutans (Musk Thistle)
A. The generic name Cardus,in Latin is for Thistle,however the specific name nutans means nodding,and refers to dropping heads.This is very interesting when one studies the medicinal properties of this herb (flower in particular) is used to treat DEPRESSION CAUSED BY TOXICITY OF LIVER,DUE TO THE ENVIRONMENTAL TOXINS! No wonder why this plant "appears" along the roads ,for there's so much pollution, concentrated there.It also "appears' in the areas of disturbed soil,close to the polluted conventional farms.
B.It is a powerful ANTI FUNGAL REMEDIE
C.ANTIBACTERIAL
D.USED IN THE TREATMENTS OF VARIOUS CANCERS,INCLUDING LIVER CANCER,etc.

E. I must emphasise it's importance for bees survival
11.Lepidium latifolium (Perennial Pepperweed)
A. IMPORTANT IN HEALING PROSTATE DISEASE , SINCE IT HAS POSITIVE EFFECT ON PROSTATE HYPERPLOSIA
B. PAIN SOOTHING HERB
C.IT CARRIES THE NICK NAME 'SCHIATIC' HERB SINCE IT HAS SOOTHING AFFECT ON SCIATIC NERVE
D.TREATS NEURALGIA
E.ANTIMICROBIAL
F.WOUND HEALING
G.PAIN SOOTHING ,THAT'S WHY IT IS USED IN RHEUMATISM,AND EVEN IN STRONGER INFLAMMATION topically,etc.
12.Chondrilla junea (Rush Skeletonweed)
A.WOUND HEALING
B.USED TO TREAT VARIOUS SKIN CANCERS
C.DIURETIC HEALING PROPERTIES HELP IN KIDNEY DISEASES
D.EYEWASH FOR SORE EYES
E.STEAM TEA USED FOR MOOD ENHANCER FOR DEPRESSION
F.TEA AS A TRANQUILIZER FOR NEW MOTHERS,ALSO INCREASES MILK FLOW ,AND IMPROVES BABY'S HEALTH
G.TEA FOR ENSURING GOOD SLEEP
H.TREATS BURNING COUGH
I.TREATS HEART BURN
J.TEA TOPS USED TO INDUCE OR STOP VOMITING (DEPENDING ON DOSAGE)
K.TREATS BOILS AND RUNNING SORES
L.LEAVES USED TO TREAT SMALLPOX
M.ROOT IS A HEART TONIC
O. HEALING FOOD OF ARBESHE PEOPLE,etc.

13.Centaurea Repens (Russian Knapweed)
A. ROOT IS A GENERAL METABOLIC TONIC HERB
B.DIURETIC,AND HEALING TO KIDNEYS
C.AS A GARGLE HELPS RELIEVE SORE THROAT
D.DIGESTIVE SYSTEM RESTORER ,STOMACHIC
E. FLORAL PARTS USED IN HEALING DIABETES
F.MILD ASTRINGENT USED FOR COUGHS,ASTHMA AND DIFFICULTIES IN BREATHING
G.HEALING IN NERVE DISEASES
14.Onopordum acanthium (Scotch Thistle):
A.ROOT IS A BITTER HEART TONIC,AND CARDIOVASCULAR TONIC
B.ANTI MICROBIAL PROPERTIES IN ALL PARTS OF THE PLANT
C.ANTI PARASITICAL
D.ANTI TUMOR
E.ANTI CANCER ,etc.

15.Conium maculatum (Poison Hemlok) NOTE:IT IS A VERY LOW DOSAGE ,EXPERIENCED HEALER MEDICINE,BECAUSE OVERDOSE CAN PRODUCE PARALYSES!
A.CONTAINS CONIUM ,WHICH IS SEDATIVE AND ANTISPASMODIC ,AND USED AS AN ANTIDOTE TO STRYCHNINE POISONING,AND OTHER POISONS OF THE SAME CLASS,AND IN TETANUS,HYDROPHOBIA.
B.HEMLOCK JUICE IS PRESCRIBED AS A REMEDY IN CASES OF UNDUE NERVOUS MOTOR EXCITABILITY,SUCH AS TEETHING IN CHILDREN,EPILEPSY FROM DENTITION.CRAMP,IN THE EARLY STAGES OF PARALYSES AGITANS,IN SPASMS OF THE LARYNX AND GULLET,IN ACUTE MANIA,ETC.
C. IN INHALATION IT RELIEVES COUGH IN BRONCHITIS,WHOOPING COUGH,ASTHMA,ETC.
16.Cardaria Draba (Whitetop-Hoary Cress)
A.ASTRINGENT
B.ANTICARCINOGENIC-CANCER SUPPRESSING
C.ANTIMICROBIAL
D.SEEDS ARE USED AS A CURE FOR FLATULENCE
E.SEEDS USED FOR CURING FOOD POISONING,etc.
17.Cyperus esculentus(Yellow Nutsedge)
A.ANTICARCINOGENIC PROPERTIES FOR CERVICAL CANCER
B.WOUND HEALING
C.ANALGESIC
D. ANTHELIMIC
E.ANTIBACTERIAL
F.ANTI FUNGAL
G.ANTISPASMODIC
H.ASTRINGENT
I. CARMINITIVE
J. EMMENAGOUGE
K. HYPOTENSIVE
L.SEDATIVE
M.TONIC
N.HEALS LIVER
O.MENSTRUAL PAIN
P.INFERTILITY
Q.FOR IMPROVING MEMORY
R.CALMING AND ANTI DEPRESSION
S.VERMIFUGE,etc.
18.Centaurea solstitialis (Yelow Starthistle)
A.ACCELERATES THE HEALING OF THE WOUNDS
B.SKIN CANCER HERB
C.ACCELERATES THE HEALING PROCESS OF LABIAL AND GENITAL HERPES LESIONS
D.LIVER TONIC
E.ANTIVIRAL
F.ANTIMICROBIAL
G.ANTI SECRETORY
H.ANALGESIC
I.HEALS GASTRIC ULCERS
J.GREAT FOR BLOOD CIRCULATION
K.HEALS DIGESTIVE DISORDERS
L.HAS ANTIOXIDANTS THAT ARE MAO B INHIBITOR
M.ANTI TUMOR
N.HEALS HEADACHES ,etc.
19.Ulex europaeus (Gorse) -MUCH UNDER APPRECIATED,YET MAKING A BIG COME BACK INTO HERBAL HEALING. IT IS GIVEN TO THE RESENTFUL ,BECAUSE IT'S CONSTITUENTS BEST BRAKE THROUGH THE DOGMA OF DISBELIEVER

A.MOST POTENT WOUND HEALER
B.HEALS ULCERS OF SKIN,AS WELL AS BRUISES FROM CONGEALED BLOOD
C.GREAT FOR ALL GALL BLADDER PROBLEMS
D.HEALING FOR RHEUMATISM (RELEASES THE FATTY DEPOSITS ASSOCIATED WITH RHEUMATISM AND GOUT WITHOUT RELEASING THE MINERALS AND VITAMINS)
E.HEALS ARTHRITIS(RELEASES THE URIC ACID BUILD UP THROUGH KIDNEYS)
F.HELPS TO IMPROVE THE CIRCULATION
G.CARDIOVASCULAR TONIC,etc.
20.Carthamus lanatus (Distaff Thistle)
A.POWERFUL ANTIMICROBIAL
B. ANTIMALARIAL
C.ANTITUMOR
D. SEDATIVE
E.ANTI INFLAMMATORY
F.ANALGESIC
G.WOUND HEALING,CHECKS BLEEDING
H.USED IN HEALING ARTHRITIS
I.DETOXIFICATION EFFECT ON KIDNEYS AND BLADDER
J.ANTITUMOR, etc.
21.Centaurea virgata (Squarrose Knapweed)
A.CANCER SUPPRESSING HERB
B.WOUND HEALING ,AND BLACK BRUISES HEALING
C.HEALS COLD SORES,FEVER BLISTERS
D.HELPFUL IN HEALING DIABETES
E.MILD SEDATIVE
F.ALLEVIATES PAIN AND INFLAMMATION
G.GENERAL METABOLIC TONIC
H.EMMENAGOUGE PROPERTIES,ETC.
22.Senecio jacobacea (Tansy Ragworth)-CAUTION IS TO BE EXERCISED WITH Tansy SINCE IT IS A LOW DOSAGE MEDICINE,ONLY TO BE DISTRIBUTED BY THE TRUSTED HERBALIST,SINCE IT CAN CAUSE DIGESTIVE UPSETS IF THE DOSAGE IS NOT RIGHT!
A.STRONG ANTI FUNGAL PROPERTIES
B.HEALS EXTERNAL TUMORS
C.ALL TYPES OF SWELLING
D.HEALS BOILS,ABSCESSES ,WHITLOWS
E. WONDERFUL FOR INFLAMED EYES AS A RINSE
F.OFFERS QUICK RELIEF OF PAIN IN GOUT AND RHEUMATISM(taken internally in correct dosage)
G. EXTERNAL WARMING LINIMENT FOR MUSCLE PAIN
H.ROOT IN DECOCTION GOOD FOR INTERNAL WOUNDS AND BRUISES
23.Cytisus scoparius (Scotch Broom)--note :Scotch Broom is a very important quick acting medicine that is best distributed by trusted herbal healer,since it can be toxic in large doses,yet rest assure it is a great medicine!
A.THE INFUSION OF DRIED TOPS AND FLOWERS BOILED IN WATER FOR 15 MINUTES CLEANSE AND OPEN UP THE LIVER AND KIDNEYS
B.HEALS DROPSY
C.HEALING FOR GOUT
D.HEALS SHIATICA
E.HEALS VARIOUS PAINS IN HIPS AND JOINTS
F.SEEDS USED FOR HEALING LIVER COMPLAINTS AND GREAT SUBSTITUTE FOR COFFEY!
24.Salvia aethiopis (Mediterranean Sage)
A.ANTIOXIDANT PROPERTIES
B.ANTIBACTERIAL
C.FERTILITY PLANT

D.ULCERATIVE PROPERTIES
E.ANTI INFLAMMATORY
F.ASTRINGENT
G.WOUND HEALING
25.Isatis tinctoria (Dyers Woad) THIS IS AN AMAZING ANTI CANCER REMEDIE!
A. ANTICANCER (ROOT AND THE WHOLE PLANT!)
B. HEALS URINARY TRACT INFECTIONS
C.COOLING ON INFECTIONS
D.TREATS URINARY INFECTIONS
E.HEALING FOR PNEUMONIA
F.ANTIVIRAL
G.TREATS ACUTE MUMP AND HEPATITIS
H.ANTI INFLAMMATORY
I.WOUND HEALING,etc.
very useful for blue dye making!
26. Rubus armeniacus (Hymalayan Blackberry)
A.ROOT,LEAF AND FRUIT USED AGAINST THE TONSIL INFLAMMATION
B. HEALS SORE THROATS
C.HELPS IN THE DIFFICULTIES IN URINATION IN PROSTATE DISEASES,AND URINARY INFECTIONS
D.PURIFIERS THE BLOOD FROM ENVIRONMENTAL TOXINS
E.HEALS THE LARGEST ORGAN -SKIN AFFECTED BY ENVIRONMENTAL TOXINS(PESTICIDES,ETC.)
F.FRUIT IS A KNOWN ANTI WORM MEDICINE IN EUROPE
G.FRUIT IS STRAIGHTENING TO THE DIGESTIVE TRACT

NOTE:
THESE ARE ONLY "FEW"MEDICINAL"HERBS THAT PSEUDOSCIENCE LISTED,HOWEVER THERE ARE MANY MORE ,WHICH ARE ALL HEALING HERBS,LIKE FAMOUS YARROW,RED CLOVER,OXY DAISY,ST.JOHN'S WORTH,ETC.
I am happy to provide data on those healing ,valuable herbs as well.I am also happy to assist with ANY plants that you list !
BE AWARE THAT WE CHOOSE TO LEAVE THESE PLANTS TO THE MOTHER NATURE'S CYCLES GOVERNED BY THE HIGHEST INTELLIGENCE OF ALL LIFE,NOT TO THE PSEUDOSCIENCE DISCONNECTED FROM NATURAL WAY OF LIVING AND THE ONES THAT KNOW NOT WHAT THEY DO!

THERE IS NO SAFE WAY TO APPLY POISON LIKE PESTICIDES/HERBICIDES,NO MATTER HOW MUCH ONE FOLLOWS THE LABEL,POISON IS POISON ! IT NEEDS TO BE BANNED TO THE INTELLIGENT MIND!

WE ARE ASKING YOU TO STOP POISONING OUR WILD CRAFTING MEDICINE! NOW!

WE WANT TO SEE OUR TAX DOLLAR USED TO STUDY THE VALUE OF THESE MEDICINES ,NOT FOR PSEUDOSCIENCE AND PROFIT OF INDIVIDUALS UNAWARE OF THEIR DEEDS!
TRUTH IS PREVAILING OVER IGNORANCE!

I PREFER ALTERNATIVE #1 : NO HERBICIDES/POISONS!

— MAY TRUTH PREVAIL/ AS WELL AS WISDOM!

MAYA H. GEE
18964 LITTLE LAKE RD
BLACHLY, OR 97412

1002

Peter Moulton, Ph.D., Psychologist
P.O. Box 1752, Eugene, OR 97440 Tel. (541) 345-2204 Fax (541) 344-0796

December 31, 2009

Vegetation Treatment EIS Team
P.O. Box 2965
Portland OR 97208

RECEIVED
JAN 04 2010

Dear BLM Staff:

I am writing as part of public comment on the Draft Environmental Impact Statement on BLM Herbicides. I strongly support Alternative One – no herbicides, because increasingly we are given evidence that the herbicides that were previously thought to have little or no effect in fact are having long term effects, especially in our drinking water and the chemical residue left in the bodies of our children and ourselves: chemicals connected to genetic effects and disease. A continued short term analysis for the benefit of short term profits for the timber industry is misguided.

As evidence of the growing awareness of the need to prohibit the use of herbicides, I would point to the regulations adopted by local governing bodies such as that of Lane County in Oregon which has prohibited roadside spraying. I would ask you to consider how differently a highway spill of 100 gallons of an herbicide would be treated compared to a helicopter spraying the same 100 gallons over a tract of timber draining into the water supply of 100 families.

Why is it we use the term "noxious weeds" but not "noxious chemicals"? I urge you to find other alternatives than those putting noxious chemicals into our bodies.

Thank you for your consideration,

Peter Moulton

Peter Moulton, Ph..D.

(1003)

P.O. Box 11752
Eugene, OR 97440
December 27, 2009

Re: Draft Environmental Impact Statement,
Vegetation Treatments Using Herbicides
On BLM Lands in Oregon

RECEIVED
JAN 04 2010

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

Dear Team Members,

I strongly urge BLM to adopt Alternative 1 of the above-captioned Draft EIS and to implement a policy of non-chemical resource management. Given the harm caused by herbicides, I strongly believe that the only prudent policy for BLM is to preclude herbicide use on its forestlands, roadsides, recreation sites and other property. The risks to human health and the environment are simply too great to continue and to increase the use of these chemicals.

I live on Fox Hollow Road (south of Eugene) close to BLM's Fox Hollow property. I am personally concerned about the detrimental impact of the proposed pesticides, especially their impact on surface and ground water. All of us in rural areas depend upon wells for our water. The scientific evidence increasingly indicates that there is really no safe level of pesticides and herbicides in ground and surface water. In some cases, amounts as low as one part per billion can cause irreparable damage. There is a Class I stream at the base of BLM's Fox Hollow property and there are 62 homes along Fox Hollow Road that are in the same air and watershed as BLM. All of us will be subject to the harm from BLM's proposed pesticide use. People throughout the county and state who live near BLM property will face similar problems.

The Harm From Pesticides

The Northwest Coalition for Alternatives to Pesticides (NCAP) has fact sheets and articles on the harm from pesticides on its website www.pesticide.org which I urge you to consider. The information is chilling.

1) Hormone-disrupting pesticides have been linked by scientific studies to problems of "infertility; genital deformities; low sperm counts; hormonally-triggered cancers (e.g., breast, prostate gland); neurological disorders in children (e.g. hyperactivity); and low reproductive rates in wildlife". ("Altering Oregon's Destiny: Hormone Disrupting Pesticides in the Willamette River", p. 4, at NCAP's website). The hormone-disrupting chemicals "can cause irreversible damage, especially when exposure occurs during the critical period of development before and immediately after birth". Id.

Male fertility problems are one of the serious problems that have been highlighted in studies about hormone disrupting chemicals. Since 1940, sperm counts worldwide have decreased by 50%. This decrease in quantity, as well as a decrease in quality, has been linked to pesticide use. ("Pesticides and Male Fertility: Masculinity at Risk", p.2 at NCAP's website).

2,4-D, which is one of the pesticides on BLM's list, is on the list of chemicals reported to have reproductive and hormone-disrupting effects. At least two other pesticides on the BLM list are also recognized as hormone-disrupting chemicals – glyphosate and sulfometuron methyl.

2) Studies have connected at least two of the chemicals on BLM's list to non-Hodgkin lymphoma (a group of malignant lymphatic diseases) – 2,4-D and glyphosate. ("Non-Hodgkin Lymphoma Linked to Herbicides in Two New Studies" at NCAP's website). Other pesticides have been linked with other forms of cancer. In addition, a host of other problems, such as kidney damage, eye irritation, and skin irritation, are linked to pesticides. For example, "[i]n laboratory tests, triclopyr caused an increase in the incidence of breast cancer as well as an increase in a type of genetic damage called dominant lethal mutations. Triclopyr also is damaging to kidneys ...". (See Triclopyr fact sheet on NCAP's website, p. 1; see also the fact sheet on Imazapyr).

3) In addition to the harm to humans, the pesticides have a toxic effect on birds, fish, frogs, oysters, small mammals, wildlife, non-target plants etc. (See e.g., the NCAP Triclopyr fact sheet, pp.14-16). They also destroy essential nutrients needed by animals. Imazapyr, for example, "kills plants by inhibiting the first enzyme used when plants synthesize branched amino acids. ... Amino acids are the building blocks from which living organisms make proteins. The enzymes needed to synthesize the branched chain amino acids are not present in animals, who [sic] must obtain these amino acids by eating them". (Imazapyr fact sheet, p. 16 on NCAP's website). The NCAP fact sheets are replete with other harm to wildlife and plants.

4) In addition to the "active" ingredients, the inert ingredients in the pesticides cause serious damage. (See e.g. the fact sheets on Glyphosate and Triclopyr at NCAP's website). The various inert ingredients in glyphosate, for example, have caused genetic damage, allergic reactions and skin tumors in laboratory tests; caused genetic damage in tests with human cells and laboratory animals and also reduced fertility in laboratory tests; caused thyroid damage and decreased growth in laboratory tests; caused developmental problems and reduced newborn survival in laboratory tests; and cancer in laboratory tests. (See Glyphosate fact sheet, p.11 at NCAP's website). BLM's failure to consider the harm from inert ingredients is a major omission in its EIS.

5) Similarly, the breakdown products of the pesticides cause serious damage. For example, one of the breakdown products of imazapyr, quinolinic acid, "is a neurotoxin, causing nerve lesions and symptoms similar to Huntington's disease". It is also irritating to eyes, the respiratory system, and skin. (Imazapyr fact sheet, p.20 at NCAP's website).

The information regarding the harm from pesticides is voluminous and one could compile an almost endless list. But I believe the message is clear - the risk of harm from pesticides is too great for the government to sanction their use. European nations have adopted a precautionary rule in dealing with pesticides and I believe it is imperative for the U.S. government to take a similar approach. I therefore urge BLM to reconsider its preference for Alternative 4 and to adopt the non-chemical resource management contained in Alternative 1.

Movement of Pesticides in Air, Soil and Water

1) Many of the pesticides on BLM's list are known to be persistent in the soil, to move readily in soil and to contaminate both surface and ground water. Imazapyr, for example, has been found to contaminate surface and ground water following aerial and ground forestry applications. It is more mobile than atrazine. In addition, "[o]zone degradation, a treatment used to remove pesticides from drinking water is not successful with imazapyr, removing only about half the imazapyr present". (Imazapyr fact sheet, p.19 at NCAP website).

2,4-D, one of the hormone disrupting pesticides, was found to be among the top 5 pollutants in the Willamette River in a study conducted by the U.S. Geological Survey. ("Altering Oregon's Destiny: Hormone-Disrupting Pesticides in the Willamette River", p. 4 at NCAP's website). Triclopyr is another herbicide that is "mobile in soil and has contaminated wells, streams and rivers. Contaminated water has been found near areas where triclopyr is used in ... forestry... ". (Triclopyr fact sheet, p.12 at NCAP's website).

2) It has long been known that "[p]esticide droplets and vapor in the atmosphere can be widely distributed and may ultimately fall on soil, water, and nontarget organisms". (Pimental and Levitan, "Pesticides: Where Do They Go?", The Journal of Pesticide Reform, Vol 7, No. 4. Winter 1988, p.3.). The article noted that [I]n one study, all soil samples taken from Oregon coastal mountains 64 km from the western edge of agricultural regions contained DDT residues. Since progressively greater concentrations of DDT were found in the soils closer to the agricultural region, DDT was very likely transported through the atmosphere from the cropland to the mountain soils". Id. Although use of DDT is no longer permitted, this information on drift is significant.

"Although drift is mostly thought of as coming from a nozzle as liquid spray or dust, there are some other important avenues of transport that need to be considered. Pesticides blown in dust from fields and rights-of-way can wreak damage. ... Unexpected concentrations of pesticides have been documented in fog... and rain... . Dried particles of pesticides can blow off plants to be transported to unwanted areas, and molecules of pesticide can volatilize, reentering the atmosphere". (Grier, "Why Pesticide Spraying Means Drift", The Journal of Pesticide Reform, supra p.6). BLM's failure to adequately consider the harm from drift and its failure to include the drift from vapor are serious omissions in its analysis.

State and County Concerns About Pesticides

1) BLM's statement that "[s]ocial acceptance of ... [Alternative 1] is likely to be low" (EIS Summary p.8) ignores the concern in Oregon about the use of pesticides and herbicides. The Oregon Department of Environmental Quality is currently working on reducing toxic pollutants in the state's waters. DEQ, at the direction of the Oregon State Legislature, recently compiled a list of priority persistent pollutants in Oregon's surface water that pose a threat to the "state's environment and *residents*". (Emphasis added). The list "contains two types of toxic pollutants: substances that either persist in water environments or accumulate in the tissues of people, wildlife or plants; and chemicals that have been banned or restricted for years but remain in sediment and tissue samples at detectable level".

This concern for the effect of the pollutants on humans and the persistence of the pollutants is significant. DEQ's press release stated that "Oregon is the first state in the nation to develop such a comprehensive list of toxic pollutants related to surface waters, combined with a data-driven reduction strategy to protect human health and the environment." See www.deq.state.or.us/wq/SB737; and www.deq.state.or.us/news/prDisplay.asp?docID=3131. In addition, in its agenda to address the issue at a public forum, DEQ specifically listed pollutants from forestry practices as one of the major areas to consider. (See DEQ press release, supra). BLM's proposed use of pesticides and herbicides in Oregon runs counter to DEQ's and the State Legislature's intent to reduce such pesticide and herbicide use.

2) Lane County is also concerned about the pollution from pesticides and herbicides and for the past several years has not conducted roadside spraying of such chemicals. In addition, in April 2009, the Lane County Board of Commissioners adopted a resolution inviting the Oregon Department of Transportation to form a partnership with the County to ensure implementation of an effective plan to prevent roadside spraying on state roads in the County. In the resolution, the Board "Resolved that the Lane County Board of Commissioners finds that persistent long-term herbicide exposure is now recognized as hazardous." The resolution can be found at www.co.lane.or.us/BBC_Info/Meeting_Info/BoardOrders/2009.htm (go to April 8, #09-4-8-16). The Commissioners relied an a) a U.S. Geological Survey study on the prevalence in water quality samples of herbicides commonly used on roads and rights of ways, b) the likelihood of the herbicides sprayed entering the water during and after rains, and c) scientific evidence that even small amounts of herbicides can damage aquatic life.

BLM's proposed use of pesticides and herbicides runs counter to the Board of Commissioner's resolution that "persistent long-term herbicide exposure is now recognized as hazardous" and the intent of the County to reduce pesticide and herbicide use.

Sincerely,

Marilyn Cohen

Marilyn Cohen

(1004)

Bureau of Land Management
Vegetation Treatments EIS
P.O. Box 2965
Portland, OR 97208

January 2, 2010

RE: Attachments to Wroncy/Gaia Visions Comments Submitted January 4, 2010 for the BLM DEIS Vegetation Treatments with Herbicides

Dear Sirs:

I am sending a copy of INVASION BIOLOGY: Critique of a Pseudoscience by David I. Theodoropoulos, 2003 as Attachment A to the comments I submitted via email on December 1, 2009 and additional comments I will be submitting on January 4, 2010. This is intended to be part of the official record I have submitted.

Thank you for your attention to this matter.

Respectfully submitted by,

RECEIVED
JAN 04 2010

Jan Wroncy

Jan Wroncy, on my own behalf and
on behalf of Gaia Visions
Post Office Box 1101
Eugene, OR 97440

(1005)

RECEIVED
JAN 04 2010

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.

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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 ZETTERBERG

Carolyn Zetterberg
800 Cypress Pt. Loop - Ashland
Ponders@gmail.com

1006

RECEIVED
JAN 04 2010

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely,

Juan G. Diaz
562 'A' st.
Ashland, OR
97520

007

RECEIVED
JAN 04 2018

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely,

SHERYL TUTTLE
15943 SHORT WAY
BROOKINGS, OR. 97415

(1008)

RECEIVED
JAN 04 2010

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely, Steve R. Gross

STEVE GROSS
15943 SHORT WY.
BROOKINGS, OR. 97415

1009

RECEIVED
JAN 04 2016

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely,

KENT O. PATTON
9 Hillcrest
Ashland, OR 97520

RECEIVED
JAN 04 2010

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely,

Marcia Fodine

745 Alaska St
Ashland, OR 97520

(1011)

RECEIVED
JAN 04 2018

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely, Charles Churchill

Charles Churchill
269 Alta Ave.
Ashland, OR 97520

(1012)

RECEIVED
JAN 04 2017

Vegetation Treatments EIS Team
PO Box 2965, Portland, OR 97208
orvegtreatments@blm.gov
ed_shepard@blm.gov

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Sincerely,

Susan Hardy Straub
276 Hamlet Street
Ashland, OR 97520

1013

DEAR BLM REP,

THIS REPRESENT SIX (6) INDIVIDUAL PUBLIC COMMENTS SUPPORTING

* ALTERNATIVE ONE - NO HERBICIDES - *

THANK YOU

RECEIVED
JAN 04 2010

RECEIVED
JAN 04 2010

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: CRAIG BAUMAN 1900 Augusta St. Eugene OR 97403

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!

1014

RECEIVED
JAN 04 2010

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Dear BLM, my name and address are: Joshua Baecke\ 3763 SE Grant ST Portland OR

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Public Comment on Draft Environmental Impact Statement on BLM Herbicides

Dear BLM, my name and address are: Alexander Lipshutz 5021 NE 27th PDX, OR 97211

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1016

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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: Noel Adams 3003 se Woodward Portland OR 97202

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(1017)

RECEIVED
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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: Amy Warren 1384 NW Saginaw Ave. Bend OR 97701

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0018

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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: Jim Norris 76340 London Rd. Cottage Grove Ore. 97424

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1078

(1020)

"Mary Camp"
<maryc@rogueriver.net>
01/04/2010 11:30 AM

To <orvegtreatments@blm.gov>
cc
bcc
Subject DCVNRCA Comments on Oregon Vegetation Treatments DEIS

To: orvegtreatments@blm.gov; Vegetation Treatments EIS Team, Bureau of Land Management, Oregon State Office

From: Mary Camp, President, Deer Creek Valley Natural Resources Conservation Association, PO Box 670, Selma, OR 97538

Date: January 4, 2010

Regarding: Draft Environmental Impact Statement on Vegetation Treatments Using Herbicides on BLM Lands in Oregon

The Deer Creek Valley Natural Resources Conservation Association, also known as the Deer Creek Association (DCA), of Selma, in Josephine County, is a 30 year old community organization dedicated to retaining and restoring the health of forest and human communities in the Deer Creek and other watersheds. DCA comprised solely of volunteers is committed to its mission: *"To promote and protect environments and species that sustain the web of life and human communities.* "

We support ALTERNATIVE ONE – no herbicides – because all of the other alternatives would fail to protect environments and species that sustain the web of life and human communities. The BLM needs to consider 21st Century solutions to protect extremely compromised and degraded ecosystems, and the dangerous threats to public health from practices that use toxic chemicals being proposed in Alternatives 2, 3, 4, and 5.

This is why we requested that the Natural Selection Alternative be given full consideration in the DEIS. The DEIS only fully considered and analyzed alternatives that would lessen protections for BLM forests and watersheds. Yet, there are laws such as the Endangered Species Act that the BLM has to violate in order to weaken these protections. The BLM alternatives would fail to meet its other obligations to protect clean water, recover endangered species and provide for recreation. BLM has failed to produce a reasonable range of alternatives and therefore cannot meet all of its legal obligations including to protect clean water and wildlife habitat.

BLM Vegetation Treatments EIS Team failed to consider and address the following issues raised in scoping comments by Deer Creek Association July 28, 2008:

> *BLM's management practices that continue and increase the spread of non-native species must be changed. Until BLM managers deal with the cause of this problem they will be adding threats to biological, ecological, social and economic values on all*

forests and communities. BLM managers have a responsibility to fully assess the extremely harmful affects these chemicals will have on ecosystem and human health.

The Natural Selection Alternative (NSA) is a "reasonable" alternative under NEPA and should be analyzed by the BLM managers as an integrated strategy to manage invasive weeds and fire fuel density on public land. Preventative and passive vegetation management as prescribed in the NSA are proactive treatments for controlling invasive species, restoring native vegetation, and reducing fire fuel density on public land. The BLM agrees that prevention is the best approach for managing invasive plants and passive restoration is a valid technique for vegetation management. BLM cannot avoid analyzing these techniques simply because they do not meet a traditional definition of vegetation "treatments:" "Passive treatments, by inherent definition, are not considered to be treatments that manipulate vegetation..."

The Natural Selection Alternative retains naturally evolved species, natural ecosystem communities and conditions that resist the invasion of non-native species. It would produce far more timber and other forest products along with perpetual local jobs while retaining all existing late successional and old growth ecosystems. The BLM should implement the Natural Selection Alternative to meet legal, social and environmental requirements for public lands. We request that the NSA (as presented for BLM's South Deer Landscape Management Project, Medford District, BLM) be fully and equally assessed as an alternative in the EIS.

The EIS must address BLM's own activities that contribute to the establishment and spread of invasive plants. The EIS needs to consider a complete and accurate assessment of science (including contrary science) and provide a robust assessment of the environmental impacts of the proposed program as required by NEPA.

DCA members concerns include a direct personal interest over the outcome of the proposed vegetation treatments because we live and work adjacent to BLM lands. We rely on the species that design, organize, regulate and regenerate our community ecosystems and sustain our quality of life. Many of us rely on water that originates on these lands for our domestic needs and organic practices. DCA has sponsored public tours for decades that include hiking on BLM lands to educate the public on how forests are sustained. Bringing these toxic chemicals into our living environment is a serious violation of our human rights.

Studies show hormone/endocrine disruptive chemicals have same effects as DES given to pregnant woman that resulted in all sorts of reproductive disorders and cancers. There is an effect at extremely low doses. The cumulative and trans-generational effects, and multitude other dangers to humans and all the species that make up these ecosystems that we depend upon for local to global health by herbicides in the proposed plan are known and well documented and discussed in great detail by individuals and organizations in comments incorporated by reference at the end of these comments.

We have found great and passionate agreement in opposition to the use of toxic chemicals on our

public lands, including current and proposed herbicides. Repackaging chemicals and reframing their use will not escape the reality of the controversial nature of practices that incorporate the use of toxic chemicals; and the foreseeable reform demanded by an ever more informed and outraged public.

If Alternative One is not selected; DCA requests a Supplemental Impact Statement that includes a fair and objective scientific analysis of all aspects of the Natural Selection Alternative as compared with BLM alternatives; including all ecosystem values, services, products and uses including purification of air and water, nutrients cycle, pollination, herbs and medicinals, recreation and tourism, healthy working environment, chemical drift, cumulative effects, the eminent and lethal threat to salmon and aquatic systems, carbon sequestration scenarios, and use of fossil fuels, just to name a few, which any appropriate 21st century forest practice must consider. No viable alternative can be assessed only in part, without looking at it with respect to all of its relationship aspects. The use of herbicides will not meet BLM purpose, need, goals and legal requirements.

We incorporate by reference comments on the Vegetation Treatments Using Herbicides on BLM Lands in Oregon DEIS by: Umpqua Watersheds, Cascadia Wildlands, Klamath Siskiyou Wildlands Center and the Center for Biological Diversity by Francis Eatherington; Oregon Wild and Center for Biological Diversity by Doug Heiken; The Northwest Coalition for Alternatives by Kim Leval; Siskiyou Project by Rich Nawa; Gaia Visions, Coast Range Guardians, Residents of Oregon Against Deadly Sprays and Smoke, and Citizens Environmental Protection Alliance by Jan Wroncy; by Maya Healer Gee; Pesticide Poisoning Victims United, a Division of The Pitchfork Rebellion by Day Owen; Blue Mountains Biodiversity Project (Karen Coulter, Director); Oregon Toxics Alliance (Lisa Arkin, Director); and Cascadia's Ecosystem Advocates by Samantha Chirillo.

We also include by reference: The Natural Selection Alternative for the South Deer Landscape Management Project, Medford District BLM, Jan 2005 and all appendices, attachments and references; and 8/6/05 EA comments for the South Deer Landscape Management Project (EA# OR110-05-10) by Dennis Odion, PH.D. Vegetation Ecologist. These documents are attached to this email, minus some attachments such as maps due to size limits.

Sincerely,
Mary Camp, President
Deer Creek Valley Natural Resources Conservation Association (Deer Creek Association; DCA)
P.O. Box 670, Selma, OR 97538

This document submitted on line to orvegtreatments@bom.gov on Jan 4, 2010

Name: Mary Camp for Deer Creek Association
Email: maryc@rogueriver.net

(1021)

kimberly anstey
<kimanstey@gmail.com>
01/04/2010 12:24 PM
Please respond to
kimanstey@gmail.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,

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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,

kimberly anstey

(1022)

"Barbara Kelley"
<cedar776@comcast.net>
01/04/2010 01:07 PM

To <orvegtreatments@blm.gov>
cc "Barbara Kelley" <cedar776@comcast.net>, "kim kauffman" <kimakauffman@hotmail.com>, "Celia & Mike" <wildflower26@peoplepc.com>, "bob and Sharee Berman"
bcc
Subject continued (part 4) COMMENTS on Oregon vegetative treatments

These are my **continued COMMENTS** on the proposed BLM vegetative treatments in Oregon, 4th set. I will reprint the last paragraph of my last submission:, slightly altered.

However Billee found much of the information she was seeking in an unpublished 700 page report being generated by the laboratories at Bethesda, Maryland, outside Washington DC. It seems that the terrible chemicals that destroyed Billee's life were quite well understood, as the damning evidence was piling up before and during the war. **DOW knew.**

THE BIONETICS REPORT

Billee was able to uncover, study, and reproduce in her book ("Sue the Bastards,") , a huge amount of information, so different from what she and others were being told in a "disinformation campaign" about the toxic chemicals let loose on "her mountain:" (She lived just at the edge of it,) Her community had been told **"Neither 2,4-D or 2,4,5-T are harmful to birds, fish, wildlife, or humans."** --*The Arizona Record,* August 1965.

The Bionetics Report, which later became the subject of a congressional investigation, and its results widely publicized by Senator Gaylord Nelson, was titled

EVALUATION OF THE CARCINOGENIC, TERATOGENIC AND MUTAGENIC ACTIVITY OF SELECTED PESTICIDES & INDUSTRIAL CHEMICALS

Since Billie had witnessed so much deformity in the mountain trees and her own animals, including a two headed sheep and a guinea pig who could not open its eyes, she was particularly interested in Volume III on "Teratogenic Activity of Selected Pesticides." She managed to get much of the information, word for word, in her book, a copy of which I possess. She found, for example, that 2,4,5-T was less teratogenic (birth deforming) than 2,4-D.

I will render only a few quotes here, but a public agency such as the BLM

that unleashes these chemicals on public lands, ought to be able to get the entire Bionetics Report from the Library of Congress. Indeed, it has a moral obligation to do so. **And it also has a moral obligation to cease and desist all spraying of toxic chemicals on our lands, using as its resource independent scientific information where it is obtainable, and not that starting with "studies" obtained from pesticide manufacturers and their sales people.**

A few quotes then from and about "The Bionetics Report" On page 296 of "Sue the Bastards": "**Most of the 84 chemicals tested were found to produce one or more kinds of abnormality, and most of them were carcinogens, although a great many were mutagens. . . .The remaining question of importance is not "Why did they choose to single out just 2,4,5-T?" but rather " why did they choose to ignore the others?" and not inform us that these tests disclosed some very frightening things in addition to what we already knew.**

One of their reasons, if not the only one, is economics. As much as 30 times more 2,4-D is manufactured ,sold, and used in America than 2,4,5-T On page 18 of their(Bionetics) report: 2,4,5-T (Brl.061 Mice) "increased incidence of abnormal fetuses, cleft palate high at 113 mg/kg dosage but not at lower dosage. . . .

Upon examining closer the dosage rates for these two compounds, 2,4-D and 2,4,5-T, I find the dosage rates which produced abnormalities indicated the amount of 2,4-D was less than half that used in many of the 2,4,5-T studies. (page 296, "Sue the Bastards")

On the same page (296) is shown a "cancer and deformity" list from the Bionetics Report, which does include 2,4-D.

As the reader may recall, citizen pressure was able to get 2,4,5-T banned in 1979, but ongoing outcry regarding 2,4,-D has been in vain. The Bionetics Report, and Billee Shoecraft's book seem to hold clues about behind the scene reasons for letting the one go, and continuing ad infinitum with the other (D).

They ought to both have been banned long ago.

end of Set 5, to be continued

(1023)

Guenter Ambron
<gunny@cavenet.com>
01/04/2010 01:57 PM

To orvegtreatments@blm.gov
cc
bcc
Subject Vegetation Treatment EIS (Comment from a Land Owner in the Illinois Valley)

Gerlinde Rorison
Guenter Ambron
211 Ivy Drive
Cave Junction, OR
Medford District

My mother and I are land owners at the above address. My mother is 78 years old. Se uses BLM lands to walk on. Since she move there there has been extensive treatment that has negatively impacted the Forest BLM manages with slash busting and herbicide spraying. The animals avoid this area at the end of Fernwood Dr. where my mom walks through on BLM land. She said its very depressing to see how poorly this land is treated and I'm very concerned for here health, she has an auto immune disease.

I have studied the WOPR and other proposed Treatments on BLM lands and have participated in West Fork, East Fork, Selma and other Open Houses and forums within the Illinois Valley. The WOPR addressed no treatment of herbicide but advocated clearcuts. Now BLM is pushing and fast tracking significant increase to escalating herbicides use. There is very little study on the results of mixing treatments with different herbicides and their impacts upon nature and humans. Lawsuits and damage to human life have already resulted in other counties of Oregon from BLM's use of herbacides.

You who are receiving this comment are potentially aiding in contributing to the endangerment of life, imposing sicknesses to humans, and harm to many species other than the treatments to targeted species. I ask you, "Would you support a hike with your grandmother, mother, children and grand children through BLM forests that were treated with multiple and complex herbicides?" Would you trust that the herbicide system BLM applies is safe for your family. But may be non of your family lives or visits BLM forests. So what does it matter to you. It's your job you are concerned about.

I hope you can find it with in you to slow the system down in using Chemical solutions to complex problems. A forest will reclaim most of it's species if allowed to, in time. We can employ more people and support the local economy by extraction methods and canvassing. Alternatives first.

My mother and I Support Alternative 1 - prevention first. Only at extreme levels of need should an herbicide be used. And we should do extensive research before using them, especially in layer applications.

Please - for the health of our children, think it over, slow down the process. Listen to what your conscience indicates.

You are a human being worthy and able to stand up for what is right. You will be greatly respected and it can surely lead to a job that will serve your ideal and ethics within or without the BLM agency.

Guenter Ambron

Support the health of the community that live around the lands you manage.

Picture 1.pdf

1024

<jenvel@oregonfast.net>
01/04/2010 02:07 PM

To <orvegtreatments@blm.gov>
cc
bcc
Subject Toxic applications are not beneficial

I urge BLM to reconsider an option to revert to spraying and polluting public lands, animals and plants with toxic chemicals.

By increasing the already high amount of long-lasting toxic chemicals in the soils this toxic plan is going backwards.

Respect the earth's water recycling system of ground water to drinking water to healthy people, plants and animals.

How many more legal battles does the BLM want to deal with from communities harmed by loss of potent water, or the
public medical response to an increase in life-long systemic disease, increased incidence of miscarriage and cancer.

Be aware of the consequences of the "simple solution" of toxic spraying and it's harm and demonstrate this by discarding
this toxic policy and replacing it with a well designed, non-toxic revision of clear cutting and vegetation management.

Please Confirm receipt of this message. Thank you.

Jenny Velinty,
supporter of clean water, organic food, abundant wildlife, and healthy children.

1025

"Greg Winans"
<greg@tricountycwma.org>
01/04/2010 02:54 PM

To <orvegtreatments@blm.gov>
cc "Mark Porter" <mark@wallowaresources.org>
bcc
Subject EIS Comments

Attached are our comments.

Thank you very much,

Greg Winans
Tri County CWMA Director
2960 Broadway
Baker City, OR 97814
office (541) 523-2740
cell (541) 519-4139
fax (541) 524-7666

EIS Comments.doc

TRI-COUNTY COOPERATIVE
WEED MANAGEMENT AREA
BAKER COUNTY * UNION COUNTY * WALLOWA COUNTY

2960 Broadway • Baker City, Oregon 97814 • FAX (541) 524-7666 • Phone (541) 523-2740

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

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

Dear EIS Team,

The Tri County Cooperative Weed Management Area (CWMA) would like to thank you and your team of specialists for the opportunity to comment on the Draft EIS for the Vegetation Treatments Using Herbicides on BLM Lands in Oregon. It is our opinion that this is a well written document which addresses a host of very important issues.

We fully support the Proposed Action Alternative, Alternative 4, as the most logical choice given the five alternatives. It is imperative that the BLM have at their disposal all of the tools proposed in this alternative in order to meet the *Need* and all eight *Purposes*. The amount of acres identified for herbicide treatment in this alternative, 45,000 or so, may appear vast to some observers. However, this acreage amounts to less than 0.3% of the BLM managed lands within the state of Oregon.

The eight (west side) and twelve (east side) new chemicals made available for use on the BLM land, in the Proposed Action Alternative, will increase effectiveness on noxious weeds while limiting off-target damage and decreasing potential human safety hazards. Several of the most invasive and aggressive weed species presently infesting the BLM land are uncontrollable without these newly available herbicides. Of the five alternatives, the Proposed Action Alternative bears the lowest cost per acre; when spending taxpayer funds it is essential to accomplish goals efficiently and effectively. While not fully addressed in this Draft EIS, a method of recruiting new, more effective and safe herbicides as they become available (i.e. Milestone, active ingredient aminopyralid) would be a valuable addition to this alternative. Milestone has proven to be much more effective than some other herbicides on particular species, and increases the treatment window thereby increasing chances of success.

Presently, there are noxious weeds infesting BLM lands that do not respond to any of the four herbicides available for use due to the 1984 injunction. These noxious weeds have been proliferating on BLM land and moving onto private lands where landowners are struggling to control the continuous barrage of invading plants. Alternative 4, the Proposed Action Alternative, contains the minimum tools required to meet the *Need*, and perform noxious weed control effectively as a responsible neighbor.

Administrative sites, recreation sites, and rights of way are considered to be some of the most serious vectors, when addressing noxious weeds. Any alternative denying the ability to effectively control weeds in these areas would fail to meet the eight *Purposes*.

The availability of the tools provided through Proposed Action Alternative, Alternative 4, for invasive plant management on BLM managed lands in Oregon are not only critical with regard to the BLM, but are also extremely important to noxious weed control throughout northeast Oregon. Weeds do not recognize political or jurisdictional boundaries, and must be dealt with on a landscape scale. The ongoing partnership between federal, state, and local agencies, as well as private individuals in this battle against invasive species in northeast Oregon continues to be highly successful and sets an example for noxious weed management throughout the nation. It is our opinion that all partners should, at a minimum, possess the tools available in the Proposed Action Alternative, Alternative 4.

Sincerely,

Greg Winans
Tri County CWMA Director

(1026)

"Jennifer Shmikler"
<jennifer@oregonfb.org>
01/04/2010 03:17 PM

To <orvegtreatments@blm.gov>
cc "'Dave Dillon'" <dave@oregonfb.org>, <katie@oregonfb.org>, "'Barry Bushue'" <bbushue@comcast.net>
bcc
Subject Comments on BLM Vegetation Treatments

History: This message has been replied to.

To Whom This May Concern:

Please find comments from the Oregon Farm Bureau Federation regarding the proposed rule changes to vegetation treatments on BLM attached. Please contact me with any questions or concerns on this matter.

Thank you,

Jennifer Shmikler
Regulatory Affairs Specialist
Oregon Farm Bureau
503.399.1701 Office
503.991.2785 Cell
503.399.8082 Fax
jennifer@oregonfb.org
www.oregonfb.org

January 4, 2010

Edward W. Shepard
Oregon/Washington Bureau of Land Management State Director
Vegetation Treatments EIS Team
PO Box 2965
Portland, OR 97208-2965

RE: Proposed Rule Changes Regarding Vegetation Treatments Using Herbicides on BLM Lands in Oregon

Dear Mr. Shepard:

The Oregon Farm Bureau Federation (OFBF) submits these comments on behalf of its 8,000 farming and ranching member families statewide. As Oregon's largest general farm and ranch organization, our primary goal is to promote educational improvement, economic opportunity, and social advancement for our members and the farming, ranching, and natural resources industry as a whole.

OFBF is pleased to offer comments on the Bureau of Land Management (BLM) proposal to update and modernize vegetation management on state-owned property by increasing the number of herbicides available to the nine BLM districts in Oregon. We strongly support BLM Alternative 4 to responsibly reduce the significant spread of noxious weeds and invasive plants. The proposed action will allow BLM districts, adjacent property owners and grazing permit holders to significantly reduce the spread of harmful weeds and invasive plants leading to a properly functioning ecological site condition, better protection from soil erosion, restored wildlife habitat and enhanced water quality throughout Oregon.

Current chemicals permitted on Oregon BLM land do not effectively treat the spread of noxious weeds and invasive plants thus placing a heavy burden of control and prevention on farmers and ranchers who own and manage private land adjacent to federally-owned property. An injunction placed by the U.S. District court in Northwest Coalition for Alternatives to Pesticides, et al. v. Block, et al in 1984 and modified in 1987 and 2009 restricts Oregon BLM vegetation management plans to use of four herbicides (2, 4-D, dicamba, glyphosate, and picloram) on noxious weeds and precluding any invasive vegetative management strategy altogether. The current BLM vegetation management plan is wholly inadequate primarily because these four herbicides are not effective by themselves against the rapid spread of noxious weeds now damaging and threatening Oregon's BLM-managed public lands. The lack of a sophisticated

vegetation management plan also permits the continual spread and establishment of invasive plants causing permanent damage to rangeland, forestland and wildlife habitat, reduced water quality and soil productivity and an increased frequency of wildfires. Therefore, OFBF requests BLM move forward immediately with the proposed Alternative 4 to modernize BLM vegetation management strategies and address these critical issues facing Oregon farmers and ranchers.

Nearly 14 million acres of BLM public lands in Oregon are used for livestock grazing. These public lands provide an important source of livestock food supply to many rural ranching communities in Oregon, particularly east of the Cascade mountains. Uncontrolled noxious weeds and invasive plants reduce this critical livestock food supply, degrade plant community health and result in permanent limitations to current grazing levels. Maintaining the inadequate BLM vegetation management plan will only decimate existing ranching operations, prohibit future ranching opportunities throughout the state, and further degrade rangeland ecological function.

The lack of a more sophisticated management plan is also causing irreparable damage to prime wildlife habitat because we cannot control basic noxious weeds with the available chemicals. Noxious weeds and invasive plants exist at the expense of their own environmental surroundings. They use more moisture, provide less soil protection, alter soil chemistry, are unpalatable to wildlife and lifestock and do not support surrounding native species. Their very name 'invasive' denotes there are no natural controls to keep populations from establishing monocultures and eradicating native species from our public lands. Implementation of BLM proposed Alternative 4 will considerably reduce harmful damage done to grazing lands and wildlife caused by noxious weeds and invasive plants uncontrolled by the four herbicides currently available to Oregon BLM districts.

OFBF strongly believes expanding the available herbicides for vegetation management on Oregon BLM lands is vital to the success of providing a safe and abundent food supply. We appreciate the opportunity to present these comments.

Sincerely,

Jennifer Shmikler
Oregon Farm Bureau
Regulatory Affairs Specialist

(1027)

Kim Leval
<kleval@pesticide.org>
01/04/2010 03:15 PM

To orvegtreatments@blm.gov
cc
bcc
Subject Comments on the draft EIS on Vegetation Treatments Using Hebicides

I would like to submit the following letter in place of our earlier one. I have caught a few more typos and small things and this is a corrected version. No big changes. Thank you very much! Kim

BLM_DEIScomments_NCAP_Dec09finalwsig.doc

Kim Leval, Executive Director
Northwest Coalition for Alternatives to Pesticides
PO Box 1393
Eugene, OR 97440
Phone (541) 344-5044 ext. 15
kleval@pesticide.org

NCAP's work is supported in large part by dues from our members. If you are not already a member, please consider joining! Our dues are $25 per year, $15 limited income. Members receive a quarterly publication, as well as periodic Action Alerts on timely pesticide reform topics. Use this link to join on-line http://www.pesticide.org/joinNCAP.html or give us a call.

Northwest Coalition for Alternatives to Pesticides

Protecting the health of people and the environment by advancing alternatives to pesticides

To: orvegtreatments@blm.gov

From: Kim Leval, Executive Director, Northwest Coalition for Alternatives to Pesticides (NCAP)

Subject: Comments on the Draft Environmental Impact Statement on Vegetation Treatments Using Herbicides on BLM Lands in Oregon

Date: January 4, 2010

We appreciate the opportunity to comment on the DEIS for Vegetation Treatments Using Herbicides on BLM Lands in Oregon. The Northwest Coalition for Alternatives to Pesticides is a non-profit 501 (c) 3 organization working in Oregon, Idaho, Washington, California, and Montana. We have over 2,000 paying members and more than 30,000 people who have received information about alternatives and are in our database. Our mission is to protect the health of people and the environment by advancing alternatives to pesticides.

Our efforts to seek BLM's compliance with the National Environmental Policy Act resulted in the 1984 U.S. District Court injunction issued in Northwest Coalition for Alternatives to Pesticides, et al. v. Block, et al. (Civ. No. 82-6273-E) and which was modified by the court in 1987. The modified injunction permits the use of only four herbicides: 2,4-D, dicamba, glyphosate, and picloram. Furthermore, the use of these herbicides is limited to the control and eradication of noxious weeds.

While we understand your interest in limiting the adverse effects of noxious and invasive weeds we think the current DEIS fails to address the root causes that spread noxious and invasive weeds. These root causes include land management practices that disturb soil and native vegetation.

Preferably, NCAP would like to see reduction in the use of these four herbicides. However, this DEIS proposes that additional herbicides be allowed on BLM lands, not only to control noxious and invasive weeds, but also to control native vegetation in some cases such as preserving BLM infrastructure through invasive control around buildings, parks, and other structures.

The preferred, Alternative 4, includes the use of the following herbicides (E=East side only, all others would be statewide): 2,4-D, bromacil, chlorsulfuron (E), clopyralid, dicamba, diuron, fluridone, glyphosate, hexazinone, imazapic, imazapyr, metsulfuron methyl, picloram, sulfometuron methyl (E), tebuthiuron (E), and triclopyr. It also includes no aerial spraying West of the Cascades.

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info@pesticide.org
www.pesticide.org

Printed on 100% post-consumer recycled paper, processed chlorine-free

It is our expectation that BLM's vegetation management plan be based on the following principles:

(1) Support continued strict controls on the use of herbicides on federal lands.

(2) Use herbicides only as a last resort when other options are not feasible. Furthermore, they should only be used within an integrated program that emphasizes prevention, early detection and control.

(3) Use herbicides in a very limited and targeted way when non-herbicidal options are not feasible. BLM should not use any broadcast applications but instead spot applications. Furthermore, sensitive sites including endangered species habitat and waterways should be avoided.

(4) Avoid activities that spread weeds. Activities that increase soil disturbance and decrease cover of native vegetation are the biggest problems, including: roads, logging, grazing, OHVs, fire suppression, altered fire regimes, and mining.

(5) Fully disclose weed spreading consequences of land management activities such as logging, roads, fuel treatments, roads, grazing, OHVs, mining, fire suppression, and altered fire regimes. Furthermore, BLM should explore limiting these activities as a way to avoid the spread of weeds.

(6) Consider alternatives to herbicides at all stages of decision-making: program, plan, and project.

(7) Evaluate the risks of all herbicides ingredients, including all "inert" ingredients. Furthermore, these ingredients should be disclosed to the public.

These principles do not seem to be well represented in the DEIS.

From our perspective there are many problems with the proposed expansion in herbicide use that Alternatives 3, 4 and 5 propose.

BLM's final EIS must evaluate the impact of eliminating root causes of weed infestation in order to prevent new infestations.

We urge the BLM to do even more to prevent the spread of noxious and invasive species. As we presented in our scoping comments (Norma Grier, July 25, 2008), "[P]revention must be the priority for the environmental analysis for vegetation treatments. The BLM must consider prohibiting disturbance that exacerbates invasive species and preventing introductions of undesired plants on vehicles, boats, animals, or other methods. The BLM needs to consider whether noxious and invasive species can be better controlled by increasing the use of herbicides, or decreasing these root causes.

Prevention must not be confused with early treatment of unwanted species. Prevention addresses the conditions that encourage the introduction and establishment of target plants." An example of this is the management of understories where all brush is cleared and burned creating space for noxious and invasive species to take over. Management practices that encourage noxious and invasive species to flourish must be changed.

Consider the recent study by Dodson & Fiedler (2006) showing that fuel reduction efforts are of particular concern for the spread of weeds because of the large scale of planned treatments and the combined effect of canopy reduction and soil disturbance. Comparing the invasive weed effects of untreated control, thin-only, burn-only and thin-burn treatments, they found that the treatments that were both thinned and burned consistently had the greatest abundance of both exotic and undesirable species, and this pattern was consistent across all scales of analysis. In fact, the thin+burn treatments had almost an order of magnitude higher cover of undesirable and exotic species than any of the other treatments. The thin-only treatment had the second highest levels of exotic abundance. ERICH K. DODSON and CARL E. FIEDLER. 2006. Impacts of restoration treatments on alien plant invasion in Pinus ponderosa forests, Montana, USA. Journal of Applied Ecology (2006) 43, 887–897. http://www.blackwell-synergy.com/doi/abs/10.1111/j.1365-2664.2006.01206.x

See also, Dodson, Erich. Monitoring change in exotic plant abundance after fuel reduction/restoration treatments in ponderosa pine forests of Western Montana. Masters Thesis University of Montana. May 2004.
http://www.fs.fed.us/ffs/docs/lubrecht/Dodson%20Final%20thesis.pdf

> "While the thin-only and burn-only generally showed increases in exotic richness and cover greater than that of the control, adding together the effects of each treatment does not explain all of the invasion observed in the thin/burn, suggesting a synergistic relationship. … In fact, understory productivity in ponderosa pine forests has been shown to be limited by competition from trees for soil nutrients and water, not light (Riegel et al. 1992). When combined, treatments may reach a threshold of resource availability necessary for exotics to invade or establish. Individually treatments may not be sufficiently intense to reach this threshold. There is evidence to support the idea of disturbances (fire and mechanical cutting) acting in a synergistic fashion to promote invasion (Hobbs and Huenneke 1992). … Moreover, fire may be the type of disturbance that promotes colonization for C. biebersteinii [spotted knapweed] (Sheley et al. 1999). Adding nitrogen to a system, which may occur the first year after burning (Deluca and Zouhar 2000), has been shown to shift the competitive advantage to C. biebersteinii (Blicker et al. 2002)."

BLM's EIS should evaluate the possibility of including the Restoring Native Ecosystems Alternative. Important parts of this alternative were deemed outside the scope and excluded from consideration in BLM's earlier PEIS, but should be included in this DEIS. The native ecosystems alternative meets the purpose and need better than any

of the other alternatives because it avoids the causal actions that would perpetuate the 12% annual increase in invasive species.

Appendix I to the PEIS for the 17 Western States:
http://www.blm.gov/pgdata/etc/medialib/blm/wo/Planning_and_Renewable_Resources/veis/final_eis_vol_2/final_eis_appendixes.Par.78552.File.dat/Final%20PEIS%20Appendix%20I%20-%20RNEA%20Alternative%20%28June%202007%29.pdf

BLM does not adequately consider the use of non-herbicidal controls or least toxic herbicides. Alternative weed control methods should be included in BLM's EIS. Control techniques vary depending on the weed species being addressed. Still, BLM should consider implementing non-herbicidal alternatives.

Several methods have been proven to produce positive results in stopping noxious weeds and other invasive species. For example, manual removal, as well as the use of tools and other machines, has fewer unforeseen impacts than herbicide application. See NCAP's factsheets on bindweed, blackberries, english ivy, knapweed and other unwanted plants (http://www.pesticide.org/factsheets.html#alternatives).

The use of goats to simply eat the targeted noxious and invasive plants can be an effective means of weed control (http://www.pesticide.org/pubs/alts/goats/goats.html).
Finally, other less toxic 'herbicides' such as vinegar, which has stopped invasion of unwanted species targeted in the DEIS, are available, but have not been considered by BLM. (http://www.pesticide.org/pubs/alts/weeds/vinegarinherbicides.html).

Because the BLM does not adequately explore other readily available, proven and effective alternatives to herbicide use in detail, the DEIS is inadequate and does not comply with the mandates of NEPA.

Scope of the DEIS is broad and herbicide use beyond use for noxious weeds requires greater analysis and public input. BLM proposes that the additional herbicide use will allow you to, "..treat any vegetation to meet safety and operation objectives in administrative sites (including schools and parks)," and to "...treat any vegetation as needed to control pests and diseases," and to "...treat any vegetation to achieve habitat goals specified in approved Recovery Plans.." (pg 6). As we cautioned in our scoping comments, BLM must specifically state what is covered and what is not. This is wide open and would allow all types of actions outside of the main intent to control high priority plants. We believe that when BLM proposes a program of this magnitude, NEPA requires a detailed analysis of environmental impacts that cannot be deferred until a later time.

Full disclosure and analysis of all herbicide ingredients must be included in the EIS. The U.S. Environmental Protection Agency announced its intent to require pesticide manufacturers to disclose to the public the inert ingredients in their products. The EPA decided that drafting a new regulation will "increase transparency" and help protect public health. We urge the BLM to consider EPA's decision and analyze the risks of the

inert ingredients in the herbicide formulas proposed for use. The effects of these inert ingredients should also be analyzed in order to comply with NEPA.

The Endangered Species Act analysis in the DEIS is insufficient and does not properly address potential impacts to listed species and critical habitat. We appreciate the BLM's acknowledgement of recent federal efforts to bring pesticide uses into compliance with the Endangered Species Act. The U.S. Environmental Protection Agency found that current labeled uses of 2,4-D, diuron and triclopyr BEE are likely to adversely affect Oregon's threatened and endangered salmon and steelhead. These three herbicides should not be proposed for use in BLM's EIS. BLM should wait until the National Marine Fisheries Service releases final Biological Opinions for these herbicides and the U.S. Environmental Protection Agency implements any Reasonable and Prudent Alternatives. The current DEIS does not go far enough to respond to the risks that the uses of 2,4-D, diuron and triclopyr BEE could have on listed species

The protection of endangered species should be a priority to BLM. BLM must include measures to ensure the protection of threatened and endangered species in every alternative considered in the EIS.

BLM's EIS must consider special concerns of Sulfonylurea (SU) herbicides.
As stated in our scoping comments, the Sulfonylurea's (SU) are a troubling group of herbicides, given that they are phytotoxic at extremely low rates of application that cannot be easily detected. Ecologists have been concerned about impacts on non-target plants, because SUs are capable of interfering with the reproduction of plants, even at exposure levels that show no damage to the plant. A rare or sensitive native annual plant may be unintentionally damaged if it is unable to properly reproduce due to exposure to a SU. Please refer to the work of John Fletcher and Thomas Pfleeger, including the following: Fletcher, JS, Pfleeger, TG, and Ratsch HC. 1993. Potential environmental risks associated with the new sulfonylurea herbicides. Environmental Science and Technology, October: 2250-2252. See also, Fletcher, JS, Pfleeger, TG, Ratsch, HC and Hayes R. 1996. Potential impact of low levels of chlorsulfuron and other herbicides on growth and yield of non-target plants. Environmental Toxicology and Chemistry. 15(7): 1189-1196. In addition, BLM rangeland uses of SUs in Idaho have resulted in a lawsuit due to damage to sugar beet crops from applications some distance away. These concerns must be analyzed in the EIS.

Again, we appreciate the chance to comment. We urge you to consider these important concerns and suggestions. Please contact me should you have questions. My extension is (541) 344-5044 extension 15.

Sincerely,

Kim Leval

Kim Leval
Executive Director, Northwest Coalition for Alternatives to Pesticides

1028

Debra Schlenoff
<dschlenoff@msn.com>
01/04/2010 03:43 PM

To <orvegtreatments@blm.gov>
cc
bcc
Subject Comments on Oregon BLM's Vegetation Treatments EIS

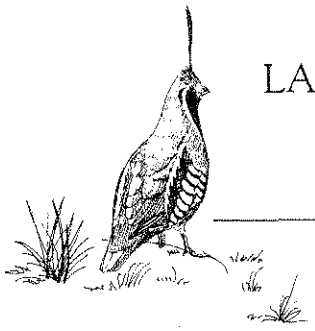
Dear BLM,
Please accept the attached comments on behalf of the Lane County Audubon Society, Rogue Valley Audubon Society, Kalmiopsis Audubon Society, Cape Arago Audubon Society and Audubon Society of Portland concerning the Vegetation Treatment Using Herbicides on BLM Lands in Oregon DEIS.

Thank you for contacting me via e-mail to confirm the extension of the comment period.

Respectfully submitted,
Debbie Schlenoff
Conservation Chair
Lane County Audubon Society

Hotmail: Trusted email with powerful SPAM protection. Sign up now.

LCAS BLM herbicide comments.doc



LANE COUNTY AUDUBON SOCIETY

AN OREGON CHAPTER OF THE NATIONAL AUDUBON SOCIETY

P.O. BOX 5086 • EUGENE, OREGON 97405

January 4, 2009

TO: orvegtreatments@blm.gov
Subject: Comments on Oregon BLM's Vegetation Treatments EIS

Dear BLM,

Please accept the following comments submitted on behalf of the Lane County Audubon Society, Rogue Valley Audubon Society, Kalmiopsis Audubon Society, Cape Arago Audubon Society and Audubon Society of Portland concerning the Vegetation Treatment Using Herbicides on BLM Lands in Oregon DEIS. Our members, numbering well over 12,000, frequently recreate on publicly owned land and are dedicated to protecting birds, other wildlife, and their habitats.

We share apprehensions about the spread of invasive plants and a desire to limit the negative ecological consequences of invasive plants. However, we believe that the best approach is to emphasize prevention and address the root causes of the spread of noxious weeds. We are concerned that the proposed massive use of herbicide will negatively impact non-target organisms and will exacerbate the problem by reducing the cover of desired native vegetation which will, in turn, create more opportunities for weedy plants to invade treated areas. A more selective targeting of exclusively invasive plants will leave more of the native plants in place to reoccupy the site and prevent future establishment of noxious weeds. We believe that herbicides should be used in a limited way on targeted populations of invasive plants only, that treatment should take the form of spot applications to avoid impacting non-target organisms, that greater buffer zones should be in effect around waterways and in habitats that contain sensitive species, and that only those herbicides in the least risk category should be permitted.

We believe that the DEIS is fundamentally flawed because it is based on the projected spread of invasive plants without addressing prevention. The estimated annual rate of spread of invasive plants leads to a considerable increase in the use of herbicides. Yet it is based on calculations that do not address avoiding activities that would significantly slow the spread of invasive plants in the first place. The consequences of activities that increase soil disturbance and decrease cover of native vegetation such as roads, logging, grazing, off road vehicles, fire suppression, altered fire regimes, and mining must be addressed. This would provide the dual benefit of both decreasing the spread of invasive plants and reducing the necessity for treatments with adverse ecological impact.

One of the stated Purposes for increasing the number of herbicides in use by the BLM in Oregon is the benefit of the use of "newer, less toxic herbicides." (DEIS p.9) We agree that this is a sound goal given the problems with the four older herbicides currently in use. However, in all of the action alternatives (3 through 5) proposed, the use of at least one of the four *older, more toxic* herbicides already in use would increase (DEIS p. 322). Under the BLM "preferred action" alternative 4, the use of herbicides "would more than double the use of moderate risk herbicides (when compared to Alternative 3)." Alternative 3 is designated as having "higher risk" than the no action alternative 2. It would seem that the action alternatives do not, in fact, meet the stated Purpose of "minimizing the effects to non-target plants and other species" and leading "to lower human and ecosystem risk." (DEIS p.9)

Risks to Wildlife

According to a recent literature review, "A plethora of papers have been published that address the effects of chemicals on wildlife vertebrates... In birds, there is ample evidence for EDC effects on the reproductive system. In some bird species, effects can be linked to population declines... Evidence shows that selected species from all vertebrate classes were negatively affected by certain anthropogenic chemicals." (Bernanke and Kohler, 2008) We believe that sound management decisions are based on scientific evidence and request that an up to date search of the scientific literature be undertaken to better inform BLM policy on the use of pesticides.

Even a cursory search in the scientific literature reveals cause for concern and suggests the most judicious approach to the use of chemicals. Although risk assessment is considered in the DEIS, there is a lack of references addressing this issue in the otherwise extensive References section. A few examples follow. Please note that some of these studies were conducted on herbicides that have been in use for some time suggesting that a careful analysis must be undertaken before any newer herbicides are adopted. In addition, some of the studies suggest that the "inert" ingredients in herbicide formulations may pose risks. This hazard should be more fully explored in the DEIS.

Fish and Amphibians: There has been a great deal of concern over plummeting amphibian populations. Most scientists believe that toxins in the water are among the factors contributing to the decline. A review article by Bernanke and Köhler (2008) overviews some of the evidence for this including a study that showed that embryos and tadpoles of the northern leopard frog (*Rana pipiens*), green frogs (*Rana clamitans*) and North American bullfrogs (*Rana catesbeiana*) that "were exposed to the herbicides triclopyr and hexazinone, under laboratory conditions were sensitive to these pesticides; exposures resulted in either death or paralysis." The review noted that the tadpole stage of *Litoria moorei,* an Australian frog, was particularly sensitive to Roundup Biactive. Roundup also reduced tadpole survival and biomass directly in leopard frogs by 40% (Relyea et al., 2005). Furthermore in the presence of a predator, newts (which reflects a more realistic scenario), the leopard frog tadpoles suffered greater mortality from the combined effects of herbicide and predators. An examination in an aquatic community showed that Roundup completely eliminated two species of tadpoles and nearly exterminated a third species, resulting in a 70% decline in the species richness of tadpoles and a 22% decrease overall in species richness (Relyea 2005). The effects of several pesticides including diuron was examined

on *Xenopus* (frog) eggs and showed inhibition of ovulation in vitro, accompanied by decreased testosterone production. (Orton et al., 2009)

A 2002 investigation showed adverse effects of glyphosate on the gills, liver, and kidney in fish (Jiraungkoorskula, 2002). In a study by Xie et al. (2005), herbicides and a binary mixture of surfactants with the herbicides were evaluated using an in vivo rainbow trout vitellogenin assay, a biomarker of estrogen exposure. Juvenile rainbow trout exposed to 2,4-D for seven days showed a 93-fold increase in plasma vitellogenin levels compared with untreated fish. Their results further demonstrated that a mixture of surfactants with triclopyr and 2,4-D possessed greater than additive estrogenic responses in these fish both under laboratory conditions and in a field setting. A recent study (Baldwin et al. 2009) examined the effects of exposure to sub-lethal amounts of various pesticides (including herbicides) on salmon. "Major efforts are currently underway to restore Pacific salmon habitats in an effort to recover depressed populations. However, not much research has been done to determine the importance of pollution as a limiting factor of ESA-listed species," explained the lead author Baldwin. "The model showed that a pesticide exposure lasting only four days can change the freshwater growth and, by extension, the subsequent survival of subyearling animals." (quotes from *ScienceDaily Dec. 17, 2009.)*

Some studies have looked at other aquatic organisms. Martin et al. (2004) conducted sediment toxicity tests to show sensitivity to herbicide in such organisms as an amphipod, *H. azteca*. This was recommended by organizations such as the World Health Organization (WHO 1994) and Environment Canada because glyphosate has a relatively long half-life in sediment. Of note is the fact that different formulations of the herbicide Round-up had different toxicities indicating that different "inert" ingredients such as surfactant components may themselves be toxic.

Birds and other Wildlife: Birds and grazing or insectivorous mammals will be exposed to toxic spray either directly when herbicide mixtures contact fur, feathers, and skin, through inhaled mist or through ingesting contaminated food and water. In birds, anthropogenic chemicals have been associated with skin and eye irritation, respiratory distress, organ malfunction, suppressed immune response, and reproductive problems such as eggshell thinning, deformed embryos, and decreased growth rates of nestlings. Behavioral alterations that have been observed in birds after exposure to these chemicals include decreased parental attentiveness, reduced territorial defense, greater vulnerability to predators, disorientation during migration, and reduced amounts of foraging. Wildlife is not protected by "do not enter" regulations; those animals that stay in one area are particularly vulnerable to chronic exposure. The two following studies provide evidence of direct and indirect impacts to birds. Deleterious estrogenic effects of Roundup were found in the duck *Anas platyrhynchos* (Oliveira et al. 2007). Exposure to this herbicide resulted in alterations in the structure of the testis and epididymal region as well as in the serum levels of testosterone and estradiol. Taylor et al. (2006) examined the indirect impacts of herbicide use on food webs. The study focused on insects eaten by ring-necked pheasant and gray partridge chicks and demonstrated that herbicides do reduce arthropods that serve as avian food resources and as beneficial predators.

Analyses prepared by federal agencies note the likelihood of exposure to wildlife. They address both the potential dangers of the surfactants found in herbicide formulations: "The use of NPE-based surfactants in any of the 10 herbicides considered in this EIS could result in toxic effects to

mammals and birds that eat contaminated vegetation or insects at typical and high application rates" and identify animals that are most vulnerable to herbicide application: "Small insectivorous birds that defend territories may feed in the same area and are subject to chronic exposures... Other land birds may forage lower and could be subjected to higher levels of exposure...Grouse may return to the same areas to feed on a regular basis, especially if the food supply is close to a breeding display area. As a result, chronic exposures may occur... Deer and elk would occasionally feed in the same area for multiple days leading to chronic exposures." From APPENDIX X: Effects of Herbicides on Wildlife Species (*Appendix prepared by Alan Dyck, Forest Wildlife Biologist, December 2006.* www.fs.fed.us/r6/invasiveplant-eis/site-specific/.../App-**X-Wildlife**.pdf)

Some of this information is represented in the Risk Category tables in the DEIS (p. 75-84). BLM and Forest Service Risk Assessments distinguish No Risk, Low Risk, Moderate Risk, and High Risk herbicides on various classes of plants, animals, and people. In BLM evaluations, diquat, diuron, fluridone, bromacil and tebuthiuron are noted to be of moderate or high risk to fish streams and ponds, pollinating insects, and aquatic invertebrates. Bromacil, dicamba, diquat, diuron, and Overdrive are rated as moderate or high risk to mammalian herbivores, avian herbivores, and/or insectivores. In multiple cases, the herbicides in the FS-evaluated assessments are also rated in the moderate to high risk categories (see table). There is no attempt in the DEIS to offer an alternative that excludes those herbicides that have been shown to present the greatest risks.

Human health risks

Several of the proposed herbicides pose health risks to people. The DEIS discusses some of the risk scenarios (p. 314-317). A few of these are quoted below.

Bromacil: "there would be a risk to workers associated with several exposure scenarios involving typical bromacil application practices... a risk for systemic, reproductive, and cancer effects from typical and maximum exposures to bromacil. Risks for systemic, reproductive, and cancer effects to workers and the public are associated with accidental scenarios ..."
Diuron: "there are risks to workers and the public associated with both routine and accidental exposures to diuron... Diuron is a suspected carcinogen, and possible endocrine disruptor"
Tebuthiuron: "tebuthiuron poses health risks to workers under various application scenarios... Several accidental scenarios also pose a risk for systemic and reproductive effects to workers and the public."

Glyphosate: The DEIS states that no health risks are associated with the use of glyphosate. However, recent evidence shows the potential for harmful effects. For example, a *Scientific American* headline from 2009 reads "Weed-Whacking Herbicide Proves Deadly to Human Cells" and reports the results of a study that demonstrates that glyphosate formulations stimulate cell death in human umbilical, embryonic, and placental cells (Benachour and Gilles-Eric, 2009) .

As stated above for fish and wildlife, although the DEIS discloses some of the potential risks of the various herbicides to people, there is no proposed alternative that offers the use of only those herbicides that have been found to provide the least risk to human health.

The proposal to increase herbicide use from about 17,000 to 45,000 acres will result in more exposure risks to both wildlife and people. The increased use of herbicide will amplify the chance of spills and other accidental scenarios. The BLM analysis should assume that human error occurs and that some workers may not be able to read or understand regulations written on the labels of the herbicides that they are applying. The preferred alternative 4 will expand the use of herbicides such that they are used in areas where they are much more likely to impact the public. Rather than targeting herbicides for control of invasives only, this option would allow the use of herbicides on native plants as well and expand application to administrative sites, recreation sites, and rights-of-way. These include roads, campgrounds, picnic areas, trails, boat facilities and leased areas such as parks and schools. (DEIS p. 19). All of these are public gathering places where larger numbers of people would be subject to exposure including children whose bodies are much more vulnerable to the adverse effects of chemicals. Another source of increased exposure risk is the use of toxic chemicals at popular berry-picking areas, commercial and recreational mushroom gathering areas, and Native cultural plant gathering areas. In addition, the extended use of herbicides along roads will increase the amount of herbicide that runs off into streams and other waterways. The DEIS acknowledges that contaminated water from roadside ditches is quickly directed to nearby streams (p. 27).

The use of herbicides over a much wider area presents a further health hazard in that there is an increased likelihood that they may eventually end up in people's drinking water. There are hundreds of domestic water supplies on or adjacent to BLM lands yet this hazard is not adequately addressed in the DEIS. The USGS report "Pesticides in the Nation's Streams and Ground Water, 1992–2001" confirmed that commonly used pesticides (including herbicides) show up in domestic water supplies.

We believe that the proposed action alternatives present too great a risk of contaminating drinking water, and adversely affecting non-target native plants, wildlife, and people. Targeted use of the least harmful herbicides should be used only on invasive plants. Prevention of the spread of invasive plants and non-chemical methods of weed control should be explored more fully in the DEIS. We would like to see an alternate proposal that makes concrete use of the risk assessments and includes only those herbicides that have been shown to be in the no-risk or at the very least, low-risk categories. This would meet The Need and Purposes for which this DEIS was prepared.

Thank you for the opportunity to comment.
Sincerely,

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(1029)

"John Sundquist"
<jamsund@epud.net>
01/04/2010 04:08 PM

To <orvegtreatments@blm.gov>
cc
bcc
Subject DEIS--Prevention first, poison pesticides last!

John Sundquist
31139 Lanes Turn Rd
Coburg, OR 97408
541-683-1905

Dear BLM--

I'm a farmer, timberland owner, retired reforestation contractor and family recreationist who enjoys camping and visiting BLM lands in eastern and western Oregon. I have financial interests in timberland adjacent to BLM (publically) owned property. I've served on Lane County (OR)'s Vegetation Management Advisory Committee since 1996 and have been involved in land management personally since 1970. I have a grandchild who suffers from asthma and an apopted child who is chemically sensitive. For the sakes of everyone I care about, I urge the BLM to use herbicides only as a last resort. Until I can see that BLM is dealing with invasives by putting prevention first, I must urge the choice of Alternative 1-- no herbicide use. Please confirm you have received this message.

The herbicides BLM is proposing to use are dangerous to humans, wildlife and aquatic organisms. The danger level raises exponentially when the formulations are mixed and combined, and these mixes are even more dangerous when aerially sprayed. I would include by reference the comments submitted by the Nortwest Environmental Defense Center, the Center for Biological Diversity, Oregon Wild, the Northwest Coalition for Alternatives to Pesticides and the Blue Mountains Biodiversity Project.

I have dealt with invasive weeds for many years, and I responded to BLM's 2007-08 effort to ramp up herbicide use in the 17 western states with the same position I present now--first address the root causes of noxious invasion of public lands: overgrazing, destructive logging and mining practices, and off-road recreational vehicle use. Until these causes of invasive growth are dealth with, herbicide spray programs are a reckless waste of money that degrade the public land resource and ruins our rivers.

It is especially galling that the BLM proposes so much of the herbicide treatments in campgrounds, recreational areas and along roads. The proposed uses increase the likelihood of harm to people and rivers. The alternative is to employ local folks to deal with invasive infestations manually. I've done it a lot, and it works!

John Sundquist

(1042)

Lesley Adams
<lesley@kswild.org>
01/04/2010 04:46 PM

To orvegtreatments@blm.gov

cc lesley@kswild.org, Todd_Thompson@blm.gov, George Sexton <gs@kswild.org>, Joseph Vaile <joseph@kswild.org>

bcc

Subject Comments on DEIS for Herbicide Use on BLM Lands in Oregon

Hello,

Please find the attached comments on the BLM's Oregon Vegetation Treatment DEIS.

Thank you,

lesley.

--
Lesley Adams, Rogue Riverkeeper
Klamath-Siskiyou Wildlands Center
PO Box 102
Ashland, Oregon 97520
541.488.5789

www.kswild.org Oregon BLM Herbicide DEIS_RRK.doc

January 4, 2010

Vegetation Treatments EIS Team
P.O. Box 2965
Portland, OR 97208-2965
Emailed to orvegtreatments@blm.gov

RE: DEIS for Herbicide Use on BLM Lands in Oregon

Dear BLM,

Thank you for accepting these comments on behalf of the Rogue Riverkeeper and the Klamath-Siskiyou Wildlands Center (KS Wild). The Klamath-Siskiyou Wildlands Center (KS Wild) is a non-profit organization whose mission is to advocate for the forests, waters and wildlife of the Rogue and Klamath River Basins of southwest Oregon and northwest California. We have more than 1,800 members. The Rogue Riverkeeper program of KS Wild works to protect and restore water quality and native fish populations in the Rogue Basin and other coastal watersheds. KS Wild and its members use and enjoy the Rogue River, its tributaries and public lands throughout southwest Oregon and northern California.

We are concerned about the current use, and proposed increase, of herbicides on public lands in Oregon. We are particularly concerned with the compounded effects of chemicals on fish, water quality and human health, the exposure of increased use on humans enjoying their public lands and the synergistic effects of increased chemical use on already stressed water resources that are predicted to suffer further from climate change in the coming decades. This DEIS inadequately discloses and analyzes the effects of increased chemical use on public lands in violation of NEPA.

1. DEIS does not address causal activities

The DEIS does not adequately address the fact that the introduction, establishment and spread of invasive species is primarily caused by ground-disturbing activities, with off-road vehicles (ORVs), roads, logging, and livestock grazing being the most widespread ground-disturbances on BLM lands. "Passive" restoration, i.e., rest from disturbance, such as ORVs, road-building and grazing, is a treatment that could reduce many invasive species. Herbicide use poisons air, land, water, wildlife and humans, and will continue to fail as a treatment because the BLM continues to approve and encourage the causal activities that introduce, establish, and spread invasive species. BLM and studies acknowledge the negative impacts of herbicide use, including carcinogenic effects on humans, water pollution and toxicity to fish. It is irresponsible and dangerous to increase the use of chemical herbicides while not addressing the root cause of the problem. The DEIS fails to address in any alternative a weed program that simultaneously minimizes root causes of invasive weeds while applying an active non-chemical and chemical management plan. The range of alternatives should holistically approach this problem by

addressing the causal activities rather than simply adding more chemicals to the environment.

2. DEIS does not address the multitude of effects from inert ingredients

Page 40 of the DEIS states that "Relatively little toxicity information is known on inert ingredients" and page 196 states that "inerts associated with the application of herbicides may contribute to acute toxicity to fish."

Currently, the U.S. EPA only requires companies to list active chemical ingredients on pesticide product labels. In separate petitions filed in 2006, 14 states and 22 environmental groups noted that more than 350 inert ingredients used in pesticides are classified as toxic, carcinogenic, flammable or otherwise hazardous under various EPA regulations (Greenwire, Aug. 2, 2006). The petitioners asked EPA to require that hazardous inert ingredients be listed on product labels.

On December 22, 2009, the agency published a notice of proposed rulemaking that would require pesticide manufacturers to also publicly disclose inert ingredients in their products.

In some cases, inert ingredients have been found to be more toxic and harmful than the product's active ingredients. In the June 23, 2009 issue of Scientific American, the article "Weed-Whacking Herbicide Proves Deadly to Human Cells," proves that we are using chemicals without full and complete disclosure of their impacts to the environment and on human health. The herbicide discussed in this article is glyphosate, the most commonly used herbicide in the United States, and one of the four currently approved for use on BLM lands. The study discussed in this article found that one inert ingredient in RoundUp (a popular herbicide of which the active ingredient is glyphosate) was more deadly to human embryonic, placental and umbilical cord cells than the herbicide itself.

The DEIS fails to adequately disclose and analyze the inert ingredients of the herbicides in question on the environment and human health. The public is unable to understand the impacts of this action on the environment since ingredients that are classified as toxic and carcinogenic are not disclosed. BLM should only approve the uses of herbicides that have disclosed and safe inert ingredients.

Furthermore, the BLM cannot assure the public that they are complying with the Endangered Species Act when approving chemicals with undisclosed ingredients that are likely harmful to listed species, such as coho salmon.

3. DEIS does not address the compounded effects of chemicals and climate change

The DEIS fails to consider the effects of herbicide chemicals, including their inert ingredients, in combination with other chemical applications. Much of western Oregon is a checkerboard ownership pattern, making BLM a neighbor to many industrial forestry operations and rural landowners. Since a watershed and its fish do not adhere to property

boundaries, there are cumulative and synergistic effects in a watershed from the use of pesticides on private and public lands. For instance, industrial timberland owners aerial spray numerous pesticides in the Rogue Basin (Jackson and Josephine counties), including the chemical atrazine.

Hayes et. al. concluded in an April 2002 study entitled, "Hermaphroditic, demasculinized frogs after exposure to the herbicide atrazine at low ecologically relevant doses" published in Proceedings of the National Academy of Sciences that the widespread compound atrazine and other environmental endocrine disruptors may be a factor in global amphibian declines.

The DEIS states on page 211 that, "The Klamath Mountains are considered to be a herptile "hotspot" by Bury and Pearl (1999), supporting 38 native species of amphibians and reptiles...higher than any similar-sized mountain range in the Pacific Northwest (Olson et al. 2001)." Sixty-five Bureau Sensitive and Federally listed species are documented or suspected in the Siskiyou Biome, including Siskiyou Mountain Salamander (*Plethodon stormi*) and Oregon spotted frog (*Rana preciosa*).

Many of the BLM lands proposed for increased herbicide use are in a watershed that also has many industrial timberlands that are aggressively managed for timber production, including the use of larger quantities and types of pesticides. It is understood that some chemicals may be relatively benign on their own, but can act synergistically when combined with other chemicals to form a toxic threat to the environment. What are the effects - direct, cumulative, compound and synergistic - of the proposed herbicide use on BLM lands with other pesticides used in the Rogue Basin on amphibians and fish?

Nat Scholz of NOAA Fisheries presented a study entitled, "The Ecotoxicology of Pesticides and Pacific Salmon" at a 2009 meeting of the Oregon chapter of the American Fisheries Society. The abstract states:

> For more than a decade, numerous pesticides have been detected in river systems of the western United States that support anadromous species of Pacific salmon and steelhead. Over the same interval, several declining wild salmon populations have been listed as either threatened or endangered under the U.S. Endangered Species Act (ESA). Because pesticides occur in surface waters that provide critical habitat for ESA-listed stocks, they represent an ongoing concern for the near- and long-term conservation of salmon throughout California and the Pacific Northwest. In recent years, researchers from NOAA's Northwest Fisheries Science Center, together with collaborators from regional universities, have been investigating the ecotoxicological impacts of pesticides on salmon. The overall aim of this work is to determine the extent to which pesticides may limit the recovery of at-risk salmon populations. This presentation will highlight progress on several fronts, including 1) the effects of low-level exposures on salmon physiology and behavior; 2) the cumulative impacts of pesticide mixtures; 3) the links between sublethal

effects on individuals and population productivity and abundance; and 4) the potential for cascading effects on salmon growth and survival via aquatic food webs.

The paper states that when the herbicide atrazine and the insecticide diazanon are combined at low and legal concentrations, a synergistic effect (much greater than additive effects) kills juvenile coho in a lab study. Additionally, higher stream temperatures increase the harmful effects.

Salmonids require cold temperatures for survival and many watersheds, including the Rogue Basin, already exceed temperatures that are safe for fish. More than 2,000 miles of BLM streams in Oregon are already listed on the Clean Water Act's 303(d) list as impaired for water quality, and 1,711 of those miles are impaired for temperature violations. The cumulative effects analysis is entirely inadequate by not addressing synergistic effects of pesticides or pesticide use on temperature impaired streams. The BLM has not explained how this project will help attain water quality standards throughout the state as mandated by the federal Clean Water Act.

In addition, current models indicate that climate change will further stress water resources and salmon in the Rogue Basin. The DEIS fails to analyze the cumulative or site-specific effects of increased herbicide use and predicted upcoming effects of climate change. The December 2008 report "Preparing for Climate Change in the Rogue River Basin of Southwest Oregon," prepared by the Climate Leadership Initiative at the University of Oregon, the National Center for Conservation, Science and Policy and the USFS Pacific Northwest Research Station states that temperatures will rise, snowpack will decrease, severe storm events will increase, causing deeper drought and more extensive flooding and wildfires will increase due to reduced soil moisture and snowpack.

Based on these projections, the science panel identified numerous likely consequences for aquatic and terrestrial systems and species in the Rogue Basin, including:

1) Increased sediment and nutrient loads as well as persistent organic pollutants and other contaminants entering the Rogue River and its tributaries due to increased storm and fire frequency. Along with higher water temperatures these factors will reduce water quality, threatening the recruitment and survival of young native fish.

2) Shifts in the timing of stream flows could trigger earlier emergences of aquatic insects and shifts in the timing of adult salmon and steelhead spawning migration, egg incubation and hatch, and smolt outmigration. The result is likely to increase the risk of a disconnection between the timing of fish life stages and the availability of primary food resources.

3) Warmer water temperatures and extended low summer base flows extending well past the summer months are likely to decrease dissolved oxygen, produce more disease, and create a greater frequency of conditions lethal to native fish.

What are the cumulative and synergistic impacts of increased chemical use on BLM lands, private industrial chemical use and climate change models on water resources and fish in the Rogue Basin?

4. DEIS fails to fully address effects to salmon and water

The National Marine Fisheries Service is currently examining the impacts of 37 pesticides on protected salmon and steelhead, including 3 chemicals used or proposed for use by the BLM: 2,4-D, diuron, and triclopyr. BLM states in the DEIS that they will stop uses such chemicals when and if the EPA and/or NMFS finds them to be harmful. Rather than using those chemicals until they are found lethal and detrimental to the environment and human health, the BLM should immediately stop using them until they have been found safe for fish and humans. See #3 for the lack of analysis in this DEIS on climate change and compound effects for additional threats to salmon.

Furthermore, the DEIS claims on page 28 that, "Invasive plants have the potential to adversely affect water resources more than herbicides." This is an bold and unsubstantiated statement made to justify a pre-determined decision, as it appears clear the BLM wants to use more chemicals rather than analyze a more comprehensive weed program or the cumulative and compounded effects of such chemical use on public lands.

5. DEIS fails to address public exposure threats from herbicide use on roads, administrative sites and recreation areas

Under Alternative 4, herbicides would replace non-herbicide treatments for *native vegetation on nearly 15,000 acres* at administrative sites, roads and rights-of-way, including public purpose lease areas (including schools and parks), Outstanding Natural Areas, recreation areas such as campgrounds, picnic areas, trails, overlooks and boating facilities, and interpretive sites. These sites have high human use and therefore the proposed action puts human health at risk from increased chemical use and exposure. The DEIS states on page 299, "To the degree some user groups collect products within a few feet of the road edge, as might occur with blackberries for example, exposure would be increased."

In addition, the DEIS proposes increased herbicide use in popular recreation sites such as Wilderness Areas, National Monuments and Wild and Scenic Rivers. The effects to user groups are inadequately analyzed.

The DEIS fails to estimate how many members of the public use such areas and would therefore be exposed to increased herbicide use. The DEIS fails to analyze the impacts of this proposed chemical use on children, the elderly and the public in general who drive these roads, hike these trails or picnic in these areas.

Furthermore, on April 2009, the EPA released a list of 67 pesticides that will be tested for potential to cause endocrine disruption. At least two, Glyphosate and 2,4-D are being

used by the BLM now, and considered for continued use under this DEIS. The BLM, as a federal agency working on behalf of the American public, should not use these chemicals until the EPA proves that they are safe. This proposal to increase the use of herbicides (that have not yet been proven safe) near highly used public areas, such as schools and picnic areas, is atrocious and terribly shortsighted.

In addition to harming humans who use these areas, such herbicide use on roads further threatens water quality. The DEIS states on page 27 that "herbicides and silting could harm aquatic organisms including fish, and domestic uses of surface and groundwater. Herbicide routes to water include accidental application, drift, overland flow during subsequent rainstorms, blowing dust and leaching....*Also, herbicides applied to roadside ditches can be quickly directed to nearby streams through road drainage structures [emphasis added]*...The three Alternative 4 herbicides, diuron, bromacil, and tebuthiuron, are hazardous to aquatic resources and are long lived...their use is 16 percent of the total increase for rights of way, administrative sites, and recreation sites under Alternative 4."

Saving money, as noted in the DEIS on page 30 is not an acceptable reason to further expose the public to chemicals while they are enjoying and recreating on public lands.

6. DEIS is too broad in treatment of sudden oak death

DEIS page 133 states that, "Treatments in Curry County that make use of herbicides are more effective at controlling the pathogen than the treatment currently used on BLM lands. It is not precisely known how much more effective; data are currently being gathered and is expected to be available in 2009. The opinion of pathologists is that the approach currently used by BLM without herbicide use is 15 to 30 percent less effective than the herbicide approach."

The proposed action would allow the use of imazapyr and glyphosate to treat SOD. While we share the goal of safeguarding native oaks from SOD, we are concerned that increasing chemical use is not safe or proven effective. See #2 on inert ingredients and glyphosate.

The DEIS states on page 153 that imazapyr is "likely to bind relatively strongly to organic soil" and that "the potential for longer-term effects on soil organisms exists but little is known if the effects would be positive or not. Imazapyr can "leak" from treated plants into the soil, where it remains active and can kill non-target plants."

The Siskiyou Mountains, of which Curry County if a part, is widely recognized for its exceptional botanical diversity. The DEIS states on page 112 that the "Siskiyou Biome is one of the most botanically diverse in North America....Approximately 2/3 of the known rare plants and fungi (97 species) in western Oregon occur in the Siskiyou biome."

The DEIS states on page 117, "In any event, herbicides are designed to kill plants, so they will kill non-target plants if they contact them."

What are the effects to rare plants and fungi from the increased use of glyphosate and the added use of imazapyr to treat SOD in Curry County? At some point treating the disease can become worse than the disease itself. The initial quarantine area for Curry County was nine square miles in 2001, and was expanded to 160 square miles in 2008. The DEIS states on page 134 that "If the infestation continues to spread, these acres would be expected to increase." The DEIS does not establish adequate safeguards or thresholds to trigger reconsideration of the scale and methods of treatment as the spatial scale and intensity of SOD treatments expand.

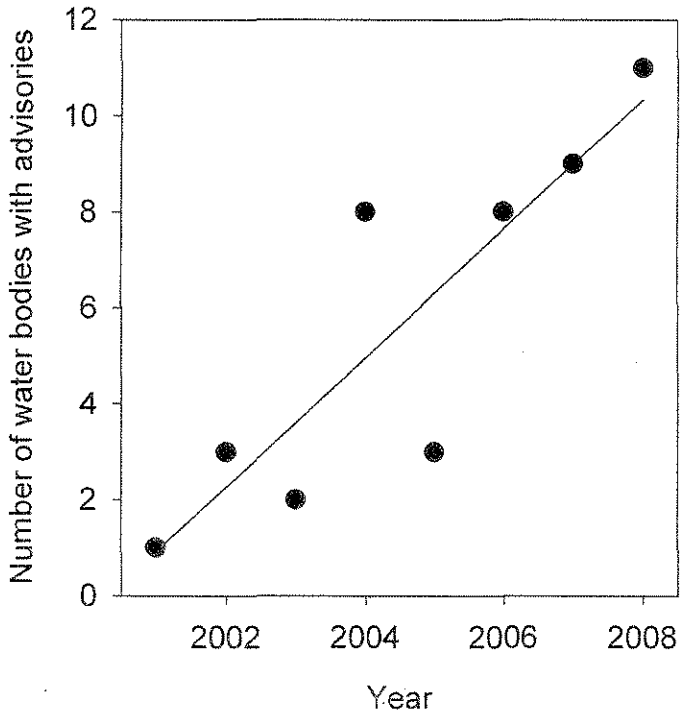
7. Aerial spraying

We enthusiastically support the prohibition of aerial spraying west of the Cascades as noted in Alternatives 3 and 4.

8. DEIS fails to analyze algae stimulation and glyphosate

The DEIS states on page 163 that "glyphosate may stimulate algal growth at low concentration; Austin el. al. (1991) have suggested that this could contribute to eutrophication of waterways." Glyphosate is one of the four herbicides currently in use on BLM lands, yet analysis of its effects on eutrophication and toxic cyanobacteria blooms has not been analyzed on a site specific or cumulative level.

Eutrophication is literally a growing problem, which causes algal blooms via cyanobacteria. Oregon surface waters are experiencing increased occurrences of cyanobacterial blooms and health advisories are common during outbreaks. In 2009, Oregon experienced its first confirmed dog death from a cyanobacteria bloom in Douglas County. The associated cyanobacterial toxins and subsequent advisories to avoid contact with the contaminated water violate Oregon's water quality standards. The DEIS fails to analyze the affects of glyphosate use on the eutrophication of Oregon's waterways.



Cyanobacterial Advisories in Oregon. *Source: Allen J. Milligan, Ph.D., Assistant Professor, Senior Research, Department of Botany and Plant Pathology, Oregon State University*

Cyanobacterial Advisories in Oregon. *Source: Allen J. Milligan, Ph.D., Assistant Professor, Senior Research, Department of Botany and Plant Pathology, Oregon State University*

9. Conclusion

The synergistic effects of various herbicides on humans, water and fish, particularly those herbicides used in watersheds that have a complex checkerboard ownership pattern, were not analyzed in the DEIS, nor were the compounded effects of herbicide use with climate change models. Furthermore, the BLM is using, and proposes to increase use of, chemicals that the EPA and NMFS are currently reviewing for endocrine disruption and effects to salmonids, respectively. In addition, the EPA has proposed a new rule that would require the disclosure of inert ingredients, hundreds of which are carcinogenic and otherwise toxic. We recognize the serious and real threat of noxious weeds in Oregon, but this DEIS does not adequately disclose or analyze the serious impacts of chemical use on public lands. Therefore, the BLM has provided an unacceptable NEPA document for the American public to understand the impacts and effects of increased herbicide use on BLM lands in western Oregon and a SEIS is necessary.

A request for a comment deadline extension was made on behalf of many organizations and individuals. Members of the public were repeatedly assured by BLM staff that the deadline was extended to January 4, 2010. I was told by Ken Denton via phone in mid-November, and confirmed via email with Todd Thompson on November 30, 2009 that the "BLM will be accepting and fully considering all public comments received on the Vegetation Treatments Using Herbicides on BLM Lands in Oregon Draft Environmental Impact Statement through January 4th, 2010." Due to complex procedures involving federal register notices, the BLM staff said the extension would not be published in the federal register, but that comments would nevertheless be accepted through January 4, 2010. These comments are submitted in addition to comments submitted by Francis Eatherington on December 1, 2009.

Thank you,

Lesley Adams, Rogue Riverkeeper
Klamath-Siskiyou Wildlands Center
P.O Box 102
Ashland, Oregon 97520
lesley@kswild.org

(1031)

"Barbara Kelley"
<cedar776@comcast.net>
01/04/2010 04:48 PM

To <orvegtreatments@BLM.gov>

cc "Barbara Kelley" <cedar776@comcast.net>, "kim kauffman" <kimakauffman@hotmail.com>, "Celia & Mike" <wildflower26@peopiepc.com>, "bob and Sharee Berman"

bcc

Subject vegetationTreatments using Herbicides on BLM Lands--comments

These are my final and concluding COMMENTS on your proposal to use and expand herbicides on BLM lands in Oregon, from Save Our ecoSystems inc SOS)

INVASIVE PLANTS

In his book *Invasion Biology, A Pseudo Science,* David Theodoropoulos dares to stand against the prevailing views of his peers. He feels that the current "frenzy' over invasive and exotic species is driven by business interests (such as herbicides) and that the extensive harm we are being drilled to consider on the effects of plant takeover borders on hysteria. However, instead of merely criticizing this :"hysteria," he has written a scholarly, encyclopedic account of thousands of plants, their habits, beneficial effects, place in their communities. ,, , , ,

Question: Does the BLM have at its disposal such a scholarly reference on the possible benefits of the plants it intends to eliminate?.

With 20,000 species going extinct each year, BLM now proposes to drastically reduce biodiversity on public lands!

Question: Do Monsanto or other chemical corporations, advise BLM on which plants should be killed, and how?

Question: Do Monsanto, or other chemical corporations, or the BLM itself, advise Oregon Public Broadcasting (OPB) on their series of documentaries on invasive species? I notice that Monsanto is now advertising on OPB, which could keep OPB open to doing this series, and preventing them from airing opposing views. .

Question: How do you propose, or do you, to prevent the contamination of the many streams that flow through the BLM every-other-square-mile of holdings, and the damage that will be done at the site and downsteam by this contamination of public waters?

Question: How do you propose to spray the targeted plants without

harming all the other plants in the area? Or their soil? Underground life such as fungi, bacteria, small animals?

Question: Will some of the plants grow back mutated? Will this harm wildlife?

Question: Does the BLM have detailed information about which plants are useful to healers and herbalists? Which plants are in our public inventory of beneficial herbs?
Have you considered inviting herbalists and healers to come and pick the beneficial plants in our public "medicine chest?"

Question: Have you thought of designing a Conservation Corps, paying jobless youth to pick plants by the root, where they are really a problem, and can you demonstrate the problem? Or perhaps a prison worker program?

Question: Do you think that the BLM is acting in good faith as "The nation's principal conservation agency," as you state in your hand-out brochure?

Darwin, in his Origin of Species" made a lifetime detailed study of plants and animals. Strange that I have never heard of his consideration of a the problem of invasive takeover, so popular in modern discourse. He did study how plants, through dispersal of seed and pollen, affected other plants, and how animals migrating into a new region affected other animals. I recall that in some cases he spoke of the "enrichment" of plants by hybridization with other plants. And in the case of competition, plants and animals winning out would be the "survival of the fittest."
Animals and plants would also change by adapting to their environment and passing the adaptation down to succeeding generations.

Nowhere do I recall his calling for the destruction of any species. He studied nature, he did not try to control it..

In his great body of meticulous findings, he formed the basis for our current, ongoing researches into the concept of evolution.

I think Darwin would have been appalled by the BLM proposal to greatly decrease our current shrinking biodiversity, through the extinction of

species, by poisoning vast areas with herbicides.

In closing I ask for your consideration of all the COMMENTS I sent to Brian Amme in Nevada on the vegetative treatments proposed for BLM lands in 17 Western States-- sent by me for Save Our ecoSystems, inc (SOS) on February 10, 2006 and subsequent dates. I would like to include all of those comments, here , by reference, as Oregon is now proposing to use all of these same toxic chemicals, to which I hereby strenuously object.

I believe that the injunction achieved by my organization in 1984 still stands.

thank you, Barbara Kelley

(1032)

Jan Wroncy
<jwroncy@peak.org>
01/04/2010 04:53 PM

To orvegtreatments@blm.gov
cc
bcc
Subject Final Comments on DEIS for Vegetation Treatment Using Herbicides

Dear Sirs:

I am submitting my final comments on the DEIS Vegetation Treatment Using Herbicides in Oregon herein.

**I have had some computer glitches and hiccups since we installed new software and operating systems so I might send what I have at this time, and send the rest of the final version as soon as possible after that.

I would like confirmation that you received these comments submitted today, January 4, 2010, and that you received my comments sent via email on December 1, 2009. I also would like confirmation that you have received a copy of the book, **Invasion Biology** by David. I Theodoropoulos, I mailed via Priority mail to your Post Office Box 2965 in Portland.

Thank you for your assistance in this matter.

Respectfully submitted by:

Jan Wroncy, on my own behalf and on behalf of
Gaia Visions,
Canaries Who Sing,
Coast Range Guardians,
Residents of Oregon Against Deadly Sprays and Smoke,
and Citizens Environmental Protection Alliance
Post Office Box 1101
Eugene, OR 97440

JW-DraftCommentsOnDEISv2-opt.pdf

Comments on Draft Environmental Impact Statement for Vegetation Treatment Using Herbicides

Submitted by Jan Wroncy, on my own behalf and on behalf of Gaia Visions, Canaries Who Sing,, Coast Range Guardians, Residents of Oregon Against Deadly Sprays and Smoke, and Citizens Environmental Protection Alliance.

Dear Sirs:

1. Comment Deadline:

There is some confusion about the extended deadline of January 4, 2010 that the BLM Oregon Office promised, therefore I have submitted a Draft/Outline on December 1, 2009, and I am, herein, submitting final comments on January 4, 2010.

2. Incorporated by Reference:

I hereby incorporate by reference, the excellent comments submitted by Doug Heiken for Oregon Wild; and Jay Lininger for Center for Biological Diversity; by Kim Leval for the Northwest Coalition for Alternatives to Pesticides (NCAP); by Lisa Arkin and Dona Hippert for Oregon Toxics Coalition; by The Northwest Environmental Defense Center (NEDC); by Samantha Chirillo, Co-Director, Cascadia's Ecosystem Advocates ("Eco Advocates"); by Maya Healer Gee, Master Herbalist; by Day Owen for Pesticide Poisoning Victims United/Pitchfork Rebellion; by Mary Camp, President of Deer Creek Valley Natural Resources Conservation Association; by Francis Eatherington for Umpqua Watersheds, Inc, by Lesley Adams for Rogue Riverkeeper, by Josh Laughlin for Cascadia Wildlands Project, and by Jay Lininger for Center for Biological Diversity; by Mary Moffat and David Webb of Walton; by Richardd K Nawa for Siskiyou Project; by Dr. John L. Gardiner and Dr. Christine Perala Gardiner of WaterCycle, Inc.; .....

I also incorporate by reference my previous scoping comments, my previous comments to the BLM for the 17 Western States Vegetation Management Environmental Impact Statements, and my comments submitted for the older EIS for 13 Western States.

3. Support Alternative 1 (No-Herbicide Option) / Opposition to Alternative 4, the BLM Preferred Alternative to use more herbicides/Opposition to Alternatives 2,3 and 5:

I, and the groups I am submitting comments for, are opposed to the use of herbicides on BLM lands in Oregon for all the reasons stated in the above referenced comments and below in today's comments submitted herein. We are therefore opposed to the BLM Preferred Alternative, No. 4, and also Alternatives 2, 3 and 5. **We would support Alternative 1 (No Herbicides).** We would support a new Enviromental Impact Statement that addresses the correction of bad land management activities of the past and the present to prevent future harm, and to restore the ecosystems which have been so badly damaged.

4. False premise used to justify toxic chemicals: Invasion Biology

"When one is up to no good, it is useful to have an excuse." quotation from Francois Jacob

on page 89 of Invasion Biology (see below):

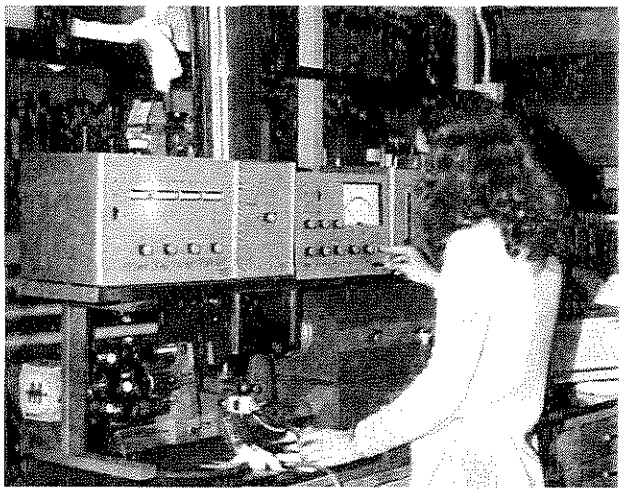
See: INVASION BIOLOGY: Critique of a Pseudoscience by David I. Theodoropoulos, 2003, a copy of which was submitted as **Attachment A** to these comments.

It is my belief that the BLM is up to no good (proposed massive use of herbicides), and that the "invasion" is the excuse.

BACKGROUND:

For many years I was involved in diverse fields of scientific research. My first research was in Air Pollution inquiries with Dr. T. J. Chow at Scripps Institute of Oceanography and Dr. Claire Patterson showing that the lead in the environment came from the lead additive in gasoline, which ultimately resulted in the ban on leaded gasoline.

I moved to Oregon to set up the lab at the University of Oregon for Dr. Gordon Goles in preparation for analysis of the lunar samples.



Following that, I worked with a team of scientists conducting research on Nitrogen Cycling in the Canopy of Old-Growth Douglas Fir at the H. J. Andrews Experimental Forest in Blue River Oregon. I assisted with analysis of samples in the lab (picture above) and also participated in some field work (picture below).

In my many scientific pursuits I gained an appreciation for the delicate balance between humankind and the environment. Because humankind has the capability of destroying the environment, we also have the enormous responsibility of making sure we DO NOT destroy the environment!

For the nearly 30 years I have engaged in organic/no spray farming, and forestry. My experience in forestry research combined with my experience with organic non-chemical farming and forestry convinces me that **man-made pesticides are not necessary for either farming or forestry.**

I have farmed organically in the Willamette Valley in Coburg, Junction City, and Elmira, and in the Coast Range in several locations.

All our farms have been maintained organically and without pesticides. The riparian forest my husband and I own is managed without chemicals. We grow vegetables, orchard fruit, cane berries, strawberries, blueberries, grapes, pasture, sheep for wool, and timber.

All food and fiber crops can be grown successfully without use of pesticides. Oregon has one of the highest numbers of organic farms in the nation, and a significant number of non-chemically managed timberlands/woodlots as well.

It is my belief that present day agriculture and forestry has been hijacked by the chemical companies and turned into a "chemiculture".

With my background and experience, I eagerly researched the underlying theories of "invasion biology" at the heart of the BLM herbicide plans. After reading INVASION BIOLOGY: Critique of a Pseudoscience by David I. Theodoropoulos, 2003, **I am convinced that the underlying justification (excuse) for the BLM DEIS Vegetation Treatment Using Herbicides, is based on non-science and therefore, "arbitrary and capricious".**

An Environmental Impact Statement that is Arbitrary and Capricious does not comply with NEPA and can not pass the test of a "hard look".

The perceived "need" for action is not based on sound science, and is therefore arbitrary and capricious.

All alternatives choosing massive amounts of chemical poisons (herbicides) except Alternative 1 (No Herbicides) to manage an arbitrary and capricious "need" rather than employing non-chemical alternative treatments (least harm) are arbitrary and capricious and do not comply with NEPA.

40 CFR § 1500.1 Purpose.

(b) NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency

Where is the science? Where is the high quality? Where is the accurate scientific analysis?

See the Northwest Environmental Defense Center (NEDC) comments also, incorporated by reference herein.

Note that the use of herbicides may have a ripple effect on "native" or desirable plant species too.

I would like to point out that herbicides always do more damage to native plants than to "noxious weeds" or invasive species. Therefore continual, large scale use of these toxic chemical herbicides will alway select for stronger weeds, thus leaving nothing alive that can compete with the weeds, and therefore never be able to eliminate weeds. Since the chemical herbicides are very persistent, and in fact last much longer than the BLM would care to admit, they will sterilize the soil for long periods of time, thus additionally disfavoring natural, native vegetation communities. Using toxic chemical herbicides not only contaminates the environment, but also poisons whole ecosystems.

5. "Inert" and Secret "undisclosed" ingredients in pesticides and pesticide adjuvants:

If the BLM does not reveal all the so-called "inert" and other ingredients in the formulations proposed for use, and all the ingredients of adjuvants added to tank mixes or batches, the BLM will not comply with NEPA by providing pertinent information for decision makers to review, and therefore also for the public to review. The public is rightfully reluctant to approve plans full of "secrets", especially secrets about toxic chemicals that we are being asked to accept exposure to.

Please also refer to the excellent comments by Kim Leval, Executive Director of the Northwest Coalition for Alternatives to Pesticides (NCAP) herein incorporated by reference

See: Unidentified Inerts by Caroline Cox, 2006 at:
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1764160/
See: http://www.pesticide.org/inertspage.html
See also: http://www.pesticide.org/inertspetition2006.pdf
See: **EPA Seeks to Disclose Hazardous Pesticide Inert Ingredients**
at: http://www.epa.gov/opprd001/inerts/

An example of one type of toxic "inert" ingredient added on purpose to pesticide formulations is called "suicide inhibitors" : _____See also "Suicide Inhibitors" in: RATIONAL APPROACHES TO STRUCTURE, ACTIVITY, AND ECOTOXICOLOGY OF AGRICHEMICALS, edited by Wilfried Draber and Toshio Fujita, 1992.

6. Toxic active ingredients, and adjuvants: Need to identify exact formulas and analyze impacts of formulas and tank mixes as well as targets of herbicide spraying proposed, and exact site where it will be applied.

Listing active ingredients tells the decision-makers and the public nothing about the specific ingredients, and proportion of ingredients in the actual formulation proposed for use. Not identifying other adjuvants that will be tank mixed or otherwise applied at the same time will not inform the decision-makers and the public of the necessary information needed to make an informed decision. Without the specific location, decision-makers and the public can not assess the impacts to humans or to the environment. All these ommissions fail to comply with NEPA.

NEPA VIOLATIONS:

ENVIRONMENTAL INFORMATION NOT AVAILABLE

40 CFR § 1500.1 Purpose.

(b) NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.

See **NEDC** comments also, incorporated by reference herein.

See: PORPHYRIC PESTICIDES: Chemistry, Toxicology, and Pharmaceutical Applications , Edited by Stephen O. Duke and Constantin A. Rebeiz, an American Chemical Society Symposium Series 559, 1994.
See also "Suicide Inhibitors" in: RATIONAL APPROACHES TO STRUCTURE, ACTIVITY, AND ECOTOXICOLOGY OF AGRICHEMICALS, edited by Wilfried Draber and Toshio Fujita, 1992.
See: MECHANISMS OF CHEMICAL-INDUCED PORPHYRINOPATHIES, Edited by Ellen K. Silbergeld and Bruce A Fowler, 1987.
See: THE COLOURS OF LIFE: An Introduction to the Chemistry of Porphyrins and Related Compounds by Lionel R. Milgrom, 1997.
See: RISKY BUSINESS: Genetic Testing and Exclusionary Practices in the Hazardous Workplace by Elaine Draper, 1991.

7. **Failure to comply with NEPA:** Uninformed decision-makers, cumulative impacts, etc.

NEPA VIOLATIONS:

ENVIRONMENTAL INFORMATION NOT AVAILABLE

40 CFR § 1500.1 Purpose.

(b) NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.

8. Failure to comply with FIFRA: Mislabeled, false claims of safety, Label violations

9. Violations of: 7 USCA Section 136j Unlawful acts [FIFRA section 12]: unlawful testing on humans.

7 USCA Section 136j Unlawful acts [FIFRA section 12]

(a)(2) It shall be unlawful for any person ---

(G) to use any registered pesticide in any manner inconsistent with its labeling

(P) to use any pesticide in tests on human beings unless such human beings (i) are fully informed of the nature and purposes of the test and of any physical and mental health consequences which are reasonably foreseeable therefrom, and (ii) freely volunteer to participate in the test

10. Failure to comply with the CWA: NPDES Permits:

See NEDC comments herein incorporated by reference.

11. Discrimination against disabled people/Disparate Harm to disabled people/Denial of Access:

Violations of the Rehabilitation Act of 1973 will occur when the BLM disparately harms disabled people by forcing people to endure non-consensual exposures to herbicides mixtures and formulas containing active herbicidal ingredients, adjuvants, dyes, surfactants, odor-masking agents, crop oils, penetrating oils, contaminants, breakdown products and many other chemicals (secret, undisclosed ingredients often misleadingly called "inerts" when people are on BLM lands or near enough to them to receive drift or vapors, runoff into surface waters, or ground water contamination, or via other means of transport which cause disparate harm to disabled people. If people suffer from disabilities that render them unable to detoxify the chemicals that BLM proposed to use, they will be disparately harmed by BLM's massive spray program.

12. Violations of Human Rights by use of pesticides whereby the public is forced to endure non-consenual exposures:

See: Documents by Dr. Tom Kerns regarding herbicides, insecticides, and human rights, etc. at:

http://www.environmentandhumanrights.org/reports.htm

13. Violations of Native Americans rights: traditional medicines, wild crafting, native habitat, traditional and new food sources.

See **Native American Medicinal Plants: An Ethnobotanical Dictionary** by Daniel E. Moerman, 2009.

See: Comments by Maya Healer Gee

14. Arbitrary and capricious labeling of plants as weeds, undesirable vegetation, noxious plants, and invasive species/Denial of beneficial and medicinal uses:
See: Comments by Maya Healer Gee

15. Violations of the Endangered Species Act/Unnecessary threats to Endangered Species: Salmon, owls, etc.

See Comments by Richard Nawa for Siskiyou Project, and ..... herein incorporated by reference.

16. Failure to correct past land management practices that substantially cause the vegetation problems:

Many 1,000's of acres of BLM lands are overgrazed yearly and the true cost of producing cattle for market for private profit using public lands is borne by the public, including the cost of trying to restore the damaged lands left behind. This past activities of mis-management of public lands must stop.

See: **SACRED COWS AT THE PUBLIC TROUGH** by Denzel and Nancy Ferguson, 1983.

The BLM proposal utterly fails to put prevention first. The BLM proposal for massive spraying of herbicides on 100's of thousands of acres in Oregon will result in massive devastation to the public lands, and massive poisoning of the public.

Respectfully submitted by

Jan Wroncy, on my own behalf and on behalf of
Gaia Visions
Canaries Who Sing,
Coast Range Guardians,
and Citizens Environmental Protection Alliance
Post Office Box 1101
Eugene, OR 97440

Please confirm receipt of these comments sent today via email on January 4, 2010 and also the comments sent via email on December 1, 2009. Also please confirm receipt of a copy of INVASION BIOLOGY by David Theodorpoulos which was submitted as Attachment A to the above comments via Priority Mail on January 2, 2010.

1033

Tara Gallagher
<tara.gallagher84@gmail.com>
01/04/2010 04:54 PM

To orvegtreatments@blm.gov
cc
bcc
Subject Herbicide DEIS

I am submitting the attached comments on behalf of the Oregon Natural Desert Association and the Northwest Environmental Defense Center.
Thank you for your time and consideration. We look forward to your responses.

Sincerely,
Tara Gallagher

NEDC Project Coordinator BLM Herbicide DEIS - comments.doc

Bureau of Land Management
Vegetation Treatments EIS Team
P.O. Box 2965
Portland, OR 97218

Re: Vegetation Treatments Using Herbicides on BLM Lands in Oregon: Comments on Draft Environmental Impact Statement

The Northwest Environmental Defense Center (NEDC) and the Oregon Natural Desert Association (ONDA) submit the following comments on the proposal by the Oregon State Office of the Bureau of Land Management (BLM) to increase the number of herbicides available for use on BLM lands in Oregon, and to expand herbicide use beyond the noxious weed management program. Draft Environmental Impact Statement Summary: Vegetation Treatments Using Herbicides on BLM Lands in Oregon (DEIS). The proposed alternatives, directed at the eradication of noxious weeds and other invasive species, pose a significant threat to human and wildlife populations and could cause greater environmental harm than those posed by noxious weeds and invasive species on BLM land. BLM must fully analyze the environmental impact of the proposed alternative and must engage in a comprehensive review of all available alternatives including toxic-free alternatives and the prospects of lessening or eliminating herbicide use altogether.

NEDC is a non-profit, public interest organization dedicated to preserving, protecting, and improving the natural environment in the Pacific Northwest. NEDC is based in Portland, Oregon, and has been working since 1969 to protect the environment and natural resources of the Pacific Northwest by providing legal support to individuals and grassroots organizations with environmental concerns and engaging in litigation independently or in conjunction with other environmental groups. NEDC and its members participate in education, public outreach, and commenting upon proposed agency actions. The members of NEDC recreate in Oregon's BLM land and derive educational, scientific, aesthetic, recreational, spiritual and other benefits from the protection of BLM land and its biodiversity.

ONDA is a non-profit public interest organization dedicated to preserving and protecting the public lands of eastern Oregon. ONDA has a long history of interest and involvement in eastern Oregon's public land management. ONDA's mission is to protect, defend, and restore forever the health of Oregon's native deserts. The over 1,350 members and staff of ONDA use and enjoy the public lands, waters, and natural resources of eastern Oregon for recreational, scientific, spiritual, educational, aesthetic, and other purposes. ONDA and its members also participate in information gathering and dissemination, education and public outreach,

commenting upon proposed agency actions, and other activities relating to the federal government's management and administration of the public lands and federally-protected areas in eastern Oregon.

National Environmental Policy Act

NEPA declares a national policy "to enrich the understanding of the ecological systems and natural resources important to the Nation," 42 U.S.C. § 4321, and makes it the "continuing responsibility" of all federal agencies to "preserve important historic, cultural, and natural aspects of our national heritage." 42 U.S.C. § 4331(b)(4). To carry out these goals, NEPA provides that, for all "major Federal actions significantly affecting the quality of the human environment," federal agencies shall prepare a detailed statement, called an Environmental Impact Statement ("EIS"), that addresses both the "environmental impact of the proposed action," and reasonable alternatives to that action. 42 U.S.C. § 4332. NEPA requires that the agency take a "hard look" at the problem facing the agency and at all reasonable alternatives including an alternative of no action. *Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372 (9th Cir. 1998). Through NEPA, the Council on Environmental Quality (CEQ) promulgated regulations requiring agencies to "[r]igorously explore and objectively evaluate all reasonable alternatives" and "devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits." 40 C.F.R. §1502.14 (a)-(b). Additionally, an EIS must "[i]nclude appropriate mitigation measures not already included in the proposed action or alternatives." 40 C.F.R. §1502.14 (f). The Ninth Circuit has held that an EIS is adequate only when "its form, content, and preparation substantially (1) provide decision-makers with an environmental disclosure sufficiently detailed to aid in the substantive decision whether to proceed with the project in the light of its environmental consequences, and (2) make available to the public, information of the proposed project's environmental impact and encourage public participation in the development of that information." *Trout Unlimited v. Morton*, 509 F.2d 1276, 1283 (9th Cir. 1974).

Discussion

I. BLM has not adequately considered alternatives to increased herbicide use.

The DEIS neglects to consider non-toxic alternatives to herbicides. Instead of assessing how these alternative methods could be utilized in place of or in coordination with herbicide application, BLM summarily dismisses them. Because these effective and safer practices are not considered in detail, BLM should not expand its herbicide use until it has completed a detailed analysis of non-toxic alternatives as required by NEPA.

The U.S. District Court for the District of Oregon found an herbicide application plan prepared by the U.S. Forest Service Environmental Impact Statement ("EIS") to be inadequate because the EIS "did not rigorously explore or objectively evaluate the proposed herbicide program and the alternatives to it." *Citizens Against Toxic Sprays, Inc. v. Bergland*, 428 F.Supp. 908, 935 (D. Or. 1977). Specifically, the court held that the Forest Service failed to adequately assess the effects of phenoxy herbicides on human and animal health including the potential

impacts the herbicide application might have on nearby agricultural crops and for failing to adequately consider alternatives to the use of phenoxy herbicides. *Id.* at 908. The court found the Forest Service's discussion of alternatives to herbicide application to "consist[s] essentially of one generality after another." *Id.* at 934. The opinion noted that "the failure to explore and evaluate in greater detail the alternatives to the use of phenoxy herbicides ... foreclosed the opportunity to "balance the net benefits of phenoxy herbicides versus other methods of vegetation control." *Id.* at 935. BLM acknowledges that a 1984 injunction prohibiting the agency from using herbicide stemmed from a court decision, *Northwest Coalition for Alternatives to Pesticides v. Block* (Civ. No. 82-6273-E) (1984), holding "that that the BLM had not adequately considered, at a statewide level, the cumulative human heath effects for herbicides at that time." DEIS, 1-2. Likewise, in the present DEIS, BLM provides data for herbicide alternatives, but *no data whatsoever* for non-toxic alternatives to herbicide use. BLM must give non-toxic alternatives a "hard look" as required by NEPA.

Non-toxic alternatives to herbicides can be used in collaboration with currently approved herbicides in order to mitigate the harsh impact on the environment that is characteristic of herbicide use. Several methods have been proven to produce positive results in stopping noxious weeds and other invasive species. For example, manual removal, as well as the use of tools and other machines, has fewer unforeseen impacts than toxic herbicide application. http://www.beyondpesticides.org/alternatives/factsheets/Least%20toxic%20control%20of%20weeds.pdf, *Least-Toxic Control of Weeds*, Beyond Pesticides (last visited Nov. 20, 2009). Other natural applications, such as the use of goats to simply eat the targeted invasive plants, can be an effective means of weed control. *Id.* (Goats have been used for "roadside management along railroad tracks, parks, [and] forests."). Finally, other less toxic 'herbicides' such as vinegar, which has stopped invasion of broadleaf, common chickweed, and ground ivy, are available, but have not been considered by BLM. http://www.pesticide.org/pubs/alts/weeds/vinegarinherbicides.html, *Vinegar in Herbicides*, Beyond Pesticides (last visited Nov. 22, 2009).

BLM must also evaluate alternatives that would involve changes in management practices on activities on public lands that exacerbate the introduction and spread of noxious weeds and invasive species. Specifically, BLM must evaluate reducing livestock grazing and restriction of off-highway vehicles (OHVs) to designated routes as alternatives to control undesirable plant infestations. The number one land use impacting BLM's ability to recover lands in Oregon's high desert permanently—so that inevitable weed invasions are not simply temporarily delayed—is livestock grazing. *See, e.g.*, Belsky & Gelbard (2000) (and citations therein); Parker *et al.* (2006). Livestock grazing is a major factor in the establishment and spread of invasive species on the public lands. The use of herbicides to try to control weeds without prevention is a flawed strategy: if management is not altered, the original problems will return. Accordingly, as an alternative to the use of additional herbicides, BLM must evaluate whether reduction or elimination of livestock grazing would achieve the desired weed control without the use of new herbicides.

Similarly, OHVs spread noxious weeds by creating not only a transportation vector but also by cutting deep ruts in which invasive seeds can become more readily established. BLM must evaluate whether the elimination of cross-country OHV travel and significant limitation of

designated routes for OHV travel would achieve the desired weed control without use of new herbicides. Because the BLM does not adequately explore other readily available, proven and effective alternatives to herbicide use in detail, the DEIS is inadequate and does not comply with the mandates of NEPA.

II. The BLM's preferred alternative may harm vital aspects of the forest, including water ways, critical wildlife habitats, migratory bird populations, and humans.

The increase in application and addition of new herbicides, as outlined in the three favored alternatives of BLM's DEIS, pose significant risks to the environment. In particular, the preferred alternative increases the risk of contamination of Oregon's waters, further threaten already imperiled species, and may endanger the health of local residence and those who use the public lands.

Even though BLM's national office has approved eighteen new herbicides for a "full range of non-commodity vegetation treatments," it is of the utmost importance to use them with caution. DEIS, 2. This is especially important when approving new herbicides with varying effects and volatile active ingredients.[1]

The Oregon BLM must address the risks inherent in the use and application of the proposed herbicides on BLM lands.

A. The proposed increase in herbicide use may harm Oregon's waterways and puts the BLM at risk of violating the Clean Water Act.

The Clean Water Act declares a national goal that the "discharge of pollutants into the navigable waters be eliminated." 33 U.S.C.A. § 1251 (1)(a). The Act defines pollutants as "chemical waste" and "biological materials," which includes herbicides.[2]

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[1] A recent example of civil litigation in Idaho demonstrates the necessity of taking extreme precaution when using new, powerful herbicides on BLM lands. In August 2009, a "jury in U.S. District Court in Boise . . . found the BLM [Idaho] and chemical manufacturer E.I. DuPont de Nemours & Co. negligent in four sample cases of the lawsuit filed by a coalition of farmers." http://www.idahostatesman.com/newsupdates/story/909282.html, Laurie Welch, *Idaho Farmers Regroup After Oust Chemical Disaster*, Idaho Statesman, September 23, 2009 [hereinafter Welch]. In 2000, Idaho BLM began to use the powerful herbicide sulfometuron methyl ("Oust") (one proposed for implementation and increased use in BLM Oregon lands) on "wildfire scored public lands to control weeds." *Id.* Due to unanticipated weather conditions and misapplication of Oust, the herbicide spread and caused irreparable damage to thousands of acres of private as well as public BLM land. *Id.* BLM was declared 40% responsible due to its "negligence with respect to the selection of Oust and/or the application sites." *Adams v. United States*, 2009 WL 2823665 (2009). The damages in that case could exceed $200 million. Welch.

[2] Indeed, the U.S. Court of Appeals for the Sixth Circuit recently determined the Environmental Protection Agency's attempt to designate pesticides as non-pollutants was inconsistent with the plain meaning of the Act, and thus was unlawful. *National Council of America v. U.S. E.P.A*, 553 F.3d 927 (6th Cir. 2009). As a result, BLM will be required to obtain a permit before it will be able to lawfully apply these herbicides near a water of the United States.

BLM's proposed alternative threatens to harm Oregon's water supply via increased herbicide use. First, because BLM plans to use aerial application of herbicides, the probability of unanticipated drift reaching navigable waters grows with every added herbicide and every increase in the amount of acreage sprayed. Though Oregon has statutory law prohibiting pesticide application in a "careless or negligent manner," often the labels relating to drift are ambiguous. Caroline Cox, *Indiscriminately from the Skies*, Journal of Pesticide Reform, 4 (1995) (http://www.pesticide.org/drift.pdf). In an attempt to reduce drift damage, regulatory agencies often "mandate protection zones around bodies of water larger than the buffer zones called for on herbicide labels," which can be an arduous and inexact process. *Ebbetts Pass Forest Watch v. California Dept. of Forestry and Fire Protection*, 43 Cal.4th 936, 954 (Cal. 2008). Therefore, even if BLM aerially applies the herbicides in compliance with the labels, it runs the risk of acting in a negligent manner by failing to designate a sufficiently large buffer zone around navigable waters. Considering the high density of adjacent waters to some of the areas where aerial application is proposed, the probability of herbicide drift entering navigable waters increases significantly under BLM's preferred alternatives.

Second, many of the new herbicides are proven to contaminate groundwater. Due to their chemical composition, many of the new herbicides pose a high risk of contaminating Oregon's groundwater. Of those herbicides proposed for the use of terrestrial vegetation control; bromacil, dicamba, hexazinone, imazapic, and tebuthiuron are proven groundwater contaminants. *DEIS,* 164-166. Many of the other proposed herbicides are thought to have similar capacities for groundwater contamination. *Id.* Because such contamination is commonly known to have adverse effects on human, plant, and animal populations, BLM must implement application protocols to minimize or eliminate the risk of groundwater contamination. Moreover, BLM must closely monitor not only the application of these chemicals, but the local groundwater in order to detect any resulting groundwater contamination.

The increase of herbicide use may significantly elevate the probability of herbicide entering navigable waters through groundwater contamination and aerial drift. BLM must apply any herbicide with the utmost caution and should consider non-toxic alternatives.

B. BLM Fails to Adequately Address Potential Harm to Non-Target wildlife

The DEIS discusses potential harm to wildlife briefly, but fails to address when and which herbicides might come into contact with wildlife and the impacts to these species.

i. BLM's DEIS fails to adequately address the effects on species particularly vulnerable to herbicides such as amphibians, reptiles, and mollusks.

Some animals are more susceptible to herbicides than others. For example, amphibians and reptiles are particularly vulnerable.

> Amphibian declines have received more attention in terms of research and publicity, but Gibbons et al. (2000) suggests reptiles may be exhibiting declines that are even more precipitous. Both are adversely impacted by invasive plants

(including invasive fauna as well as weeds) (Hinton and Scott 1990 cited in Gibbons et al. 2000), and are *also vulnerable to the treatments to control weeds*. Reptiles, particularly the Bureau Sensitive painted turtle and western pond turtle, have long seasonal metamorphosis periods when they are particularly susceptible to all types of management activities.

DEIS, 209. Specifically, herbicides are known to affect amphibians' reproductive functions and future breeding. Relyea, R.A., *The Lethal Impact of Roundup on Aquatic and Terrestrial Amphibians*, Ecological Applications, Vol. 15, No. 4, at 1118, 2005. Further, amphibians breed close to bodies of water—including temporary wetlands that may be dry at certain times of the year—and thus will be directly and indirectly impacted by herbicides that are applied in these locations. *Id.* Despite this, BLM fails to discuss the potential harm to amphibians and therefore, the agency's DEIS is inadequate.

Moreover, a lack of research does not excuse BLM from discussing potential effects on amphibians.

Mollusks are also vulnerable to herbicides. Sixty-nine percent (69%) of freshwater mussels are extinct or threatened in North America. Any increase in pesticides in the water will increase the risk to the species. *DEIS* at 209. BLM concedes only that "some herbicides have low toxicity to mollusks," but provides no further analysis. *Id.* BLM must take a harder look at what effects increased pesticide use will have on mollusks.

Finally, rare butterflies classified under the Oregon Special Status Species may be decimated altogether.

ii. BLM's Endangered Species Act analysis is insufficient and does not fully address potential impacts to listed species and critical habitat.

BLM's DEIS details no plan for where and when applications of herbicides will occur. Consequently, there is no guarantee that these herbicides will not detrimentally affect the critical habitats of endangered species in Oregon. Although BLM has consulted with Fish and Wildlife Service (FWS) and National Marine Fisheries Service as required under Section 7 of the Endangered Species Act (ESA), it has only been minimally assured that the new herbicide proposal "would not likely adversely affect any threatened or endangered species under the jurisdiction of the FWS." *DEIS*, 437. FWS recognized that additional consultations would be needed in order to approve site-specific applications near those habitats. Consulting with FWS about every site-specific herbicide application is unrealistic.

Twenty species have critical habitat designations in Oregon. Many of these protected areas, including the watersheds inhabited by chum, coho and chinook salmon, bull trout and steelhead, and the northern spotted owl are found on BLM lands. *See* NOAA Fisheries, Office of Protected Resources, Critical Habitat, http://www.nmfs.noaa.gov/pr/species/criticalhabitat.htm (last visited Nov., 2009); [http://www.fws.gov/pacific/ecoservices/nsofch.html].

The DEIS does not adequately address the effect herbicides will have on endangered

species and critical habitat. BLM recognizes, only indirectly, that certain listed species, including rare butterflies and moths, might be at risk. BLM contends that animals may be frightened out of the area of herbicide application by noise, consequently avoiding direct contact with the herbicides. This claim is purely speculative and leaves animals that cannot leave the area, like pre-fledgling birds, in imminent danger. DEIS, 213. These direct, indirect and cumulative impacts must be addressed in the EIS.

The protection of endangered species should be a priority to BLM. BLM must include measures to ensure for the protection of threatened and endangered species in every alternative considered in the EIS.

iii. BLM marginalizes short-term impacts on wildlife.

In spite of the BLM's claims, many plants and animals may be harmed during the application of herbicides. BLM's DEIS fails to analyze "short term effects" on wildlife during and directly following the application of herbicides.

Because long-term effects are the focus of BLM's analysis, it is unclear how many plants and animals will be killed or harmed during application, and how that immediate contact might contaminate future generations. The cumulative effect could be devastating. While long-term effects are very important, the lack of attention given to short-term effects and the fact that many plants and animals might perish as a result of direct application is unacceptable.

C. The use of herbicides to manage invasive species trades one harm for another.

The DEIS correctly recognizes that the environment depends on a careful balance, and that invasive species have compromised that balance. However, the spread of invasive species is not a foregone conclusion as BLM's DEIS presumes. Indeed, invasive species need to be managed prudently. BLM's DEIS aptly states that invasive species would not be a problem but for the activity of humans.

> Nearly all Oregon native wildlife is dependent upon some mosaic of habitat created and maintained by those natural disturbances. Anthropomorphic (human) activities have complicated the disturbance pattern and brought irreversible changes to the natural environment. Humans have introduced non-native plants and animals—including both beneficial and invasive plants.

DEIS, 209. What must be emphasized, and what is overlooked in BLM's DEIS, is that herbicides are similarly introduced into the environment by humans. Toxics can affect that delicate balance in ways we may not immediately understand, and in ways that may succeed the danger of invasive species. The precautionary principle mandates that BLM take a conservative approach until further research conclusively demonstrates that that the introduction of new herbicides is safe and will not have unintended consequences.

Conclusion

Increasing the use and breadth of herbicides on thousands of square miles in Oregon should be a matter handled with only the utmost sensitivity, concern, and caution. While we appreciate the hard work put into BLM's DEIS, NEDC and ONDA are deeply concerned that the harm of introducing new herbicides on public land will outweigh the benefits. BLM's analysis largely discounts the utility of toxic-free alternatives and the proposed alternatives each pose a significant threat to wildlife and humans. NEDC and ONDA urge BLM to provide a full and accurate analysis of the potential effects of expanded herbicide use on BLM lands.

Respectfully submitted,

Jason Yarashes
NEDC volunteer

Kelly Cramer
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ONDA Staff Attorney

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To orvegtreatments@blm.gov, ed_shepard@blm.gov
cc
bcc
Subject Comments on Vegetation Treatments Draft EIS (BLM OR State Office)

January 3rd, 2010

Bruce Campbell
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Vegetation Treatments EIS Team
P.O. Box 2965
Portland, OR 97208

Re: Vegetation Treatments Draft EIS (BLM Oregon State Office)

Dear Mr. Shepard and to whom it may concern at BLM and otherwise:

I object that the apparently more extensive Biological Assessment from the PEIS was merely incorporated by reference in the Draft EIS regarding vegetation treatments on BLM land in Oregon, rather than printed in this document for superior reference capabilities.

I sent a comment in on this matter last year during this comment period, but wish to get into more detail with these comments.

I object to the wording of the Abstract (as well as general attitude) in the Summary of the DEIS which says, "An alternative of No Herbicide Use (Alternative 1) is included for comparison purposes." It is only given token attention because the chemical addicts promoting heavier spraying know that a more toxic alternative will be chosen (such as the Preferred Alternative -- Alternative 4). Clearly, the No Herbicide Use alternative is included as a token measure to seek to satisfy the statute calling for reasonable analysis of alternatives, and was never really considered as a possible alternative which could conceivably be selected.

I note that page one of the Introduction part of the Summary says that, "The BLM and its cooperators manage vegetation on thousands of acres per year to restore forest and rangeland health; provide sustainable habitat for sensitive, listed, and other species of plants and animals; reduce the risk of wildland fire; and provide for safe use and access to a variety of authorized developments." I imagine they mean that those are the alleged aims when involved with noxious weed management, but let's look at overall behavior of BLM and whether those goals are achueved by their land management practices. An area is not "healthy" if it has residues of toxic chemicals on its vegetation, and in its soil, water, and creatures. The object of BLM (and often of the Forest Service) on most areas to the west of the Cascades (and perhaps portions of the expanses east of the Cascades) is to log larger trees and plant what is often monoculture conifer plantations. Thus, quality ancient forest habitat is considered "decadent" (even though it is excellent for habitat), and taking that cut to market to help the logging companies and then getting a new conifer crop growing (for logging companies in the future) is the primary focus.

Reviewing that quote at the top of the earlier paragraph once again, it should be noted that trees are "vegetation" as well. Logging -- especially of older trees with their canopy and intricate roots and plumbing system -- clearly decreases habitat for ancient forest-dependent species (including for listed salmonid species in watercourses as well as for amphibians), allows sunlight to hit the forest floor, and encourages invasive species to come into the disturbed area. The risk of fire increases when the canopy is removed,

when considerable more sunlight hits the forest floor, and when invasive plants / pioneer brush species move into an area. The risk of fire (especially of catastrophic fire) increases even more when a huge number of monoculture conifer seedlings are planted (following logging-related activities) which make such plantations a tinder box which, unfortunately, then sometimes burn into more natural forest areas. (More on fire risk a little later). And the safety of people and other species decreases due to spray residues and/or drift in the areas to receive toxic herbicide spray (under most action alternatives) called "authorized developments."

I would say it is a basic rule of thumb that living often green vegetation has a harder time catching fire than dead vegetation. One can contend that it depends upon the time of year, but during some times of year, the odds of an area catching fire is practically zero if there is green vegetation and reasonable rainfall. Thus, at certain times of year, one has to really try to create a fire danger, and that danger is exacerbated when one sprays massive amounts of vegetation which either ceases to grow or somewhat shrivels up. The alternatives of this document which promote widespread toxic herbicide use thus increase fire danger especially in more forested areas west of the Cascades.

I have not seen an admission in the document at this point, but the historic use of 2,4-D and 2,4,5-T (the Agent Orange components) in forested areas was on monoculture conifer plantations in order to control "broadleaf species) like the hardwoods which may want to return to the area, as well as to control pioneer brush species. This document's selection of the Preferred Alternative greatly increases the likelihood of the use of herbicides on a wide range of uses other than the control of noxious weeds which has been the only permitted use by BLM since the 1987 court decision. Seeing that 2,4-D is still in the ballgame as it were, the FEIS must state clearly if 2,4-D, triclopyr, or other herbicides will be used to control hardwoods and brush in areas that are mostly conifer plantations. It will not suffice to not mention that historic use of the phenoxy herbicides, but to leave such use as an option if the document is adopted to permit spraying for other than noxious weeds. Either admit that such use will occur and analyze for it, or declare that it will not occur and clearly forbid it!

I object that BLM (upon adoption of the Preferred Alternative) will be able to spray herbicides on vegetation that is not considered a noxious weed -- yes, it will be allowed to be sprayed on "native vegetation."

OBJECT that there is NO ANALYSIS of SPECIFIC SITES in the Document

I strongly object that site-specific sites are not considered in this document, and that formulations of the herbicides under consideration are omitted in order to focus on just the "active ingredient" (which sometimes is actually a very small percentage of an herbicide formulation). Not only is this analysis insufficient as far as site-specifics, but the Draft EIS needed to consider in detail the entire formulation of an herbicide being considered for use on Oregon BLM lands. Besides discussion of formulation (where "inert ingredients" which are often more toxic than the active ingredient as with the case of POEA in some formulations of Roundup with active ingredient glyphosate), but this document is insufficient since it did not consider likelihood for dioxin contamination in Agent Orange component 2,4-D, as well as likelihood for contamination of the 2,4-D formulation with the two deadliest dioxins.

The next four paragraphs (separated from the other parts of my comments by asterisks) will bring attention to the two dioxin contaminants which have been declared the most toxic and deadly, and which are present (one or the other) in about 60% of tested 2,4-D batches / formulations.
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Despite appearances by the non-analysis of dioxin contamination in the preliminary assessments relating to the reregistration eligibility decision for 2,4-D, the U.S. Environmental Protection Agency is no stranger to dioxin. In fact from the website/URL for EPA and its National Center for Environmental Assessment -- which is <www.epa.gov/ncea/>, under "Three Major Work Areas", it says that "NCEA supports EPA's mission through: Conducting assessments of national significance, for example, assessments of dioxin....." (It goes on to list 6 other matters of concern). Under the third major work area, "Guidance and Support", it says "Providing guidance, scientific

information, consultation, training, and support to other risk assessors and risk managers. Examples include ecological and cancer risk assessment guidelines, IRIS (Integral Risk Information System), Exposure Factors Handbook, and the dioxin emissions inventory."

In addition, the U.S. EPA has been fairly intensely studying the health effects relating to dioxin since 1985 (plus have seen references regarding dioxin studies going back at least to 1981), but political pressure has prevented these studies from reaching their final form. Some draft versions and documents are available online, but certain documents are no longer posted (such as "Dioxin and Related Compounds Page", "Documents Related to the Draft Dioxin Reassessment", and others). Some fine research has been done, for instance on human health assessments relating to dioxin exposure, including what was called the "Draft Final" released in September 2000. It was conducted by the EPA's National Center for Environmental Assessment which is EPA's national resource center for human health and ecological risk, and is a major component of EPA's Office of Research and Development. Also relating to the EPA, is a database known as the Toxics Release Inventory which has listed PBT Chemicals as so toxic that releases of a gram or more must be reported, and they have been given a Toxic Equivalency Value. 17 dioxin and furan contaminants (all of which are in the 2,3,7,8 arrangement) are listed as so toxic that releases of a gram or more must be reported, though just 2,3,7,8-TCDD and 1,2,3,7,8-Pentachlorodibenzo-p-dioxin were given the Toxic Equivalency Value of "1".

Thus, there certainly is expertise in U.S. EPA's NCEA in regards to dioxin exposure and its effects of human health. Seeing that it was components of EPA that did the preliminary human health risk assessment and the environmental fate and effects preliminary assessment, were the experts on dioxin ever consulted in preparation of those 100 page and over 13 page documents? Why or why not? If yes, how did their advice and research influence the preliminary assessments in regards to the reregistration eligibility for 2,4-D?

Now, related to the last sentence two paragraphs ago, has BLM considered the use or non-use of certain 2,4-D batches and formulations due to varieties of dioxin that are present? Will the BLM consider the dioxin contaminant issue in the Final Programmatic EIS and Final PER? Will the BLM at least consider eliminating the use of 2,4-D on its lands if the 2,4-D batch or formulation contains the two varieties of dioxin which were given the Toxic Equivalency Value of "1" -- those being 2,3,7,8 tetrachlorodipenzo-p-dioxin (TCDD) and 1,2,3,7,8-Pentachlorodibenzo-p-dioxin?
****

Not only should there be no use of 2,4-D which contains either of the two most toxic and deadly dioxins, but there should also be special attention paid to the 17 varieties of dioxins and furans (all of which have the 2,3,7,8 arrangement) which must be reported if more than a gram of them are released into the environment.

Now, let's examine the link between some dioxins (the TCDD contaminant is focused upon here) and cancer. The first paragraph under the Carcinogenicity subsection of this Dioxin section of the Tenth Report on Carcinogens by the U.S. National Toxicology Program says, "2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD or TCDD) is
known to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in humans, involving a combination of epidemiological and mechanistic information which indicate a causal relationship between exposure to TCDD and human cancer."
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The following is from the Office of Environmental Health Hazard Assessment (OEHHA) which is one of six agencies under the umbrella of the California Environmental Protection Agency (Cal/EPA). Consider what is typed below (between the two lines of "&&&" symbols) to be quotes -- I didn't want to have to change the quotation marks within the quote.
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OEHHA Proposes to List 2,4-D

Eight years after it first sought information on the chemical, OEHHA has announced its intent to list the herbicide 2,4-D and six of its esters and salts as reproductive toxicants under Proposition 65 pursuant to the Proposition's "authoritative bodies" mechanism. In going ahead with the proposed listing, the agency rejected comments filed by an industry task force.

OEHHA is proposing to list the following specific compounds:

* (2,4-dichlorphenoxy) acetic acid (2,4-D) (CAS #94-75-7)

* 2,4-D n-butyl ester (CAS #94-80-4)

* 2,4-D isopropyl ester (CAS #94-11-1)

* 2,4-D isocytyl ester (CAS #25168-26-7)

* Propylene glycol butyl ether ester (of 2,4-D) (CAS #1928-45-6)

* 2,4-D butoxyethanol ester (CAS #1929-73-3)

* 2,4-D dimethylamine salt (CAS #2008-39-1)

All seven of these compounds are being listed as "developmental toxicants" only.

The authoritative body being relied upon in this case is U.S. EPA, which OEHHA contends identified the above chemicals as reproductive toxicants in a 1988 report issued as part of EPA's drinking water criteria development program. According to OEHHA, EPA concluded in that report that "2,4-D and its derivatives are embryotoxic but only weakly teratogenic or nonteratogenic." In coming to this conclusion, EPA relied upon six studies performed on rats, mice, and hamsters that found an increased incidence of skeletal abnormalities in rat development. OEHHA cites additional EPA documents issued in 2004 and 2005 in support of its proposed identification.

OEHHA originally asked for comments on the chemical and its associated compounds in August 1997. It received comments from the industry task force, which it finally replied to in June of 2003. The task force was given the opportunity to file additional information, which it did. OEHHA then responded to that information.

The issues raised by the task force had less to do with holes in the science and more with what OEHHA could or could not do in basing a listing on the EPA reports. For example, the task force questioned whether the conclusions in a report related to establishment of a drinking water standard constituted a "formal identification" for purposes of the authoritative bodies mechanism. OEHHA responded by citing its regulations as providing that an identification may be based on "a report that concludes that the chemical causes cancer or reproductive toxicity."

The task force also complained that OEHHA ignored information submitted by the task force citing the state Department of Pesticide Regulation and the World Health Organization as concluding that 2,4-D is not a reproductive toxicant. OEHHA concludes that neither agency has reached such a conclusion, and that even had it done so, "neither the WHO nor California's DPR are designated as `authoritative bodies' under Proposition 65 and while their opinions and conclusions are valuable there is no provision in the regulations for utilizing them in the `authoritative bodies' process."

OEHHA will accept comments on this proposed listing through December 19. For a copy of the Notice of Intent and a background document, go to OEHHA's website at www.oehha.ca.gov .
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I OBJECT to INCLUSION of ADDITIONAL USES for TOXIC HERBICIDES on BLM LANDS in OREGON (rather than just being applied to control noxious weeds)

It is a threat to many species (including humans) to promote and actualize massive herbicide spraying of roadside areas and recreation sites on BLM lands in Oregon.

What is the exact current policy in regards to herbicide use on BLM lands in Oregon? Is it permissible to spray any "native vegetation", or can one only spray if a variety of vegetation has been declared a "noxious weed"?

BUREAUCRATIC STRAIGHTJACKET PREVENTS BLM from SEEING GRAND FUNDING and JOB-CREATION OPTIONS

I have been to a conference coordinated by Randall O'Toole in 1988 in regards to the spiral of bureaucratic impulses seeking to expand the reach of one's agency in order to get additional funding and a further increase the bureaucracy. But being focused on those aspects, those in federal land management bureaucracies cannot quite see what plenty of other government jurisdictions and private companies see -- which is to lobby and apply pressure for essentially subsidies or what one may call stimulus spending.

Oregon has not exactly been known for its prolific employment even before the economic downturn late in 2008. Many agree that we need a massive New Deal-type jobs program in the USA, and such jobs should be focused on things such as non-toxic vegetation management as well as infrastructure improvement (but mostly focused on improving or replacing what is already there, rather than cutting through pristine habitats with roads and essentially promoting additional sprawl with its associated increase in carbon footprint). Whether or not these jobs pay what some call a "living wage", but since some crews may either be lodged in tents or in fairly cheap rural areas, the wages would not have to be high (despite it being important and difficult work).

I have noticed that certain agencies and governmental jurisdictions have exaggerated the amount of jobs created with federal stimulus funds (example, California Dept. of Transportation), but as long as there are transport vehicles to get workers to a general locale, as well as the workers get basic equipment like tools, very little overhead is required and many many people can get to work (soonafter a basic training in regards to which is the targeted vegetation, how best to extract such plants while seeking to minimize their spread in the vicinity, and some instruction about avoiding or treading lightly in sensitive ecological areas).

Certainly in this era of high unemployment and federal stimulus funds available for a variety of projects, a clear alternative should have been to seek a sizable influx of federal dollars to have a widespread jobs program relating to non-toxic vegetation management.

I OBJECT to DISMISSAL of SOME SENSIBLE ALTERNATIVES

The dismissal of the "No Aerial Application of Herbicides" alternative is essentially an admission that BLM is into supporting companies manufacturing toxic products, wants to buy huge quantities, and does not care about drifting toxic material (and its impact on water bodies, listed and other rare species, and people in the area) or about seeking to get a high percentage of the herbicides to actually land on the targetted plants.

I also object to the non-consideration for analysis of the "Reduce Ground-Disturbing Activities" alternative. Obviously, BLM feels that there is a huge need for vegetation management on their lands. Since invasive plants are quite widespread on BLM lands, that brings an obvious question: What percentage of BLM land management activities over the past 3 decades have filed NEPA-related papers discussing likelihood of hosting, spreading, or exacerbating invasive weed species through such management activities? What practices were advised if such papers were filed, and how did such advice impact the situation on the ground? Just because BLM has in their regulations and office documents (however much that translates to specific situations on the ground) that there should be some

NEPA-related paper filed regarding the risks of a certain activity to exacerbate the spread of noxious weed species does not mean that it is often done and filed, and we have not seen evidence that the situation on-the-ground improves either due to the management activity generally or due to the advice for seeking to minimize the spread of invasive species.

I vehemently object to the oh-so-convenient sentence at the bottom of page 22 of the DEIS on Vegetation Treatments Using Herbicides on BLM Lands in Oregon which says, "A determination of the relative contribution of all BLM land uses to the introduction and spread of noxious weeds is beyond the scope of this analysis, the thus the EIS does not suggest reconsideration of the level of timber harvest, grazing, OHV use, and other uses of BLM lands because they are implicated in invasive weed spread." This shows that the BLM bureaucracy is wedded to land management practices which spread invasive weeds, and they are too lazy or beholden to chemical interests to even evaluate which activities are most promoting the hosting of the invasive weeds they claim to dislike so much. What are the alleged "various high-level analyses" about the risks of management activities affecting weed spread, where can they be found, and are there suggestions as far as minimizing spread of invasive weeds and/or minimizing some ground-disturbance activities which exacerbate the spread of invasive weeds? Can you name a half-dozen examples of how either a ground-disturbing land management activity was halted or altered, and how that impacted invasive weed spread compared to areas where the land management activity was not altered or halted?

At least there was somewhat of an analysis of a No Herbicide Use alternative, but this alternative was ignorant of the contemporary situation which can provide federal stimulus funds for jobs programs. Clearly, a number of governmental entities, industries, companies, and others are very involved with pressuring and lobbying for bailout or stimulus funds -- why not provide many jobs not only in the more forested (as well as clearcut) westside forests, but also in eastern Oregon where considerable land management could be necessary to reduce activities associated with lousy historic land management practices (which along with fire suppression) to achieve ecosystem viability however much grazing may or may not take place there.

Lastly, I object that we are proceeding with the push for more applications of toxic herbicides despite the clear industry control of the agencies of the George W. Bush Administration. Is anything being reassessed, or are we pretending that every word was gospel in those earlier documents which led to bogus conclusions called the Fish and Wildlife Service Letter of Concurrence of 9-1-06, as well as to the Biological Opinion issued by NMFS on June 26, 2007. If Senators from Calif. can get consideration of a Biological Opinion related to the Bay/Delta, certainly we should get reconsideration of what sounds like an outrageous stretch to assume that tens of thousands of acres of herbicide spraying a year will not threaten even the listed salmonid species!

Sincerely yours,

Bruce Campbell

1035

"Mark Porter" <mark@wallowaresources.org>
01/04/2010 05:09 PM

To <orvegtreatments@blm.gov>
cc
bcc
Subject BLM Noxious Weed Herbicide EIS

Mr. Campbell -

I would like to thank the BLM EIS team for your good work putting together this EIS. It is a very important document to all of our work and I hope it passes quickly and is implemented soon!

Attached find our comments!

Mark

Mark C Porter
Coordinator -Wallowa Canyonlands Partnership
Wallowa Resources
200 W North St
Enterprise OR 97828
mark@wallowaresources.org
Website: www.wallowaresources.org
Office: 541-426-8053 ext: 23
Cell: 541-398-0154

BlmEisCmnts1_09WR.doc

Wallowa Resources
200 W. North Street
Enterprise, OR 97828

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

Re: **Vegetation Treatments Using Herbicides on BLM Lands in Oregon Draft Environmental Impact Statement**

Dear EIS Team,

Wallowa Resources would like to thank the BLM for the opportunity to comment on the Draft EIS for the Vegetation Treatments Using Herbicides on BLM Lands in Oregon. This EIS is an integral document to Oregon and the region's battle against invasive species. Its prompt passage and following site specific NEPA and Consultation and then implementation is very important. Noxious weeds are spreading rapidly and herbicides are a critical component of our ability to manage their increasing populations.

Wallowa Resources coordinates the Wallowa Canyonlands Partnership (a Cooperative Weed Management Area) which implements integrated noxious weed management across jurisdiction boundaries in the Grande Ronde and Imnaha Watersheds of NE Oregon and SE Washington. We rely heavily on the BLM as an on the ground partner to implement our programs successfully.

Wallowa Resources fully supports the Proposed Action Alternative (Alternative 4), as the most logical choice given the five alternatives. It is imperative that the BLM have all of the tools proposed in this alternative in order to meet the Need and eight Purposes. Although approximately 45,000 acres of treated weeds annually may appear vast, this acreage amounts to less than 0.3% of the BLM managed lands within the state of Oregon. And, if these acres are left untreated they will spread and cause significant and permanent damage to the ecosystem, becoming too large to treat effectively. Of the five alternatives, the Proposed Action Alternative has the lowest cost per acre. This is important when budgets are limited, and when spending taxpayer funds it is essential to accomplish goals efficiently and effectively.

The chemicals made available for use on the BLM land in the Proposed Action Alternative, will increase effectiveness on noxious weeds while limiting off-target damage and decreasing potential human safety hazards. Several of the most invasive and aggressive weed species presently infesting the BLM land are uncontrollable without these newly available herbicides.

Wallowa Resources
200 W. North Street
Enterprise, OR 97828

Important to success with eastern Oregon weeds in particular are 2,4-D and the sulfonylurea family of herbicides. 2,4-D speeds and enhances the impact of many other herbicides. The sulfonylureas are effective at controlling weeds in the mustard and borage family which are not effectively controlled by other types of herbicides.

Presently, there are noxious weeds infesting BLM lands that do not respond to any of the four herbicides available for use due to the 1984 injunction. These noxious weeds have been proliferating on BLM land and moving onto private lands where landowners are struggling to control the continuous barrage of invading plants. Alternative 4, the Proposed Action Alternative, contains the minimum tools required to meet the Need, and perform noxious weed control effectively as a responsible neighbor.

While not fully addressed in this Draft EIS, a method of recruiting new, more effective and safe herbicides as they become available (i.e. Milestone, active ingredient aminopyralid) needs to be added to all alternatives. Milestone has proven to be much more effective than some other herbicides on particular species, increases the treatment timing window, and is more innocuous in the environment than the alternatives thereby increasing chances of success and increasing safety. This process needs to be established so that the BLM can begin to use more effective and safer products at the first opportunity.

Administrative sites, recreation sites, and rights of way are considered to be some of the most serious vectors, when addressing noxious weeds. Any alternative denying the ability to effectively control weeds in these areas would fail to meet the eight Purposes.

The availability of the tools provided through Proposed Action Alternative, Alternative 4, for invasive plant management on BLM managed lands in Oregon are not only critical with regard to the BLM, but are also extremely important to noxious weed control throughout northeast Oregon. Weeds do not recognize political or jurisdictional boundaries, and must be dealt with on a landscape scale. The ongoing partnership between federal, state, and local agencies, as well as private individuals in this battle against invasive species in northeast Oregon continues to be highly successful and sets an example for noxious weed management throughout the nation. It is our opinion that all partners should, at a minimum, possess the tools available in the Proposed Action Alternative, Alternative 4.

Sincerely,

Mark C Porter
Coordinator, Wallowa Canyonlands Partnership

Wallowa Resources
Tel: (541) 426-8053 Fax: (541) 426-9053
mark@wallowaresources.org www.wallowaresources.org

(1036)

dhippert@worldstar.com
01/04/2010 05:20 PM

To orvegtreatments@blm.gov
cc
bcc
Subject BLM Oregon Herbicide DEIS

Dear Todd,

Here are my draft comments, just in case you finish up really early tomorrow. I will send a replacement draft with additional signers and comments first thing tomorrow if I am able to resolve my computer problems tonight.

Many thanks for your assistance.
Dona

BLM Herbicide DEIS OTA Comments.doc

Bureau of Land Management
Vegetation Treatments EIS Team
P.O. Box 2965
Portland, OR 97218

Re: Vegetation Treatments Using Herbicides on BLM Lands in Oregon: Comments on Draft Environmental Impact Statement

The groups and individuals listed below (Commenters) submit these comments on BLM's DEIS proposal to increase herbicide use on BLM land in Oregon.

Commenters heartily support the Comments submitted by Northwest Environmental Defense Center, KS Wild/Center for Biological Diversity, and Northwest Coalition for Alternatives to Pesticides, and hereby incorporate those comments by reference. Additionally, we offer the following further comments:

- 'Encouraging' weed free feed for grazing animals and recreational pack animals is not sufficient. BLM should mandate weed free feed for any animal on BLM land and should provide strong inspection and enforcement measures to ensure its mandate is followed.
- BLM states that commodity enhancement (e.g. timber production) is not a factor in choosing to use herbicides, but then contradicts itself when it uses the justification of a cost increase to adjacent landowners as one of the stated purposes of the proposed action. BLM complains that it cannot efficiently cooperate in jointly funded projects to remove invasive species and prevent their reinfestation because it does not have the same tools as adjacent landowners. Purpose 5.
- BLM dismisses the use of Vinegar because it is 'not an approved herbicide in Oregon.' However, other than the four herbicides currently permitted by the district court injunction, none of the other herbicides are currently 'approved in Oregon.' BLM could easily examine the suitability of using nontoxic herbicides in Oregon instead of jumping into the expansion of chemicals with known toxicity to humans and wildlife. Furthermore, research indicates that chemical use can exacerbate the invasive species problem in many instances
    - Attach *Control Effort Exacerbates Invasive Species Problem* journal article. http://www.ars.usda.gov/research/publications/publications.htm?seq_no_115=215397
    - [attach research from new and highly effective soy based herbicides out of North Carolina company]
    - [Find research re vinegar use as an herbicide.]
- BLM should implement a stronger Integrated Vegetation Management Program/Last Resort Policy to ensure that herbicides are used only when there is no feasible alternatives. Problems in BLM's current DEIS analysis and possible solutions include the following:
    - Cost effective analysis should include both sides of the cost equation. I.e., BLM cannot just say that manual removal is cost prohibitive and therefore not a feasible method of invasive plant removal. BLM must also analyze the environmental and health costs of using the herbicides.

        - [cite to Pollution in People, Cost of Environmental Disease, and USGS reports on pesticides ubiquitous presence in our human and natural environment]
    - Weed management program grants – BLM should thoroughly explore possibility of obtaining these available funds to expand manual removal programs and to test the feasibility of using alternatives such as vinegar and other available nontoxic herbicide formulations.
    - Stimulus funds – BLM should seek federal funds to provide much-needed jobs in the arena of nontoxic removal/management of vegetation and ecosystem restoration. These jobs could be modeled along the lines of WPA projects of the 1930's.

Thank you very much for the opportunity to comment on this DEIS.

Sincerely,

Dona Hippert
President, Oregon Toxics Alliance

(1051)

laurel croft
<laurel2130@yahoo.com>
01/04/2010 07:06 PM

To orvegtreatments@blm.gov
cc
bcc
Subject

Laurel Croft 2130 14 th street ....Corvallis OR 97330 I am a naturalist who is disappointed that any use of pesticides on vegetation in our environment, especially federally held land which belongs to us citizens damages our lifeforms, most especially the more delicate birds and the insects on which they feed. This is a known fact. I vote that you cancel this idea and find other means to eliminate exotic invaders. Please confirm that you have read my vote.

"lynn royce"
<mitebee@peak.org>
01/04/2010 07:23 PM

To <orvegtreatments@blm.gov>
cc
bcc
Subject Plan to use herbicides in our forests

To Whom It May Concern:

I am a beekeeper who keeps bees near forested areas in the coast range. While herbicides do not kill bees outright there is damage, especially to the reproductive casts. If bees are affected other wildlife, native plants and our water will also be impacted. We are dependent on honey bees for our food supply; it is not wise to continue using pesticides thoughtlessly. There are better ways to control weeds.

Lynn Royce
30807 Decker Ridge Rd
Corvallis, OR 97333

(1039)

Threatened & Endangered
Little Applegate Valley
<telav@deepwild.org>
01/04/2010 07:46 PM

To orvegtreatments@blm.gov
cc
bcc
Subject comments

January 4, 2010

Vegetation Treatments EIS Team
P.O. Box 2965
Portland, OR 97208-2965
Emailed to orvegtreatments@blm.gov

RE: DEIS for Herbicide Use on BLM Lands in Oregon

Dear BLM,

Thanks for the opportunity to comment on this program. TELAV is a small volunteer watershed organization representing residents of the Little Applegate Watershed. We began questioning and protesting BLM use of herbicides in our local forests in 1979, eventually leading to the court decision of 1984: Northwest Coalition for Alternatives to Pesticides, et al. v. Block, et al. (Civ. No. 82-6273-E).

We urge BLM to operate within the Laws & accomplish what you can. Your plan goes far beyond the Law without adequate justification. Why? A case of significant over-reaching? Seems like it to us. Without a paid staff to go into further detail, TELAV hereby incorporates the comments of NCAP, Rogue Riverkeepers, and Umpqua Watersheds for their excellent research and criticism of this DEIS. We'd all save much tax-payer $$ if BLM did not try to push the envelope beyond legal feasibility.

Thank you for your time,
your neighbors in
Threatened & Endangered Little Applegate Valley
P.O. Box 1330
Jacksonville, OR 97530
telav@deepwild.org
www.deepwild.org/telav.htm

"Protecting forests, water, and wildlands in the Little Applegate Valley since 1979."

Jan Nelson
<nellie.jan@gmail.com>
01/04/2010 08:45 PM

To orvegtreatments@blm.gov
cc
bcc
Subject herbicide comment

As a farmer and forestland owner myself, it was disappointing to hear that the BLM was planning to go back to using herbicides. I tried several pesticides back in the late 1960's, but quit their use after one growing season because i questioned the wisdom of such practices.

Of all the molecules nature combined to make everything, nature did not combine the molecules that humans did in the 20th century. These synthetic chemicals are now pervasive in our environment. They are in your body. This is the real "SILENT INVASION".

The largest test study I have seen was done by that wacky, unscientific National Geographic Society and published in their magazine in October, 2006. The article is online at media_pollution . Their reporter was tested for 320 chemicals-165 were detected. Of the 28 pesticides tested-16 were found in his body.

I would like you at the BLM tell me how putting more toxic substances into our planetary environment can be morally justified when vegetation can be managed without toxins.

jan nelson, 85354 Doane Rd. Crow, OR
former member of Lane County Public Health Advisory Committee
Current member of the Lane County Vegetation Management Advisory
Committee

Lane County government no longer uses pesticides.....period. But i periodically have been exposed to pesticides from the timber company land adjacent to my forest. My animals, grapes, orchards and vegetable crops were all subjected to volitilazation. It was a horrible experience that left me sickened.

(1041)

Samantha Chirillo
<schirill@uoregon.edu>
01/04/2010 11:54 PM

To orvegtreatments@blm.gov
cc
bcc
Subject Vegetation Treatments DEIS Comments

Attached are comments on the Vegetation Treatments DEIS.

-Samantha Chirillo

BLMVegTreatmentsDEIS_01.04.09.doc

CEA_ BLMHerbicide_07.08.doc

January 4, 2010

Bureau of Land Management
Vegetation Treatments EIS Team
P.O. Box 2965
Portland, OR 97218

Re: Vegetation Treatments Using Herbicides on BLM Lands in Oregon: Comments on Draft Environmental Impact Statement

To Whom It May Concern:

I am writing to you on behalf of Cascadia's Ecosystem Advocates (CEA, eco-advocates.org) in opposition to any increase (in amount or acreage) in herbicide application on public lands managed by the BLM, particularly the BLM's Preferred Alternative Four, No. 4. Our position is not exactly synonymous with the No Action Alternative, No. 1, however, because we do feel that some action is necessary: some nontoxic weed removal which will create real green jobs and changing forestry practices in order to prevent the spread of invasives. Implementing the proposed plan will put human and ecosystem health at substantial and unacceptable risk. The courts stepped in years ago to protect an innocent populus from the BLM's aerial poisoning of forests and rivers adjacent to their homes, as shown in the famous PBS documentary, *The Politics of Poison*. Implementation of the proposed plan without changing forestry practices that spread invasives would be wasteful and clearly against the public's interest.

1. Comment deadline extension
As noted in an e-mail by Todd Thompson, NRS Restoration Coordinator of the BLM, "the BLM will be accepting and fully considering all public comments received on the Vegetation Treatments Using Herbicides on BLM Lands in Oregon Draft Environmental Impact Statement through January 4th, 2010." We, therefore, expect the BLM to fully consider our comments herein.

2. Incorporation by reference
I incorporate by reference my comments on behalf of CEA to the BLM on the 17 Western States Vegetation Management Environmental Impact Statement (see attached). I also incorporate by reference the comments submitted by Jon Pincus (for the 17 Western States EIS) and Jan Wroncy for the current DEIS.

3. Lack of prevention
As timber management is the dominant activity that the BLM oversees, timber management practices, which by their very nature spread invasive weed seeds, must be changed to maximize weed prevention. The BLM already places restrictions on industry in a variety of ways to limit ecosystem damage and reduce the BLM's spending of taxpayer money. Without integrating timber and weed management, taxpayer money will be wasted. In my experience researching

non-herbicidal weed control methods used by city parks departments for my Master's thesis, looking at the whole management picture from construction and activity planning to promoting native plant health via healthy soil is crucial for prevention. Clearcutting and regeneration harvest contribute more toward the spread of invasives than any other practices routinely used by the BLM, although any movement of machinery from one place to another (without proper cleaning) will certainly spread weed seeds. Moreover, forest biomass extraction, by depleting native understory plants and robbing the soil of carbon, an essential nutrient, gives invasives a significant advantage over natives. Maintaining healthy native vegetation is crucial, as any land manager will say, in combating weeds. The proposed Early Detection, Rapid Response system does not substitute for basic, thoroughly tested prevention methods.

4. Lack of prioritizing nontoxic methods

The BLM does not demonstrate that, rather than merely failing to manage weeds in the Eugene BLM District, where since 1983 no herbicides have been applied, that it has put forth a concerted effort to employ nontoxic weed control methods already proven to be effective. The creation of green jobs is supposedly a high priority for the BLM, and manual removal of weeds is an ideal opportunity to employ rural residents in economically struggling communities.

5. Failure to consider a reasonable degree of tolerance

Many city parks departments have increased their tolerance of weeds and have achieved greater personnel and public satisfaction as a result. With invasives having become dominant across so much of the landscape and the economy in decline, it is preposterous to presume an ability to gain control over the invasive situation. Eradication is not a sane strategy, and, generally, we have more important battles to wage than the one on invasives. Invasive control must be carefully targeted to protect the most threatened native organisms at least cost.

6. Failure to acknowledge the costs to non-target organisms

Certainly, herbicides can kill invasive species that may outcompete native vegetation and be detrimental to other organisms in the ecosystem. In some cases, such herbicides kill invasives more efficiently and effectively than nontoxic methods. However, herbicides generally have a greater negative impact to non-target organisms, including humans. As proposed, the plan does not adequately take precautions to protect aquatic organisms or humans.

7. Lack of precaution

Without adequate testing of inert ingredients and combinations of herbicides and a general lack of disclosure of information on inert ingredients, the proposed plan is utterly reckless. Many of the herbicides that the BLM is proposing to add to its toolbox have been in use in the field for a relatively short period of time, so the negative impacts are still largely unknown. In addition, the plan proposes to apply herbicides to the areas it manages most populated by humans. Also, application of herbicides to BLM-managed lands will impact adjacent lands and humans and other organisms who inhabit them via chemical drift and runoff. More than 40,000 Oregonians live within half a mile of BLM land. With climate change and peak oil forcing adaptation reliant upon clean local water, a decision that would increase the challenges to our already overburdened waterways is utterly reckless and jeopardizes adaptation efforts.

8. Failure to manage cooperatively to maintain native habitat corridors

Increasing herbicide use will essentially erase habitat corridors especially for aquatic species, like salmon, which depend on the safe haven of BLM islands amid wide expanses of private toxic clearcuts. Just as the BLM has agreed to take up the State's slack in forest protection with regard to management plans (one of the great failings of the WOPR), the BLM should be bound to compensate for poor State management with regard to maintaining safe habitat for native organisms. The BLM has already actively destroyed much habitat through clearcutting and the conversion of biodiverse forests to tree plantations.

9. Negation of the positive impacts of recent county and state government decisions regarding roadside weed control

Some of the same rural residents, especially chemically sensitive people – See comments by Jon Pincus) who have benefited from a moratorium on herbicide spraying by Lane County and some of ODOT's territory will suffer once again when they have to drive past BLM right-of-ways. The BLM should cooperate with State and local governments that are showing success with nontoxic weed control methods and tolerance.

10. Serving the interests of the timber and chemical industries over the public's interest

The courts ended herbicide use by the Eugene BLM district for a reason. Other government entities in Oregon have done the same and have put forth great effort to develop non-herbicidal weed control methods, listening to their citizens. The BLM should put an end to its giveaways to the timber and chemical industries and instead serve the citizens by implementing only nontoxic weed control methods and forestry practices that preserve native ecosystems do not overwhelmingly spread invasives.

Any increase in herbicide use on public lands managed by the BLM would be an aggregious additional assault on public health, ecosystem vitality, and the long-term security of our bioregion as it attempts to adapt to a changing climate. We demand that the BLM revise the DEIS to include only limited, nontoxic removal of invasives and end the forestry practices that are primarily responsible for the spread of invasives.

Respectfully submitted by

Samantha Chirillo, on behalf of Cascadia's Ecosystem Advocates (CEA), eco-advocates.org
M.P.A. degree, University of Oregon, 2009 (wrote Master's thesis on alternatives to herbicides)
M.S. degree in Biology, University of Oregon, 2005

Samantha Chirillo

07.25.08

BLM Vegetation Management Programmatic EIS Comments

1. Lack of integration with timber management plan

As timber management is the dominant activity that the BLM oversees, timber management practices, which by their very nature spread invasive weed seeds, must be changed to maximize weed prevention. The BLM already places restrictions on industry in a variety of ways to limit ecosystem damage and reduce the BLM's spending of taxpayer money. Without integrating timber and weed management, taxpayer money will be wasted. In my experience researching non-herbicidal weed control methods used by City Parks Departments (http://www.pesticide.org/factsheets.html#alternatives), looking at the whole management picture from construction and activity planning to promoting native plant health via healthy soil is crucial for prevention.

A failure to integrate logging and weed control management, especially in light of the WOPR and then BLM Vegetation Management EIS sequence, could reasonably be interpreted as a tactic to challenge environmental groups and the public, spreading their resources thinner and minimizing awareness of herbicides as poisons that accompany clearcutting.

2. Does not acknowledge the costs of increasing herbiciding.

Certainly, herbicides can kill invasive species that may outcompete native vegetation. However, the BLM ignores the certain negative impacts on native, especially aquatic species. Government is to do no harm. Without adequate testing of inert ingredients and the combinations of, the BLM cannot claim that this program will do more good than harm and with evidence that herbicides do harm both humans and ecosystems, the BLM cannot claim that its program will. Moreover, the 14 new herbicides that the BLM is adding to its toolbox have been in use by the other 16 Western states for less than one year. This is hardly long enough to know the consequences, both positive and negative.

3. Does not specify the "other weeds" or the "landscape health" for which it intends to manage.

4. Does not give the acreage over which it will apply herbicides.

5. Does not adequately demonstrate a strong, ongoing emphasis on prevention and alternatives.

The BLM does not demonstrate that, rather than merely failing to manage weeds in the Eugene BLM District, where since 1983 no herbicides have been applied, that it has put forth a concerted effort to develop effective, alternative methods. The BLM boasts its new Early Detection, Rapid Response system, which does not substitute for prevention in the context of thousands of acres and amid an economic recession.

6. The BLM erasing habitat corridors for aquatic species, like salmon, which depend on the safe haven of BLM islands amid the wasteland of private industry practices.

7. The BLM is negating the positive impacts on human health of recent county and state government decisions regarding right-of-ways.

Some of the same rural residents who have benefited from a halt to herbicide spraying along Lane County roads are going to suffer severe health effects from having to pass by BLM right-of-ways. [Reference comments by John Pincus.]

8. Chooses to listen to demands of self-interested private forest managers over local and state government that is taking action based on dialogue with citizens.

The courts ended herbicide use by the Eugene BLM district for a reason. Other government entities in Oregon have done the same and have put forth great effort to develop non-herbicidal weed control methods, listening to their citizens. The BLM should not override these more local decisions in favor of more risky herbicide use but rather seek to build trust between BLM and communities by engaging in non-herbicidal weed control partnerships.

(1042)

Jan Wroncy
<jwroncy@peak.org>
01/05/2010 12:06 PM

To orvegtreatments@blm.gov
cc
bcc
Subject Here is the corrected version (FINAL) of Wroncy comments which are now optimized

Please add these to the record. They had to be optimized to make them small enough to send to you.

First is Attachment B - Wroncy Testimony on Volatilization Drift to the EPA Scientific Advisory Panel.

This second attachment is Attachment C - Olfactory....by Currans 2007

I have now correct all the typo's and misspelled words I could find and had the file optimized so that is small enough to send.

Please replace the early comments sent yesterday with this final version if you would be so kind.

JW-DraftCommentsOnDEISv3-opt.pdf

Comments on Draft Environmental Impact Statement for Vegetation Treatment Using Herbicides

Submitted by Jan Wroncy, on my own behalf and on behalf of Gaia Visions, Canaries Who Sing,, Coast Range Guardians, Residents of Oregon Against Deadly Sprays and Smoke, and Citizens Environmental Protection Alliance.

Dear Sirs:

1. Comment Deadline:

There is some confusion about the extended deadline of January 4, 2010 that the BLM Oregon Office promised, therefore I have submitted a Draft/Outline on December 1, 2009, and I am, herein, submitting final comments on January 4, 2010.

2. Incorporated by Reference:

I hereby incorporate by reference, the excellent comments submitted by Doug Heiken for Oregon Wild; and Jay Lininger for Center for Biological Diversity; by Kim Leval for the Northwest Coalition for Alternatives to Pesticides (NCAP); by Dona Hippert for Oregon Toxics Coalition; by Jason Yarashes, Kelly Cramer, and Jenny Loda for The Northwest Environmental Defense Center (NEDC) and by Dave Becker for Oregon Natural Desert Association (ONDA); by Samantha Chirillo, Co-Director, Cascadia's Ecosystem Advocates ("Eco Advocates"); by Maya Healer Gee, Master Herbalist; by Day Owen for Pesticide Poisoning Victims United/Pitchfork Rebellion; by Mary Camp, President of Deer Creek Valley Natural Resources Conservation Association; by Francis Eatherington for Umpqua Watersheds, Inc, by Lesley Adams for Rogue Riverkeeper, by Josh Laughlin for Cascadia Wildlands Project, and by Jay Lininger for Center for Biological Diversity; by Mary Moffat and David Webb of Walton; by Richard K. Nawa for Siskiyou Project; by Dr. John L. Gardiner and Dr. Christine Perala Gardiner of WaterCycle, Inc.; by Mark and Robin Winfree-Andrews; by Blue Mountain Biodiversity Project/League of Wilderness Defenders.

I also incorporate by reference my previous scoping comments, my previous comments to the BLM for the 17 Western States Vegetation Management Environmental Impact Statements, and my comments submitted for the older EIS for 13 Western States.

3. Support Alternative 1 (No-Herbicide Option) / Opposition to Alternative 4, the BLM Preferred Alternative to use more herbicides/Opposition to Alternatives 2,3 and 5:

I, and the groups I am submitting comments for, are opposed to the use of herbicides on BLM lands in Oregon for all the reasons stated in the above referenced comments and below in today's comments submitted herein. We are therefore opposed to the BLM Preferred Alternative, No. 4, and also Alternatives 2, 3 and 5. **We would support Alternative 1 (No Herbicides).** We would support a new Environmental Impact Statement that addresses the correction of bad land management activities of the past and the present to prevent future harm, and to restore the ecosystems which have been damaged.

4. False premise used to justify toxic chemicals: Invasion Biology:

"When one is up to no good, it is useful to have an excuse." quotation from Francois Jacob

on page 89 of Invasion Biology (see below):

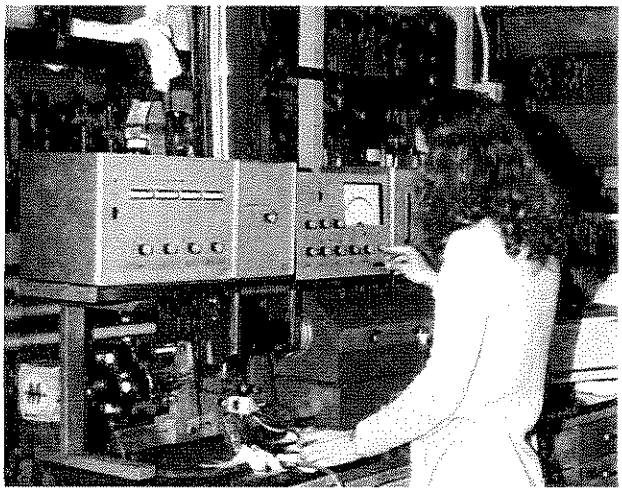
See: INVASION BIOLOGY: Critique of a Pseudoscience by David I. Theodoropoulos, 2003, a copy of which was submitted as **Attachment A** to these comments.

It is my belief that the BLM is up to no good (proposed massive use of herbicides), and that the "invasion" is the excuse.

BACKGROUND:

For many years I was involved in diverse fields of scientific research. My first research was in Air Pollution inquiries with Dr. T. J. Chow at Scripps Institute of Oceanography and Dr. Claire Patterson showing that the lead in the environment came from the lead additive in gasoline, which ultimately resulted in the ban on leaded gasoline.

I moved to Oregon to set up the lab at the University of Oregon for Dr. Gordon Goles in preparation for analysis of the lunar samples.



Following that, I worked with a team of scientists conducting research on Nitrogen Cycling in the Canopy of Old-Growth Douglas Fir at the H. J. Andrews Experimental Forest in Blue River Oregon. I assisted with analysis of samples in the lab (picture above) and also participated in some field work (picture below).

In my many scientific pursuits I gained an appreciation for the delicate balance between humankind and the environment. Because humankind has the capability of destroying the environment, we also have the enormous responsibility of making sure we DO NOT destroy the environment!

For the nearly 30 years I have engaged in organic/no spray farming, and forestry. My experience in forestry research combined with my experience with organic non-chemical farming and forestry convinces me that **man-made pesticides are not necessary for either farming or forestry.**

I have farmed organically in the Willamette Valley in Coburg, Junction City, and Elmira, and in the Coast Range in several locations.

All our farms have been maintained organically and without pesticides. The riparian forest my husband and I own is managed without chemicals. We grow vegetables, orchard fruit, cane berries, strawberries, blueberries, grapes, pasture, sheep for wool, and timber.

All food and fiber crops can be grown successfully without use of pesticides. Oregon has one of the highest numbers of organic farms in the nation, and a significant number of non-chemically managed timberlands/woodlots as well.

It is my belief that present day agriculture and forestry has been hijacked by the chemical companies and turned into a "chemiculture".

With my background and experience, I eagerly researched the underlying theories of "invasion biology" at the heart of the BLM herbicide plans. After reading INVASION BIOLOGY: Critique of a Pseudoscience by David I. Theodoropoulos, 2003, **I am convinced that the underlying justification (excuse) for the BLM DEIS Vegetation Treatment Using Herbicides is based on non-science and therefore, "arbitrary and capricious".**

An Environmental Impact Statement that is Arbitrary and Capricious does not comply with NEPA and can not pass the test of a "hard look".

The perceived "need" for action is not based on sound science, and is therefore arbitrary and capricious.

All alternatives choosing massive amounts of chemical poisons (herbicides) except Alternative 1 (No Herbicides) to manage an arbitrary and capricious "need" rather than employing non-chemical alternative treatments (least harm) are arbitrary and capricious and do not comply with NEPA.

40 CFR § 1500.1 Purpose.

(b) NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency

Where is the science? Where is the high quality? Where is the accurate scientific analysis?

See the Northwest Environmental Defense Center (NEDC)/Oregon Natural Desert Association (ONDA) comments also, incorporated by reference herein.

Note that the use of herbicides may have a ripple effect on "native" or desirable plant species too.

I would like to point out that herbicides always do more damage to native plants than to "noxious weeds" or invasive species. Therefore continual, large scale use of these toxic chemical herbicides will alway select for stronger weeds, thus leaving nothing alive that can compete with the weeds, and therefore never be able to eliminate weeds. Since the chemical herbicides are very persistent, and in fact last much longer than the BLM would care to admit, they will sterilize the soil for long periods of time, thus additionally disfavoring natural, native vegetation communities. Using toxic chemical herbicides not only contaminates the environment, but also poisons whole ecosystems.

5. "Inert" and Secret "undisclosed" ingredients in pesticides and pesticide adjuvants:

If the BLM does not reveal all the so-called "inert" and other ingredients in the formulations proposed for use, and all the ingredients of adjuvants added to tank mixes or batches, the BLM will not comply with NEPA by providing pertinent information for decision makers to review, and therefore also for the public to review. The public is rightfully reluctant to approve plans full of "secrets", especially secrets about toxic chemicals that we are being asked to accept exposure to.

Please also refer to the excellent comments by Kim Leval, Executive Director of the Northwest Coalition for Alternatives to Pesticides (NCAP) herein incorporated by reference

See: Unidentified Inerts by Caroline Cox, 2006 at:
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1764160/
See: http://www.pesticide.org/inertspage.html
See also: http://www.pesticide.org/inertspetition2006.pdf
See: **EPA Seeks to Disclose Hazardous Pesticide Inert Ingredients**
at: http://www.epa.gov/opprd001/inerts/

An example of one type of toxic "inert" ingredient added on purpose to pesticide formulations is called "suicide inhibitors" and "Cytochrome P450 inhibitors" : "Suicide Inhibitors" at page 151, 157, 267 in and "Cytochrome P450 inhibitors" at page 157 in: RATIONAL APPROACHES TO STRUCTURE, ACTIVITY, AND ECOTOXICOLOGY OF AGRICHEMICALS, edited by Wilfried Draber and Toshio Fujita, 1992.

6. Toxic active ingredients, and adjuvants: Need to identify exact formulas and analyze impacts of formulas and tank mixes as well as targets of herbicide spraying proposed, and exact site where it will be applied.

Listing active ingredients tells the decision-makers and the public nothing about the specific ingredients, and proportion of ingredients in the actual formulation proposed for use. Not identifying other adjuvants that will be tank mixed or otherwise applied at the same time will not inform the decision-makers and the public of the necessary information needed to make an informed decision. Without the specific location, decision-makers and the public can not assess the impacts to humans or to the environment. The decision-makers need the exact formula name, EPA Registration

Number, the identity of the active ingredient, the identity of all "other" ingredients, the proportion of each component, a copy of the exact label for this particular formula, the identity of any adjuvants to be added to the mix or applied at the same time, the identity of the target plants, and the exact location where it will be applied. All these omissions in the EIS fail to comply with NEPA.

NEPA VIOLATIONS:

ENVIRONMENTAL INFORMATION NOT AVAILABLE

40 CFR § 1500.1 Purpose.

(b) NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.

See **NEDC/ONDA** comments also, incorporated by reference herein.

See: PORPHYRIC PESTICIDES: Chemistry, Toxicology, and Pharmaceutical Applications , Edited by Stephen O. Duke and Constantin A. Rebeiz, an American Chemical Society Symposium Series 559, 1994.
See also "Suicide Inhibitors" in: RATIONAL APPROACHES TO STRUCTURE, ACTIVITY, AND ECOTOXICOLOGY OF AGRICHEMICALS, edited by Wilfried Draber and Toshio Fujita, 1992.
See: MECHANISMS OF CHEMICAL-INDUCED PORPHYRINOPATHIES, Edited by Ellen K. Silbergeld and Bruce A Fowler, 1987.
See: THE COLOURS OF LIFE: An Introduction to the Chemistry of Porphyrins and Related Compounds by Lionel R. Milgrom, 1997.
See: RISKY BUSINESS: Genetic Testing and Exclusionary Practices in the Hazardous Workplace by Elaine Draper, 1991.

7. Failure to comply with NEPA: Uninformed decision-makers, cumulative impacts, etc.

BLM does not disclose all the cumulative impacts of their past spray activities and activities of adjacent lands under other ownship. Therefore, the DEIS does not comply with NEPA.

ENVIRONMENTAL INFORMATION NOT AVAILABLE

40 CFR § 1500.1 Purpose.

(b) NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.

8. Failure to comply with FIFRA: Mislabeled, false claims of safety, Label violations

(a)(5) *False or misleading statements.* Pursuant to section 2(q)(1)(A) of the Act, a pesticide or a devise declared subject to the Act pursuant to § 152.500, is misbranded if its labeling is false or misleading in any particular including both pesticidal and non-pesticidal claims. Examples of statements or representations in the labeling which constitute misbranding include:

(ix) Claims as to the safety of the pesticide or its ingredients, including statements such as "safe," "nonpoisonous," "noninjurious," "harmless," or "nontoxic to humans and pets" with or without such qualifying phrase as "when used as directed";

The DEIS implies that the pesticides will do minimal damage, and are "safe" and that the public should just accept these risks. The DEIS even states that Eastern Oregon is more willing to accept the pesticides. All the potential exposures are non-consensual and unlawful testing of pesticides on humans in violation of the labels, and of FIFRA including the law cited below.

9. Violations of: 7 USCA Section 136j Unlawful acts [FIFRA section 12]: unlawful testing on humans.

7 USCA Section 136j Unlawful acts [FIFRA section 12]

(a)(2) It shall be unlawful for any person ---

(G) to use any registered pesticide in any manner inconsistent with its labeling

(P) to use any pesticide in tests on human beings unless such human beings (i) are fully informed of the nature and purposes of the test and of any physical and mental health consequences which are reasonably foreseeable therefrom, and (ii) freely volunteer to participate in the test

10. Failure to comply with the CWA: NPDES Permits:

See NEDC comments herein incorporated by reference.

11. Discrimination against disabled people/Disparate Harm to disabled people/Denial of Access:

Violations of the Rehabilitation Act of 1973 will occur when the BLM disparately harms disabled people by forcing people to endure non-consensual exposures to herbicides mixtures and formulas containing active herbicidal ingredients, adjuvants, dyes, surfactants, odor-masking agents, crop oils, penetrating oils, contaminants, breakdown products and many other chemicals (secret, undisclosed ingredients often misleadingly called "inerts" when people are on BLM lands or near enough to them to receive drift or vapors, runoff into surface waters, or ground water contamination, or via other means of transport which cause disparate harm to disabled people. If people suffer from disabilities that render them unable to detoxify the chemicals that BLM proposed to use, they will be disparately harmed by

BLM's massive spray program.
See: PORPHYRIC PESTICIDES: Chemistry, Toxicology, and Pharmaceutical Applications , Edited by Stephen O. Duke and Constantin A. Rebeiz, an American Chemical Society Symposium Series 559, 1994.

Many of the active ingredients, "other" ingredients, and adjuvants are porphyrinogenic. See below: **Porphyrinogenic Substances.** A referenced list of 3,700 chemicals, metals, and medications that can cause porphyria and/or induce an attack. Available from Chemical Injury Information Network.

12. Violations of Human Rights by use of pesticides whereby the public is forced to endure non-consensual exposures:

See: Documents by Dr. Tom Kerns regarding herbicides, insecticides, and human rights, etc. at:

http://www.environmentandhumanrights.org/reports.htm

Recently I testified to the Environmental Protection Agency's Scientific Advisory Panel on Vapor Drift regarding volitilization of herbicides applied to forestland near my organic farm. The interesting thing about this occurrence is that it was applied by a contractor for a timber company adjacent to BLM lands and a BLM road and the roadside owned and controlled by BLM. This has happened many times recently and the BLM has chosen to look the other way, claiming that they were coming out with an EIS to do the very same thing. This spray event happened on August 21, 2009. Just two days ago I went up the BLM road to view the Coho salmon spawning in Congdon Creek below the sprayed unit, and the unit is still off-gassing vapors of imazapyr herbicide. This is one of the herbicides BLM proposes to use in the DEIS. This is one of the forest roads likely to receive herbicide treatment under the new DEIS. The checker-boarded BLM units that surround our farm in a town well over 100 years old, and surrounds many named streams in the Washington Toxics, et al v EPA lawsuit to protect the listed Coho salmon runs here from harm from pesticides are all up fair game for spraying with herbicides under the new DEIS. In terms of drift, ground water contamination, surface water contamination and runoff, as well as direct and immediate drift during applications and volatilization drift long after application, and runoff into our legal, registered 1947 domestic and irrigation water rights the BLM spraying will directly harm us and other neighboring residences.

Note that their are 10's if not 100's of thousands of people adjacent to BLM lands who will be affected by this DEIS.

See comments by **Cascadia's Ecosytems Advocates**, herein incorporated by reference.

Also see attached Wroncy testimony to EPA on Volatilization Drift, as **Attachment B**.

13. Violations of Native Americans rights: traditional medicines, wild crafting, native habitat, traditional and new food sources.

Many of the plants BLM plans to target, whether labeled invasive, non-native or native are traditionally used as medicines, food sources, or ceremonial plants by the Native American tribes of Oregon.
See **Native American Medicinal Plants: An Ethnobotanical Dictionary** by Daniel E. Moerman, 2009.
See: Comments by Maya Healer Gee

14. Arbitrary and capricious labeling of plants as weeds, undesirable vegetation, noxious plants, and invasive species/Denial of beneficial and medicinal uses:
See: Comments by Maya Healer Gee
See: **Invasion Biology** by David I. Theodorpoulos attached as Attachment A

15. Violations of the Endangered Species Act/Unnecessary threats to Endangered Species: Salmon, owls, etc.

See Comments by Richard Nawa for **Siskiyou Project** herein incorporated by reference. See also the Masters Thesis for the University of Washington by Catherine Anne Curran, **Olfactory-mediated behavior in juvenile salmonids exposed to aquatic herbicides**, 2007 a copy of which is herein attached as **Attachment C**.

16. Failure to correct past land management practices that substantially cause the vegetation problems:

Many 1,000's of acres of BLM lands are overgrazed yearly and the true cost of producing cattle for market for private profit using public lands is borne by the public, including the cost of trying to restore the damaged lands left behind. This past activities of mis-management of public lands must stop.

See: **SACRED COWS AT THE PUBLIC TROUGH** by Denzel and Nancy Ferguson, 1983.
See also NEDC/ONDA comments, herein incorporated by reference.

The BLM proposal utterly fails to put prevention first. The BLM proposal for massive spraying of herbicides on 100's of thousands of acres in Oregon will result in massive devastation to the public lands, and massive poisoning of the public.

Conclusions:

As many of the members of the groups I am submitting comments on behalf of are disabled by conditions that render us unable to detoxify chemicals such as herbicides and other toxic ingredients in herbicide spray mixtures, we can only support Alternative 1, the NO HERBICIDE option. All of us wish to avoid exposure to the chemicals in herbicides in herbicide formulas and mixtures. We do not grant permission to the BLM to impose on us such exposures.

Also most of us live near BLM lands, downstream from, or downwind from or are otherwise influenced by the land management activities on BLM lands. Most of the members of the groups represented here use the BLM lands to for enjoyment, recreation, nature studies, to view and enjoy plants, insects, birds, fish and other wildlife, and otherwise for our spiritual renewal. Which management treatments and activities the BLM proposes and conducts on the public lands greatly affects us.

Therefore, we ask the Bureau of Land Management to adopt Alternative 1 - NO HERBICIDES for this Environmental Impact Statement for Oregon.

Respectfully submitted by

Jan Wroncy, on my own behalf and on behalf of
Gaia Visions
Canaries Who Sing,
Coast Range Guardians,
and Citizens Environmental Protection Alliance
Post Office Box 1101
Eugene, OR 97440

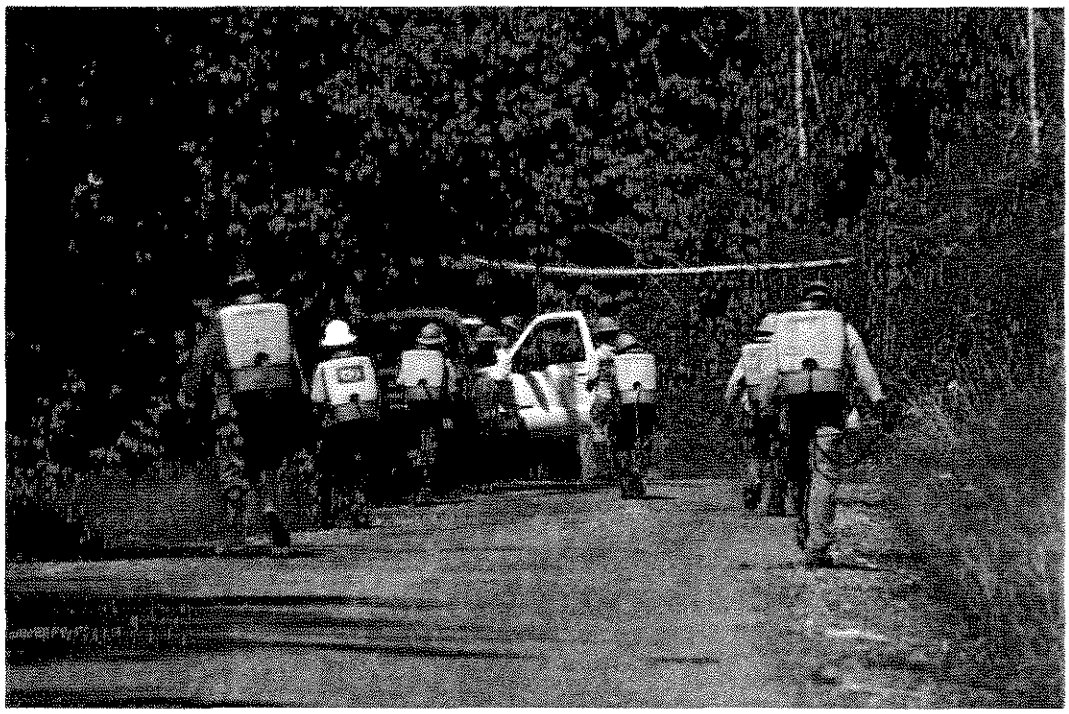
Comments about Volatilization Drift to the Environmental Protection Agency Scientific Advisory Panel

Submitted by Jan Wroncy

Accounts of Volatilization Drift and their negative impacts:

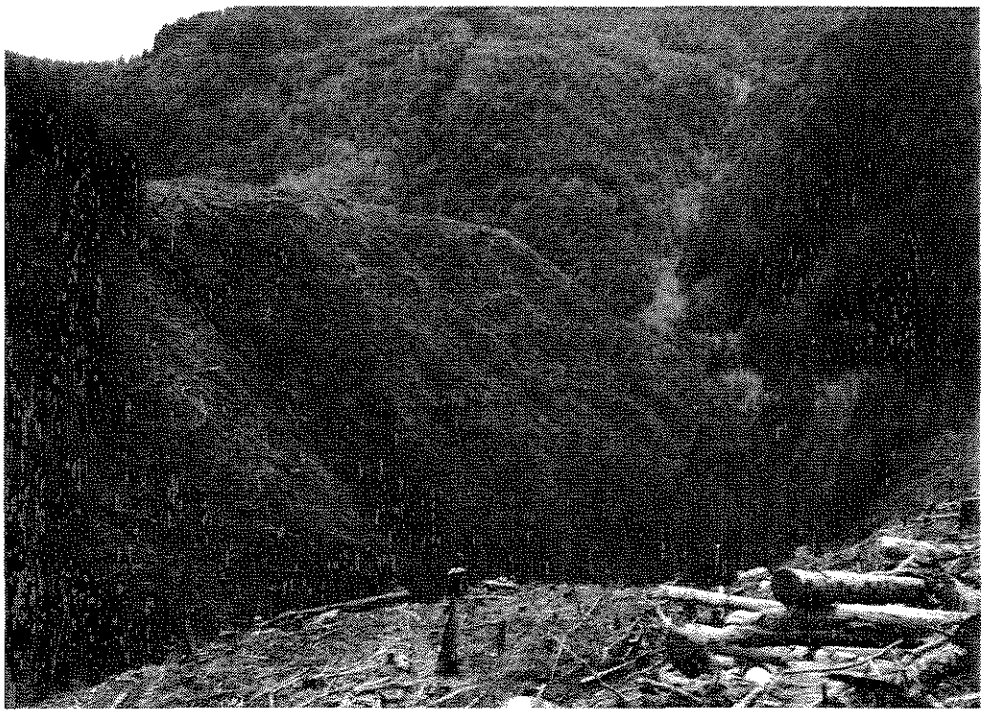
August 21, 2009: Oregon Forest Management Services applied Chopper manufactured by BASF, EPA No. 241-296 (imazapyr, active ingredient) plus Methylated Seed Oil foliar by back pack sprayers for Weyerhaeuser Company on steep clearcut forestland in the Coast Range of Oregon within Lane County adjacent to protected Coastal Coho Salmon streams (Congdon Creek and tributaries flowing into Lake Creek and then into the Siuslaw River).

Below is a picture of the Oregon Forest Management Services crew after they finished spraying the unit on August 21, 2009 about two air miles from my organic farm. (Photos by Gary Hale).

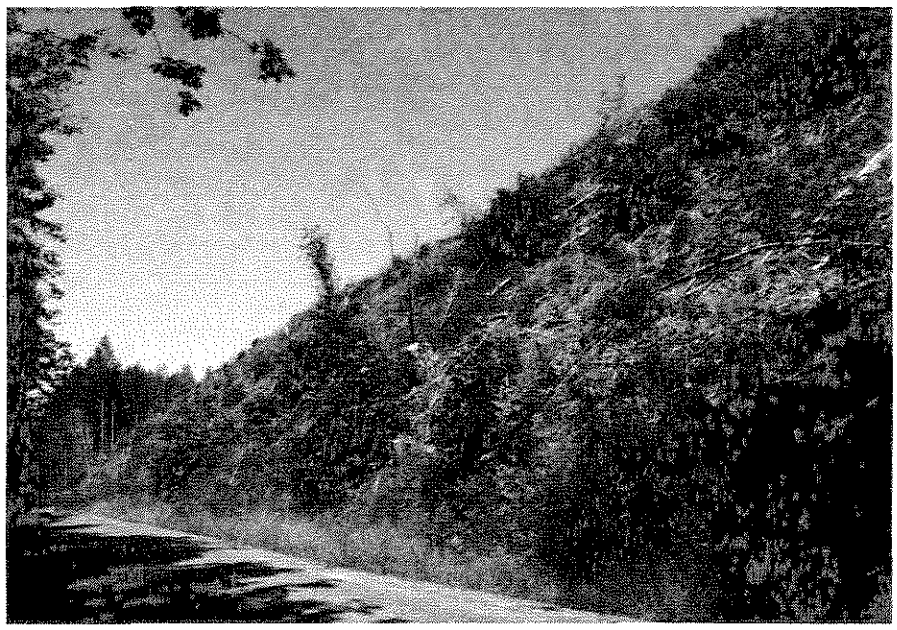


This type of application normally does not cause the amount of drift that an aerial application would, however, both kinds of applications do cause significant volatilization drift. Because of the steepness of the slopes treated and the herbicide/adjuvants used, there is noticeable vapor movement uphill with the warming air during the daytime, and downhill movement with the cooling air in the evening. The wind carries these vapors for miles, and the vaporization of these chemicals lasts for days, weeks, and even months.

The photo below shows how steep this unit is. The diurnal movements of air transport the vapors for a great distance from the sprayed units for a long time after the initial application of the pesticide or herbicide and adjuvant mixtures. Almost all the homes and farms are located in the bottom land in the valleys. The town of Horton was inhabited over 100 years ago. Our farm is the original homestead of Samuel Horton, one of the founding families of the town.



The following photo was taken of the sprayed unit after the herbicide was sprayed on the trees (mostly Big Leaf Maple) some of which were 15 or more feet tall. Spraying vegetation that tall with back pack sprayers would have increased the chance of drift during application.



Congdon Creek is the large fish-bearing stream below the unit that was sprayed. It is a prime spawning stream for Coho, Chinook and Stealhead. Congdon Creek flows into Lake Creek and then joins the Siuslaw River many miles downstream. The 1947 irrigation water right for our organic farm is around 3 miles downstream from the treated unit. The picture below is of Congdon Creek, taken from Majors Creek Bridge on the day of the spray. This part of the stream is prime spawning grounds for endangered salmon.

Not only did we receive drift from the original ground application, but we also received volatilization drift for weeks afterward. Then following rain, the contamination of our legal registered water right for irrigation water was evidenced by damage to the rows of crops watered by drip lines supplied with the river water.

The drift from vapors made it very difficult to work in my fields for any length of time because I quickly became ill (headaches, achiness, muscle aches, breathing problems and arrhythmia, etc.). My farm work fell behind schedule and I was never able to catch up for the season. Our farm cats, and dog also suffered from the vapors. My son was affected also. My husband was able to work inside with fewer effects because of a very expensive air filter we run in the house. But outside work remained difficult during this time.

After about one month, we went up to the public road (Bureau of Land Management road; Congdon Creek Road) below the spray unit to view the damage. All of the same symptoms of the vapors intensified again to the level they were present during the first few weeks after the unit was sprayed, so clearly the vapors were still present, and clearly the symptoms were a result of exposure to the vapors.

The photo below shows the same view of the sprayed unit over five weeks later (taken October 2, 2009). This unit was still fuming vapors which affected my health negatively, and were still capable of drifting off-target for a significant distance.

Vapor drift is significant and harmful to human health, animal health and the environment. Vapor drift is capable of being transported over long distances and lasts for days, weeks and months. Not only initial drift but also vapor drift must be taken into account by the Environmental Protection Agency while regulating pesticides and pesticide adjuvants.

Respectfully submitted by

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Olfactory-mediated behavior in juvenile salmonids exposed to aquatic herbicides

Catherine Anne Curran

A thesis submitted in partial fulfillment of the requirements for the degree of

Master of Science

University of Washington

2007

Program Authorized to Offer Degree:
Aquatic and Fishery Sciences

University of Washington
Graduate School

This is to certify that I have examined this copy of a master's thesis by

Catherine Anne Curran

and have found that it is complete and satisfactory in all respects, and that any and all revisions required by the final examining committee have been made.

Committee Members:

Christian Grue

David Beauchamp

Loveday Conquest

Kathy Hamel

Date: 3-16-07

In presenting this thesis in partial fulfillment of the requirements for a master's degree at the University of Washington, I agree that the Library shall make its copies freely available for inspection. I further agree that extensive copying of this thesis is allowable only for scholarly purposes, consistent with "fair use" as prescribed in the U.S. Copyright Law. Any other reproduction for any purpose or by any means shall not be allowed without my written permission.

Signature Catherine Cannon

Date 3-16-07

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Funding for the research was provided by the Washington Department of Ecology, SePRO Corportation, the School of Aquatic and Fisheries Sciences (SAFS), and the Washington Cooperative Fish and Wildlife Research Unit. Scholarships from SAFS, the Weed Science Society of America, and the Evergreen Fly Fishing Club helped me personally a great deal. I thank P. Hershberger and N. Elder for facilitating use of the facilities at the USGS's Marrowstone Marine Station for the avoidance study. I must thank, firstly my major professor Chris Grue, without whom I would not be where I am today, and my Committee members, Dave Beauchamp, Loveday Conquest, and Kathy Hamel. This project would not have been possible without the hard work and dedication of Martin Grassley, who assisted and built all avoidance testing chambers. I have gained tremendous help and support from my fellow lab mates, Verna Blackhurst, Kerensa King, Mike Smith, Morgan Sternberg, and Mariana Tamayo. My years in graduate school were so much fun in part because of the University of Washington's women's ultimate frisbee team, Element. And of course, last but not least my family, namely my fiancé Rusty for putting up with me, my parents and sister, and all my friends.

Chapter 1- Background and Justification

Pesticide use has been increasing worldwide with the advent of more intensive agriculture (Laabs et al. 2002), home garden care and maintenance (Frans 2004), and the control of exotic and invasive plants. Herbicides are the most commonly used pesticides, and are the most often detected in surface waters (Frans 2004). In addition to the leaching of herbicides from land, some herbicides are applied directly to water to control aquatic vegetation. While the application rates of chemicals applied to water are often below those levels that are overtly toxic to non-target species, there may be "sublethal" effects on those that are exposed (Wolf and Moore 2002). The biological significance of "sublethal" effects is largely unknown (Grue et al. 2002).

Plants are vital to aquatic systems in that they provide essential habitat for other aquatic organisms. However, an over abundance of plants can degrade water quality, lead to an excess of nutrients, reduce habitat values, block water management structures, interfere with navigation and recreational opportunities, and impair aesthetics (Emmett 2001, 2002, Emmett and Morgan 2004). For regulatory purposes, the Washington Department of Ecology divides aquatic weeds into two types, nuisance weeds, native plants growing in excess, and noxious weeds, plants that are not native to the area. Noxious weeds are considered invasive, and can degrade wildlife habitat, out-competing native species (Emmett 2001, 2002, Emmett and Morgan 2004). In Washington State, there are 28

aquatic, wetland, or riparian species listed on the State Noxious Weed List. Under an Aquatic Weed Grants Program, the Department of Ecology is trying to remove a number of invasive species including: Brazilian Elodea (*Egeria densa*), Eurasian watermilfoil (*Myriophyllum spicatum*), Fanwort (*Cabomba caroliniana*), Fragrant Water Lily (*Nymphaea sp.*), Hydrilla (*Hydrilla verticillata*), Swollen Bladderwort (*Utricularia inflata*), Parrotfeather (*M. aquaticum*), Water Hyacinth (*Eichhornia crassipes*), Water Primrose (*Ludwigia hexapeta*), and Yellow Floating Heart (*Nymphoides peltata*) (www.ecy.wa.gov).

Control of aquatic weeds can be conducted using a variety of methods, each with their own advantages and disadvantages. Options include bottom screening, diver dredging, hand pulling, cutting and raking, rotovation, mechanical cutting and harvesting, biological control, namely grass carp (*Ctenopharygodon idella*), and herbicides.

Bottom screening involves placing a cover over the sediments and plants like a blanket, compressing the plants while reducing or blocking light. Bottom screening is best in small areas and can control plants for 1 to 2 years, possibly up to 10 years if properly maintained. They are non-selective and effects are limited to the treated area. If not secured properly, a difficulty in soft-sediments, they can become navigation hazards and dangerous to swimmers. Bottom screens can also interfere with fish spawning and bottom-dwelling animals, and without regular maintenance, the target plants may quickly re-colonize the bottom screen. (Emmett 2001, 2002, Emmett and Morgan 2004)

In diver dredging, divers clear plants from small areas resulting in 90% removal of plants. Divers are able to be selective in both the area treated and the species removed. Removal of plants can increase turbidity, leading to obscured vision, making the diver less effective, and cause re-suspension of contaminants and nutrients bound to sediments. Diver dredging is expensive and it is often difficult to get the permits required. (Emmett 2001, 2002, Emmett and Morgan 2004)

Manual methods of removal, including hand pulling, cutting and raking, are labor intensive and are best for swimming areas and around docks. They are also good for removing early infestations. The ease and success of this approach depends on the plant type and the sediments the plants are growing in. Plant fragments must be collected to avoid spreading the plants. Hand cutting is done from the water surface, leaves the roots in the sediment, and generates floating plants and fragments that need to be removed. Raking may result in substrate removal and short-term increases in turbidity, making it difficult to see remaining plants. Raking may also disturb benthic organisms. (Emmett 2001, 2002, Emmett and Morgan 2004)

Mechanical options include rotovation, cutting and harvesting. Rotovation uses agricultural tilling machines that have been modified for aquatic use to uproot aquatic plants. Rotovation can cause direct mortality of invertebrates and fish. It disturbs the lake bottom, increasing turbidity, and potentially releasing contaminants and nutrients bound

to the sediments. Rotovation is non-selective, can remove desirable species, and cause plant fragments, which need to be collected for effective control. A number of permits are needed for rotovation. Mechanical cutting and harvesting is good for large scale projects, but regrowth can occur within a month and several treatments may be required per growing season. These methods do not totally eradicate noxious species and can result in significant environmental impacts within the target area. Mechanical cutting and harvesting can disturb sediments if not conducted correctly, are non-selective, and may eliminate valuable fish and wildlife habitat, while causing an accumulation of plant fragments. (Emmett 2001, 2002, Emmett and Morgan 2004)

New methods of control, still being developed, are biological controls. At this time only grass carp (*Ctenopharygodon idella*) are widely used, but other methods include plant pathogens, herbivorous insects, competitive plants, and plant growth regulators. Sterile grass carp, which feed on aquatic plants, are generally introduced to ponds and lakes with no inlet or outlet, or the inlet or outlet must be screened. The amount of control provided by grass carp ranges from removal of 20-40% plant cover to complete removal of all submersed plants. Because of this, they are considered an all or none strategy. It can take grass carp 2 to 5 years to control aquatic weeds. Grass carp may not discriminate between plant species and as such may consume threatened and endangered species or other desirable native plants. Once grass carp are stocked, they are nearly impossible to remove short of their 20 year life span. (Emmett 2001, 2002, Emmett and Morgan 2004)

The remaining alternative for aquatic plant removal is the use of chemical control, herbicides. Some advantages of herbicides are they can be less expensive than a number of the other control methods, especially in the case of large infestations. They are easily applied around docks and underwater obstructions. Disadvantages include short-term restrictions for swimming, drinking, fishing, irrigation, and other water uses after application. In addition some slower acting herbicides can take days to weeks before control is achieved, while faster acting herbicides can result in low oxygen levels associated with large scale plant decomposition. Some expertise is required to successfully use herbicides and avoid undesirable impacts. Also, public perception plays a significant role in the application of pesticides to surface waters and some cities and counties may have additional restrictions on use. (Emmett 2001, 2002, Emmett and Morgan 2004, www.ecy.wa.gov)

Another advantage of herbicide use is its potential to provide selective plant control (Sprecher et al 1998), particularly over large areas, through the selection of herbicides that kill only certain types of plants. Selective herbicides can be extremely useful in plant management where native plant species are living among invasive species (Sprecher et al 1998).

There were approximately 200 projects using aquatic herbicides in Washington in 2006 and a similar number is expected in 2007 (K. McLain, personal communication). The most commonly used aquatic herbicides for submersed plant control in Washington State

are DMA® 4 IVM (active ingredient [a.i.] 2,4-D; Dow AgroSciences, Indianapolis, IN), Renovate® 3 (a.i. triclopyr-TEA; SePRO Corporation, Carmel, IN), Reward® (a.i. diquat; Syngenta, Greensboro, NC), and Sonar® A.S. (a.i. fluridone; SePRO Corporation). DMA® 4 IVM and Renovate® 3 are systemic herbicides with modes of action that control growth and target dicot and broadleaf monocot plants (Sprecher et al 1998). DMA® 4 IVM has been shown to be selective for Eurasian watermilfoil at label application rates, leaving native aquatic plants relatively unaffected (Emmett 2001). Renovate® 3 can be effective for spot treatment of Eurasian watermilfoil and is relatively selective for it at label rates, while many native species are unaffected by triclopyr (Emmett and Morgan 2004). Reward® is a non-selective contact herbicide that alters photosynthesis and results in rapid death of the plant, but is dependant on sunlight (Emmett 2002). Reward® is generally used for short-term control of a variety of submerged aquatic plants. Sonar® A.S. is a slow acting systemic herbicide that inhibits carotenoid synthesis and results in the photodestruction of chlorophyll (Netherland and Getsinger 1995). It results in good control of submersed plants where there is little water movement and extended contact time. When used in Washington State, Sonar® A.S. is applied several times during the spring and summer to maintain a low, but consistent concentration in the water. Of the herbicides mentioned above, it is the most expensive (www.ecy.wa.gov).

The use of herbicides in Integrated Pest Management (IPM) plans to control aquatic weeds has been hampered by concerns directed at the non-target toxicity of active herbicidal ingredient. A recent ruling by the 9th Circuit Court of Appeals (*Headwaters,*

Inc. v. Talent Irrigation District, 2001) requires Western states, including Washington, to issue National Pollutant Discharge Elimination System (NPDES) permits for the use of pesticides and adjuvants in aquatic systems (Leintz 2004). Unfortunately, adequate data on the non-target toxicity of aquatic herbicides to aquatic resources are lacking, thereby threatening the permitting process and the success of IPM strategies to control aquatic plants.

Behavioral tests can improve the interpretation and ecological relevance of standardized toxicity test results, such as LC50s (Grue et al. 2002). A number of studies have examined the ability of different fish species to avoid a variety of chemicals, with metals and insecticides being the most frequently tested (e.g., Hansen et al. 1972, Kynard 1974, Folmar 1976, Carr et al. 1990, Morgan et al. 1991, Ishida and Kobayashi 1995, Saglio and Trijasse 1998, Saglio et al. 2001). The ability of animals to detect and avoid toxic concentrations of pesticides in the wild may reduce the hazards associated with their use as long as suitable uncontaminated habitat is accessible elsewhere (Folmar 1976). Olfaction and olfactory-mediated behaviors are also extremely important to fish in finding mates, detecting prey, and avoiding predators, and can be affected by exposure to novel chemicals (Steele et al. 1990, Scholz et al. 2000, Wolf and Moore 2002, Scott et al. 2003).

Pesticide-induced changes in olfactory mediated behaviors in fish can be quantified using a number of different methods, the most common of which are counter current flow

chambers and Y-mazes. In the counter current chamber, water enters from both sides of a square or round chamber and then exits in the middle with little to no mixing. Fish are placed within the chamber, and after acclimation, the position of the fish is documented for a fixed period of time. Chemical is then introduced and the position of the fish is again is determined. The location of fish prior to the introduction of the chemical and after the chemical is introduced are then compared statistically. In the Y-maze, usually a "Y" shaped chamber, water flows down the two sides and out a drain in the base of the Y. Fish are placed at the base of the maze and after acclimation, the chemical is introduced to one arm of the maze while the other side receives clean water. Fish are given a fixed amount of time to swim between the two waters, after which location of fish is recorded and the number of fish in each portion of the chamber is then compared statistically. For all these tests, attraction is defined as the movement of fish into the chemical treated side of the chamber, whereas avoidance is defined as movement to the side of the chamber with clean water, or away from the chemical. "No response" is defined as no change in position following the introduction of chemical.

Salmonids are an important part of the culture of the Pacific Northwest and many stocks are listed as threatened or endangered by the Endangered Species Act (Emmett 2002). Out-migrating smolts depend on olfaction to imprint on their natal stream so they are able to return to it to reproduce (Dittman et al. 1996). Also during this time, juvenile salmonids go through the parr-smolt transformation that alters them behaviorally and physiologically and allows them to adapt to seawater. This is also a period of increased

olfactory sensitivity (Dukes et al. 2004). Salmon out-migration often coincides with the treatment of surface waters with various herbicides to control aquatic weeds (Poovey et al. 2002). The impacts of these chemicals on the olfactory system of fish have not been determined.

Of the aquatic herbicides commonly applied in Washington State to control submersed plants (2,4-D, diquat, fluridone, and triclopyr), juvenile rainbow trout (*Oncoryhnchus mykiss*) were found to avoid 1 ppm 2,4-D a.i. (Folmar 1976), which is below the maximum application rate (i.e., the maximum concentration permitted within the water column) of 4 ppm a.i.. These concentrations are well below the LC50 of 2,4-D for juvenile rainbow trout, which ranges from greater than 100 to 420 ppm (Mayer and Ellersieck 1986). Behavioral changes were observed in juvenile rainbow trout exposed to 88 ppm triclopyr (a.i., as triethylamine salt) as a formulated product (Morgan et al. 1991). The behavioral changes observed by Morgan and colleagues (1991) were loss of equilibrium, erratic swimming, and eventually fish lying on the bottom of test chambers barely breathing. The effects concentration of 88 ppm a.i. is below the reported LC50 of triclopyr for juvenile rainbow trout, greater than 100 ppm (Mayer and Ellersieck 1986), both of which are much higher than the maximum label application rate of 3.49 ppm a.i., or the maximum rate permitted by the Washington State Department of Ecology of 2.5 ppm a.i.. Previous studies indicate juvenile rainbow trout do not avoid diquat at 10 ppm a.i. (Folmar 1976), a concentration close to the LC50 for Reward® of 14.8 ppm (MSDS 2005). Both concentrations are again well above the maximum label application rate of

1.37 ppm a.i.. Behavioral studies with fluridone have not been conducted, but the LC50 of fluridone for juvenile rainbow trout was found to be 4.25-8.4 ppm (Mayer and Ellersieck 1986); the maximum label application rate is 0.15 ppm a.i..

There has also been little research on the ability of aquatic species to detect a stimuli following pesticide exposure (Wolf and Moore 2002, Scott et al. 2003). Wolf and Moore (2002) studied the herbicide, metolachlor, by first exposing crayfish (*Orconectes rusticus*) to the herbicide and then testing their ability to detect a stimulus. They determined the crayfish were still be able to detect odors, but did not respond properly. When exposed to the avoidance causing odors, the crayfish moved towards them, instead of away. Scott and colleagues (2003) exposed juvenile rainbow trout to cadmium and then tested their response to an alarm substance (skin extract). They found that cadmium did alter the trout's response to the avoidant, but the response depended on the duration of the exposure to the cadmium.

The overall goal of my research was to determine if aquatic herbicides alter olfactory mediated behavior of salmonids. The objective of my first study, Chapter 2, was to determine if juvenile Chinook salmon (*Oncorhynchus tshawytscha*) avoid formulations of three aquatic herbicides commonly used in Washington State: Renovate® 3 (triclopyr-TEA), Reward® (diquat), and Sonar® A.S. (fluridone). DMA® 4 IVM (2,4-D) was not included in this study as Folmar (1976) had determined that juvenile rainbow trout avoid the herbicide at concentrations less than those associated with maximum label rates.

although he used a different apparatus. The nominal concentrations tested were equal to those associated with the maximum label application rate and 10 times the maximum rate. The objective of my second study, Chapter 3, was to determine if exposure to the four aquatic herbicides (DMA® 4 IVM, Renovate® 3, Reward®, and Sonar® A.S.), at maximum label or field applied application rates, alters olfactory performance in juvenile rainbow trout, used as a surrogate for juvenile salmon. Chapter 4 of my thesis includes a synthesis of my studies a discussion of research needs.

Chapter 2- Do juvenile Chinook salmon (*Oncorhynchus tshawytscha*) avoid Renovate® 3, Reward®, and Sonar® A.S.?

Introduction

The use of herbicides in Integrated Pest Management (IPM) plans to control aquatic weeds has been hampered by concerns directed at the non-target toxicity of active herbicidal ingredients (a.i.). The non-target toxicity of aquatic herbicides needs to be assessed, particularly in light of litigation that has and may continue to force states to adopt new permitting processes that require states to issue National Pollutant Discharge Elimination System (NPDES) permits for the use of pesticides in aquatic systems (Leintz 2004). Unfortunately, adequate data on the toxicity of aquatic herbicides to non-target aquatic resources are lacking, thereby threatening the permitting process and the success of IPM strategies to control nuisance or invasive aquatic plants.

Salmon are an important part of the culture of the Pacific Northwest and many stocks are listed as threatened or endangered under the Endangered Species Act (Emmett 2003). Local, State, and Federal governments and non-governmental organizations are spending millions of dollars annually to protect and enhance salmon populations and their habitats. Many salmon stocks travel through waters that receive chemical inputs (e.g., Collier et al. 1998), and effects of these exposures are not known. For example, during their out-migration to the ocean, juvenile salmon frequently pass through water bodies in which herbicides are used to control nuisance or invasive aquatic plants. Information on how

juvenile salmon respond to aquatic herbicides following operational applications is lacking.

Behavioral tests can improve the interpretation and ecological relevance of standardized toxicity test results, such as LC50s (Grue et al. 2002). Studies have examined the ability of a variety of different fish species to avoid a number of chemicals, with metals and insecticides being the most commonly tested (e.g., Hansen et al. 1972, Kynard 1974, Folmar 1976, Carr et al. 1990, Morgan et al. 1991, Ishida and Kobayashi 1995, Saglio and Trijasse 1998, Saglio et al. 2001). The ability of animals to detect and avoid toxic concentrations of pesticides in the wild can reduce the hazards associated with their use as long as suitable uncontaminated habitat is easily accessible (Folmar 1976).

The aquatic herbicides most commonly applied in Washington State for submersed plant control contain diquat, fluridone, or triclopyr as their active ingredients (K. Hamel, personal communication). Previous studies indicated juvenile rainbow trout do not avoid diquat at 10 ppm a.i. (Folmar 1976), whereas behavioral changes were observed in juvenile rainbow trout exposed to 88 ppm triclopyr a.i. (Morgan et al. 1991); greater than 20X the current maximum label recommendation. The behavioral changes observed by Morgan and colleagues (1991) were loss of equilibrium, erratic swimming, and eventually fish lying on the bottom of test chambers barely breathing. Comparable studies with fluridone are lacking.

My objective was to determine if juvenile Chinook salmon (*Oncorhynchus tshawytscha*) avoid the formulations of three of the aquatic herbicides most commonly used in Washington State for submersed aquatic weed control: Renovate® 3 (triclopyr-TEA, SePRO Corporation, Carmel, IN), Reward® (diquat, Syngenta, Greensboro, NC), and Sonar® A.S. (fluridone, SePRO Corporation). The nominal concentrations I tested were equal to those associated with the maximum label application rate at time of testing (3.49 ppm, 1.37 ppm, and 0.090 ppm a.i. respectively), and 10 times the maximum rate. Herein, I report that juvenile Chinook did not avoid any of the concentrations of the herbicides I tested, but were attracted to the highest concentrations of Renovate® 3 and Reward®. I also describe a new statistical approach for quantifying avoidance and attraction under my test conditions.

Methods

All tests were conducted at the US Geological Survey's Western Fisheries Research Center's, Marrowstone Marine Field Station, in Nordland, WA between 22-29 June 04. The freshwater source for all stages of fish acclimation and testing was the city of Port Townsend Municipal water supply that is degassed upon arrival at the facility. A broad-spectrum analysis of organic and inorganic contaminants in the incoming water by Edge Analytical (Burlington, WA) indicated all values were within daily drinking water tolerances.

Juvenile Chinook (pre-smolts) were obtained from the Soos Creek Hatchery operated by the Washington Department of Fish and Wildlife and were transported to the field station 10 Apr 04 in an stainless steel transport tank equipped with an oxygen supply. Upon arrival, the temperature of the water within the transport tank was allowed to equilibrate to that of the freshwater at the field station. Fish were then distributed to circular holding tanks (568 L) and maintained >70 days prior to testing in flowing aerated freshwater under natural sunlight (temperature 11.2-17.1C; dissolved oxygen >8.0 mg/L; pH 7.3-8.5). Fish were fed to satiation once daily (Bio-Oregon Biodiet Grower 1.5 mm, Warrenton, OR). Mean weight at the time of testing was 13.4 g (SE=2.75, n=120).

Test procedures and apparatus utilized were modified from those described by Exley (2000). Alterations included adaptations for a square chamber, five simultaneous replicate chambers, and a different chemical delivery system. In each chamber, 10 fish were subjected to a directional flow (4.2L/min): inflow at one end and outflow at the opposite end. The test protocol consisted of 30 min of acclimation, 15 min of clean flow, 15 min of chemical flow, and 15 min of clean flow. The flow in the chamber was such that the entire water volume was replaced every 15 min. The flow within each chamber created a chemical front moving across the chamber (confirmed with dye tests, Fig. 2.1) that forced the fish to encounter and respond to the chemical. Chemicals were delivered from a stock concentrate mixed immediately prior to each test into the freshwater flow serving each chamber using a dosing pump (Pulsatron Series D, Puslafeeder, Ponta Gorda, FL). Delivery was monitored by measuring the change in the weight of the stock

bottle during the exposure phase of each test. Potential responses were avoidance, i.e., moving away from the chemical front; attraction, i.e., moving into the chemical toward the inlet; or no response, i.e., no shift in position. One water sample was collected just prior to entering the chamber from each herbicide concentration and was analyzed by Edge Analytical to compare actual vs. nominal concentrations within the test chambers.

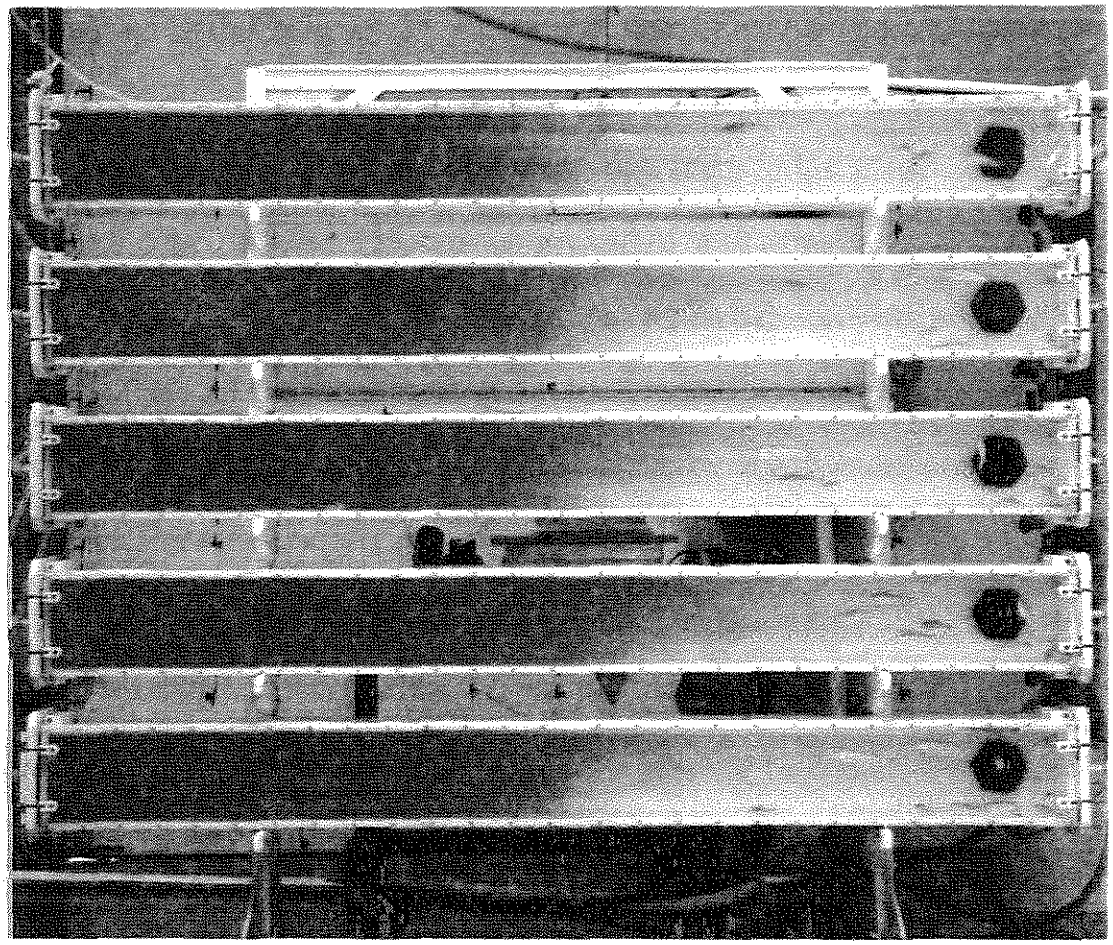

Figure 2.1. Dye test confirming flow of chemical within test chambers. In this photograph water is entering the chambers on the left side of the apparatus and flows across each chamber to an exit on the right side.

Behavior was quantified by photographic image analysis using Image-Pro Plus® 4.5 (Media Cybernetics, Inc. Silver Spring, MD). Digital photos were used to determine the mean position of fish within each replicate test chamber for every minute of each test. Each fish was assigned a position score as a ratio of its distance from the inlet relative to the length of the chamber. The eye of the fish was the exact point scored, or the nose if the fish faced the camera. The resulting scores ranged from near zero for a fish at the inlet, to a score of nearly 1 for a fish at the outlet. Presuming no bias for the inlet or outlet ends of the chamber, the average of all ratios of the 10 fish within each chamber would be about 0.5. I refer to the average of location of all of the fish in the chamber (as a ratio) as the "mean position". The mean position for each chamber was averaged within each of the three different test periods: the clean pre-treatment, the chemical treatment, and the clean post-treatment. The slope of change in mean position over time was also determined for each of these time periods.

When fish respond to the test chemical with a quick and sustained shift away from the inlet during the chemical flow period, a shift in mean position between the clean period and the chemical period will be the most sensitive response endpoint (Fig. 2.2). If fish respond slowly to the presence of the chemical, resulting in a gradual and continuous shift away from the chemical front a comparison of the mean position for each time period will not be a very sensitive endpoint (Fig. 2.3). The alternative is to examine the slope of the line that fits the gradual shift in position over time (Fig. 2.4). It is important to note that neither statistical approach will identify both the quick/sustained and the

slow/gradual models. In order to detect which response might exist, both methods were used in the data analysis. To detect statistically significant shifts, two-tailed paired t-tests between the pre-chemical and chemical time periods for both their mean position and slopes were conducted. Due to the more variable nature of behavioral responses and small sample sizes (n=5), I *a priori* chose an alpha level of 0.10 for all hypothesis testing.

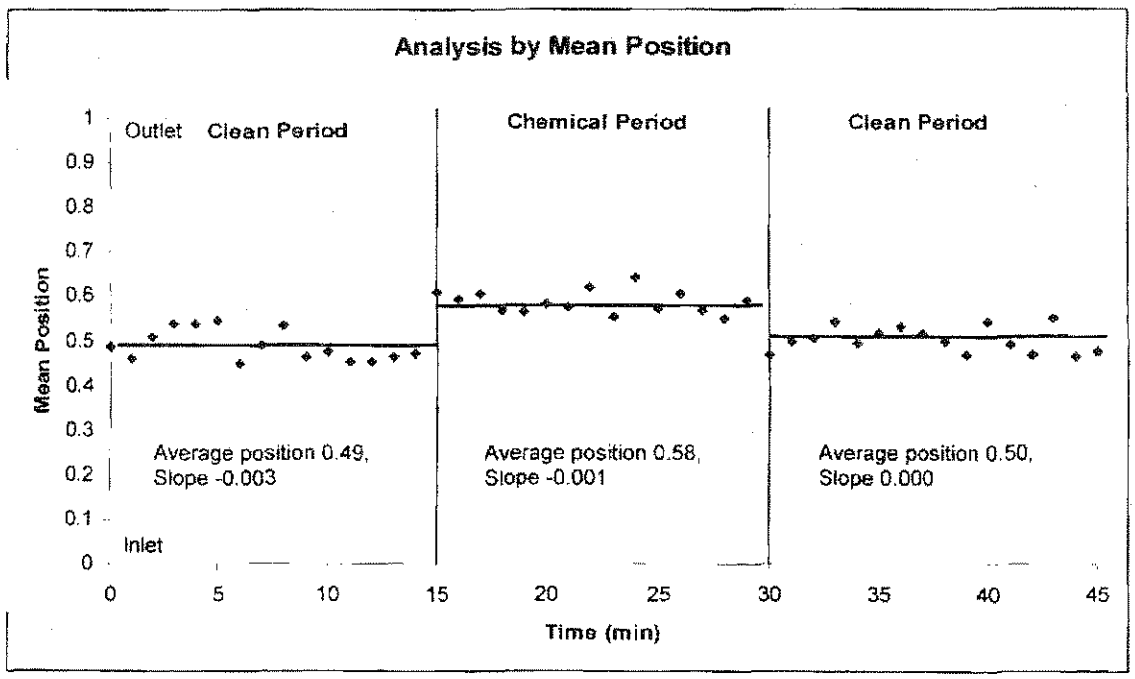

Figure 2.2. Theoretical response of fish moving rapidly away from the chemical as detected by a shift in mean position. Data points are the mean position of fish across all chambers.

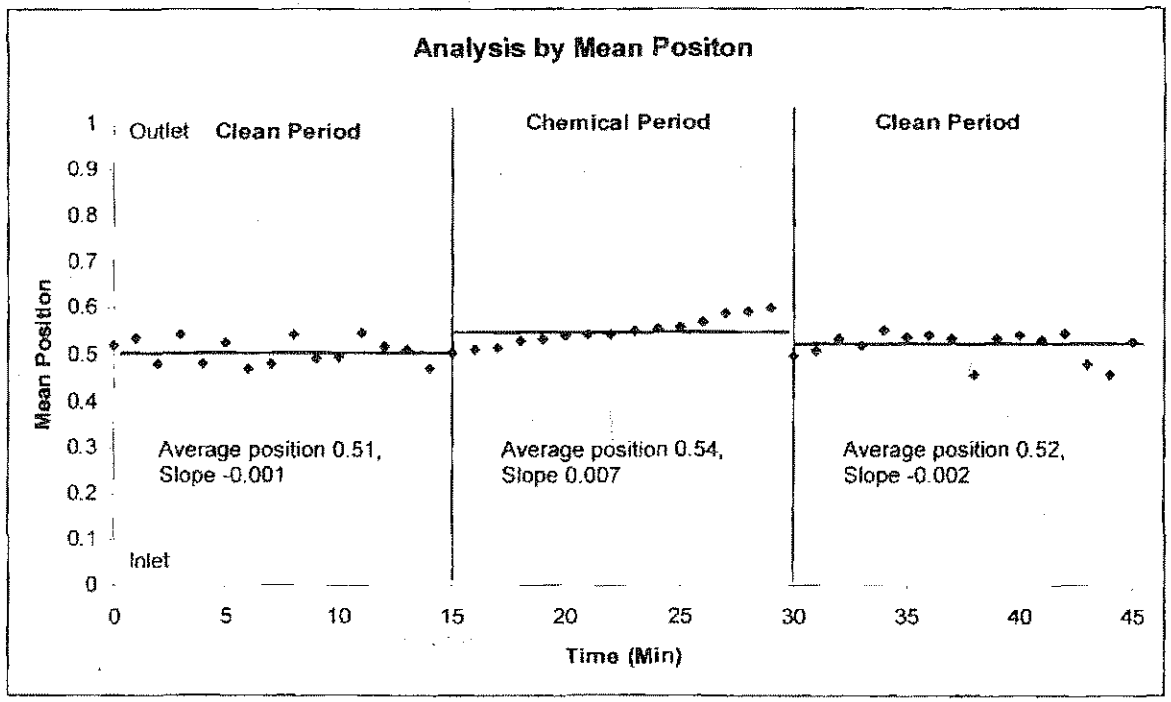

Figure 2.3. Theoretical response of fish moving slowly away from the chemical such that a difference in mean position is not detected. Data points are the mean position of fish across all chambers.

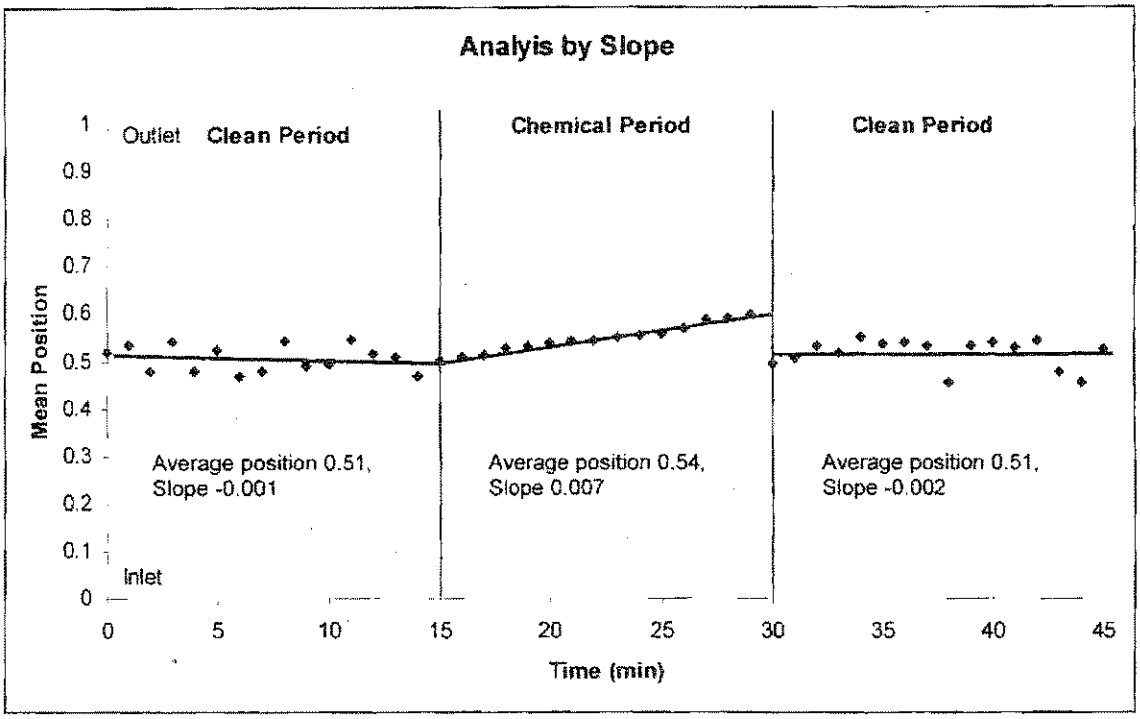

Figure 2.4. Theoretical response of fish moving slowly away from the chemical detected by different slopes for each time period. Data points are the mean position of fish across all chambers.

Results

Water quality parameters within the test chambers during the avoidance trials (temperature 16.4-16.6 C; pH 7.6-7.7; dissolved oxygen [DO] 8.6-9.4 mg/L) were either within or close to those recommended for toxicity tests with salmonids (temperature 10-14 C; pH 6-8; DO > 5 mg/L; USEPA 1996). Although the ambient temperature of the incoming freshwater to the facility was slightly greater than that recommended by the US EPA for standardized toxicity tests, it was within the range of temperatures juvenile salmon would experience within water bodies in Washington State to which herbicides are applied (Tamayo et al. 2000). Actual herbicide concentrations within the water flow

in each test (Table 2.1) were lower than targeted for all but the 10X concentration of Renovate® 3 (95-116%), Reward® (82-87%), and Sonar® A.S. (62-77%).

Table 2.1. Concentrations (ppm) of the herbicides used to test for avoidance by Chinook salmon smolts. Actual concentrations are corrected for percent recovery.

Formulated Product	Active Ingredient	Nominal Concentration	Actual Concentration	% Recovery	% Target
Renovate® 3	Triclopyr	3.49	3.31	100	95
		34.9	40.4	88	116
Reward®	Diquat	1.37	1.125	94	82
		13.7	12.0	94	87
Sonar® A.S.	Fluridone	0.090	0.069	95	77
		0.900	0.554	95	62

I used calcium hypochlorite (1.6 ppm, Fig. 2.5) as a positive control to verify the effectiveness of the apparatus and new statistical methods. There was a significant shift ($p=0.10$) of the juvenile Chinook away from the chemical when examining the slopes of the change in position over time between the first 15 min of clean water and the 15 min of chemical exposure. The difference in the mean positions within these two periods was also nearly significant ($p=0.13$). The data also showed an attraction to the subsequent flow of clean water as indicated by the negative slope.

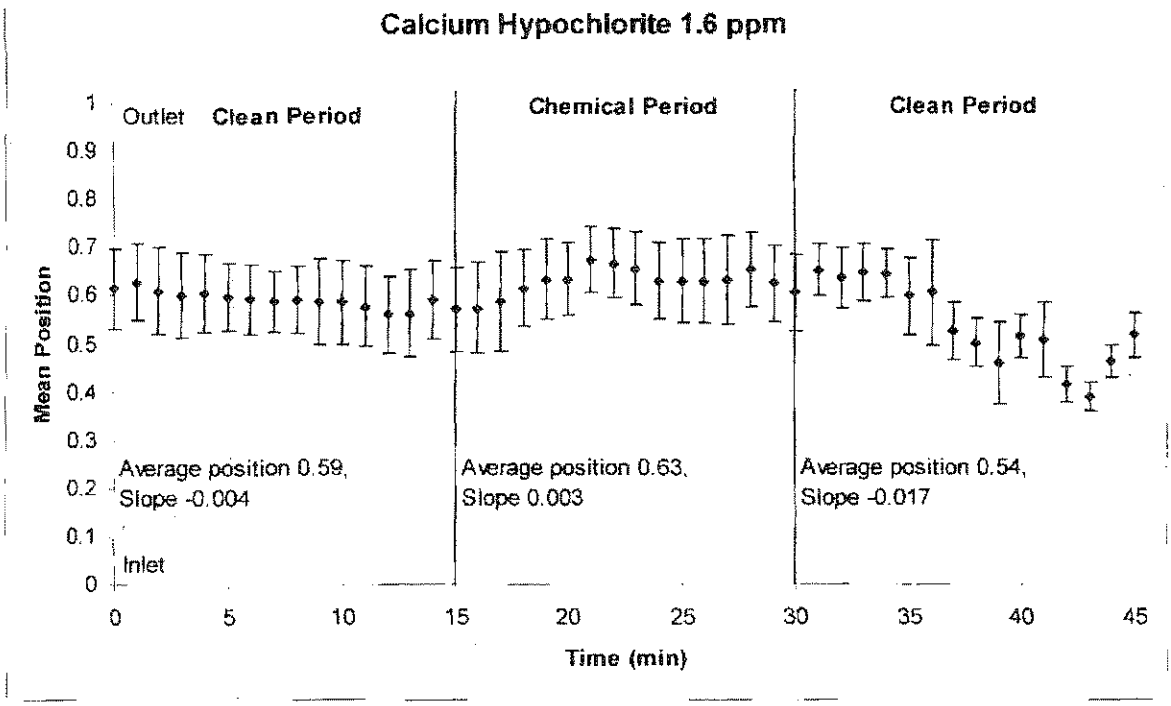

Figure 2.5. Response of Chinook salmon to calcium hypochlorite. Data points are the mean position of fish across all chambers and the bars represent standard errors. The change in slope of the mean position through time during the chemical exposure was statistically significant (p=0.10). The corresponding change in mean position was nearly significant (p=0.13).

No significant differences in mean position or the slope for change in mean position over time were detected for any of the herbicides at their maximum (1X) label rates. At 10X the maximum rate, fish were attracted to Renovate® 3 (Fig. 2.6) and Reward® (Fig. 2.7) based on changes in mean position and the slope of the change in mean position over time, respectively. All other comparisons were not statistically significant (Table 2.2).

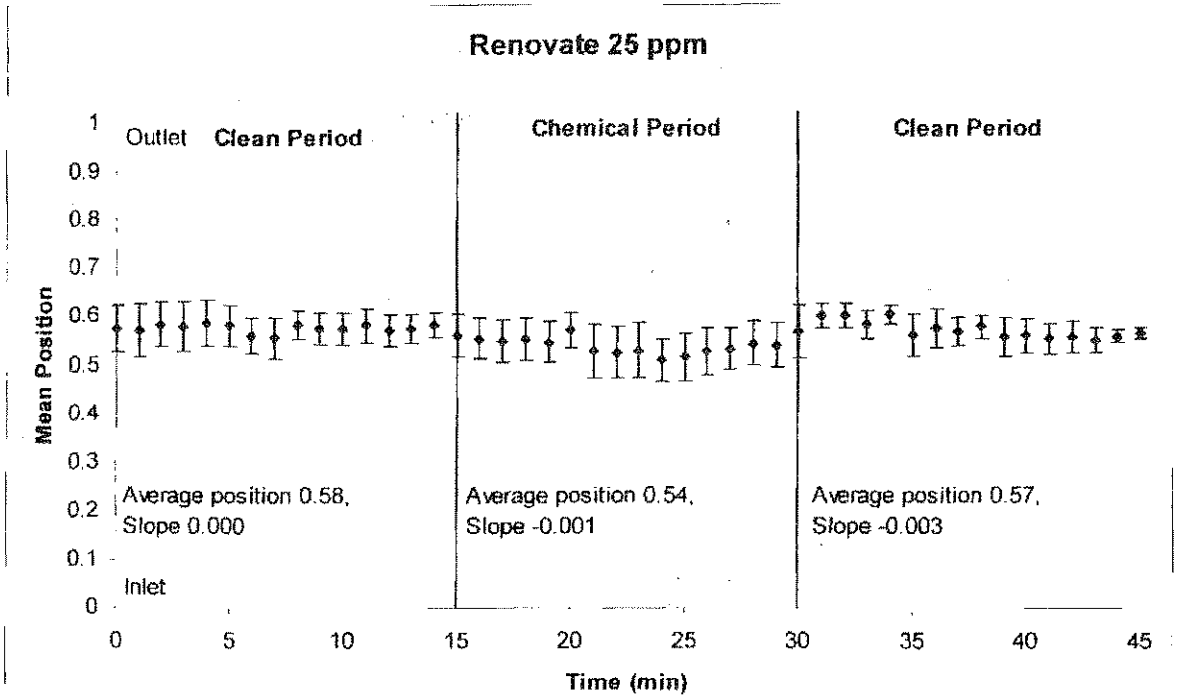

Figure 2.6. Response of Chinook salmon smolts to the herbicide Renovate® 3 (a.i. triclopyr). Data points are the mean position of fish across all chambers and the bars represent standard errors. The change in mean position during the chemical exposure was statistically significant (p=0.08).

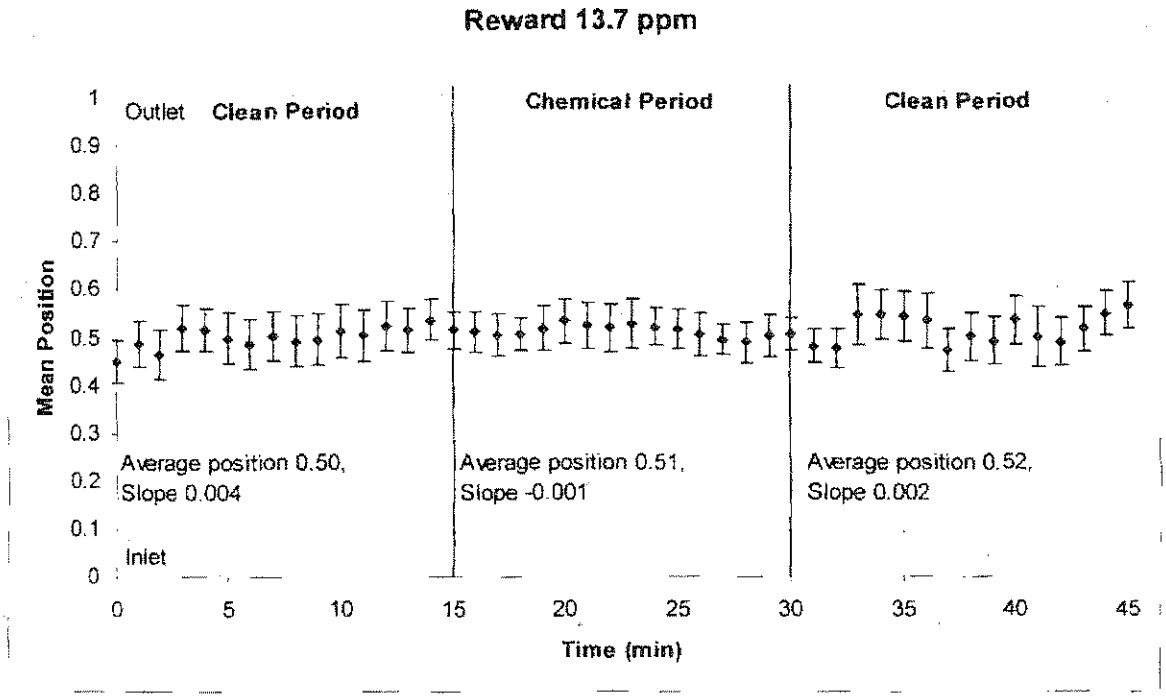

Figure 2.7. Response of Chinook salmon smolts to the herbicide Reward® (a.i. diquat). Data points are the mean position of fish across all chambers and the bars represent standard errors. The change in slope of associated with mean position during the chemical exposure was statistically significant (p=0.08).

Table 2.2. Results of all avoidance/attraction tests conducted with Chinook salmon smolts. Prior to analysis, an alpha level of 0.10 was selected due to the inherent variability in behavioral data. Concentrations represent nominal concentrations (ppm).

Chemical	Concentration	Analysis	Significance	P-value	Interpretation
$Ca(OCl)_2$	1.6	Slope	Yes	0.10	Avoidance
	1.6	Position	Nearly	0.13	Avoidance
Renovate® 3	2.5	Slope	No	0.50	No Effect
	2.5	Position	No	0.50	No Effect
	25	Slope	No	0.78	No Effect
	25	Position	Yes	0.08	Attraction
Reward®	1.37	Slope	No	0.25	No Effect
	1.37	Position	No	0.40	No Effect
	13.7	Slope	Yes	0.08	Attraction
	13.7	Position	No	0.52	No Effect
Sonar® A.S.	0.090	Slope	No	0.40	No Effect
	0.090	Position	No	0.96	No Effect
	0.90	Slope	No	0.46	No Effect
	0.90	Position	No	0.35	No Effect

Discussion

Juvenile Chinook did not avoid concentrations of the herbicides tested equal to those that would occur following application of the maximum rate on the label. However, they were slightly attracted to 10X the maximum label application rate of both Reward® and Renovate® 3 (diquat and triclopyr, respectively). These results suggest that, if present, fish would not actively avoid and might actually be slightly attracted to a potentially toxic environment. The median lethal concentration (LC50) of diquat (active ingredient only) for 96 hour static test to juvenile rainbow trout (*O. mykiss*) is greater than 100 ppm (Mayer and Ellersieck 1986). My fish were attracted to a concentration well below that at 13.7 ppm (nominal concentration), suggesting that concentrations of this magnitude should not result in overt toxicity. The nominal and actual concentrations to which the fish responded, however, are an order of magnitude higher than the maximum application rate on the label. Whether or not concentration gradients of this magnitude exist following operational applications according to the label is not known. The LC50 of triclopyr for juvenile rainbow trout is greater than 100 ppm (Mayer and Ellersieck 1986), which is well above my nominal highest concentration of 34.9 ppm. Similarly, the LC50 of fluridone for juvenile rainbow trout is 4.25-8.4 ppm (Mayer and Ellersieck 1986); my highest nominal concentration tested (0.90 ppm) is well below lethal levels. Overt toxic effects would not be expected in juvenile salmon occupying ponds and lakes in which any of the three herbicides were applied according to the label. No fish mortalities have been reported in Washington State due to use of herbicides in surface waters (K. Hamel, personal communication.)

Folmar (1976) studied the response of rainbow trout fry to a number of herbicides and found that the trout did not avoid nor were attracted to 10 ppm of diquat a.i.. Based on his results, I would not have expected juvenile Chinook to be attracted to my nominal concentration of 13.7 ppm of diquat. There are, however, a number of differences between my tests and those of Folmar including different testing apparatus, species, chemical formulations, and length of exposure to the chemical. In Folmar's study, tests were conducted using a Y-maze, in which the fish were exposed to the chemical for 60 min and were then allowed equal access to either clean or contaminated water. They would need to be moving around the chamber to detect an alternative type of water. In my uni-directional chambers, fish have the opportunity to respond immediately to the presence of the herbicide. Recent studies in our laboratory indicate that olfactory-mediated behavior in juvenile rainbow trout is altered by exposure to 1.37 ppm of diquat (as Reward®; Curran et al., unpublished manuscript), ca. one-tenth of the concentration used in Folmar's study. An herbicide-induced reduction in olfactory ability may explain the absence of a response by the trout fry in the study by Folmar. In addition, the fact that Folmar used the active ingredient alone and I used a formulated product, could explain the difference in response. Having not examined the individual constituents of the formulated product, it could be one or more of the other ingredients alone or in combination with the active ingredient that resulted in the attraction I observed.

Morgan and his colleagues (1991) examined the avoidance behavior of rainbow trout to triclopyr as Garlon® 3A (44.4% a.i.). They reported avoidance to Garlon® 3A at ≥ 800 ppm (~355 ppm a.i.); however, in their tests fish preferred one arm of the Y-maze. Preference to a location can cause fish to tolerate a higher level of contamination than when there is no preference (Morgan et al 1991, Scherer and McNicol 1998). The lowest concentration tested by Morgan and his colleagues was 44 ppm a.i. triclopyr, which is higher than the concentration used in my study (34.9 ppm a.i.) and at which I observed attraction. It has been found that fish are attracted to some chemicals at one concentration, but avoid the chemical at a different one (Giattina et al. 1982, Smith and Bailey 1989). Again, differences in test apparatus, species, and formulated products may also have been important.

Despite the differences among these studies, results suggest that juvenile salmonids will not avoid the concentration gradients associated with operational applications of three herbicide formulations most often used to control aquatic plants in Washington State and elsewhere in the Pacific Northwest. The absence of an avoidance response also suggests that in the case of partial water body applications, juvenile salmonids may not move to suitable untreated habitats when exposed to the herbicides. However, avoidance behavior might force young fish out of plant beds exposing them to predators, whereas the absence of avoidance of a chemical at non-lethal levels may be a "safer" alternative.

The statistical approaches I applied to the response data in my study appear to be more sensitive than those used in previous studies. I examined the response of the fish within the entire tube and not just a portion, as in Exley (2000) where only the inlet section was used for data analysis. With my procedure fish need to be continually moving away from the chemical front, while other methods do not examine the continued response of the fish. My methods also allow for a slow response to the chemical to be detected statistically, which facilitates the interpretation of results and the identification of effects.

Chapter 3- Olfactory performance in salmonids exposed to aquatic herbicides

Introduction

Pesticide use has been increasing worldwide with the advent of more intensive agriculture (Laabs et al. 2002), home garden care and maintenance (Frans 2004), and the control of exotic and invasive plants. Herbicides are the most commonly used pesticides, and are the most frequently detected in surface waters (Frans 2004). In addition to the leaching of herbicides from land, some herbicides are applied directly to the water to control aquatic vegetation. While the application rates of chemicals applied to water are often below lethal levels to non-target species, there can still be sublethal effects on aquatic organisms living in the ecosystem (Wolf and Moore 2002).

The use of herbicides in Integrated Pest Management (IPM) plans to control aquatic weeds has been hampered by concerns directed at the non-target toxicity of active herbicidal ingredients (a.i.). The non-target toxicity of aquatic herbicides needs to be assessed, particularly in light of new permitting processes that require the 14 western states, including Washington, to issue National Pollutant Discharge Elimination System (NPDES) permits for the use of pesticides and adjuvants in aquatic systems (Leintz 2004). Unfortunately, adequate data on the non-target toxicity of aquatic herbicides to aquatic resources are lacking, thereby threatening the permitting process and the success of IPM strategies to control aquatic weeds.

Olfaction is extremely important to fish in finding mates, detecting prey, and avoiding predators. Olfaction can be affected by exposure to chemicals (Scott et al. 2003, Wolf and Moore 2002). Most studies on olfaction have examined the ability of fish to detect and avoid novel chemicals (e.g., Hansen et al. 1972, Kynard 1974, Folmar 1976, Carr et al. 1990, Morgan et al. 1991, Ishida and Kobayashi 1995, Saglio and Trijasse 1998, Saglio et al. 2001, Curran et al. unpublished manuscript), with herbicides and insecticides being the most frequently tested. Of the herbicides commonly applied in Washington State to control submersed plants (2,4-D, diquat, fluridone, and triclopyr), juvenile rainbow trout (*Oncorhynchus mykiss*) avoided 1 ppm 2,4-D as the a.i. (Folmar 1976), a concentration below the maximum application rate, whereas Chinook smolts (*O. tshawytscha*) were slightly attracted to 13.7 ppm diquat a.i. (as Reward®) and 34.9 ppm triclopyr-TEA a.i. (as Renovate® 3), ten times the maximum application rate (Curran et al. unpublished manuscript). Behavioral changes were observed in juvenile rainbow trout exposed to 88 ppm triclopyr (a.i.) as a formulated product (Morgan et al. 1991). The behavioral changes observed by Morgan and colleagues (1991) were a loss of equilibrium, erratic swimming, and eventually fish lying on the bottom of test chambers barely breathing. Juvenile Chinook smolts did not show any behavioral changes when exposed to 0.09 or 0.90 ppm a.i. of fluridone (as Sonar® A.S.). There has also been little work on the ability of aquatic species to detect a stimulus following pesticide exposure (Wolf and Moore 2002, Scott et al. 2003). Wolf and Moore (2002) studied the herbicide, metolachlor, by first exposing crayfish (*Orconectes rusticus*) to the herbicide and then

testing their ability to detect a stimulus. They determined that crayfish were still be able to detect odors, but did not respond appropriately. When exposed to an odor that normally elicited aversion, the crayfish moved towards the odor, instead of away from it.

Salmonids are an important part of the culture of the Pacific Northwest and many salmon runs or stocks are listed as threatened or endangered under the Endangered Species Act (Emmett 2003). Many of these stocks travel through waters that receive chemical inputs (Collier et al. 1998). Effects of these exposures are not known (Scholz et al. 2000). For example, it is during out-migration that a number of herbicides are applied to surface waters for aquatic weed control. Out-migrating smolts depend on olfaction to imprint on their natal stream so they are able to return to it to reproduce (Dittman et al. 1996). The effects of aquatic herbicides on the olfactory system of fish have not been determined. The objective of my study was to determine if exposure to four commonly used aquatic herbicides (DMA® 4 IVM, Renovate® 3, Reward®, and Sonar® A.S.), at maximum label or field applied application rates, alters olfactory performance of juvenile rainbow trout, used as a surrogate for salmon smolts.

Methods

All tests were conducted at the School of Aquatic and Fishery Sciences at the University of Washington in Seattle, WA. Juvenile rainbow trout were purchased from Nisqually Trout Farm and were transported to the University in a stainless steel transport tank

equipped with an oxygen supply. Fish were held in 375 L (100 gal) acclimation tanks with flowing freshwater from the City of Seattle (3.78 L/min (1 gal/min), temperature=12.0-13.4 °C, dissolved oxygen [DO]=7-9 mg/L). The City water is dechlorinated within the University's laboratory facilities. Fish were fed daily to satiation with a commercial diet (BioDiet Grower, Bio-Oregon, Warrenton, OR) until 2 days before exposure to the herbicides. A subsample of 30 fish were anesthetized with MS-222 (100 ppm + buffer) and weighed prior to testing to ensure the correct fish to water loading rate (1 g fish/1.25 L water).

EPA protocols for 96 hour static toxicity tests were used to expose the fish to the maximum label, or maximum permitted concentrations of each of the herbicides (Table 3.1). Ten fish per replicate were used for all tests (10.33 ± 2.48 g, 9.78 ± 0.80 cm). Fish were not fed during herbicide exposure. Water quality measurements (temperature, dissolved oxygen, pH, and conductivity) were measured daily in a randomly selected subset of the tanks within each treatment such that measurements were taken on each tank at least once during the exposure period. Fish were visually inspected for mortality and changes in behavior at 0, 24, 48, 72, and 96 hours. In previous studies, no mortality or overt behavioral changes were observed at the concentrations tested. A water sample was collected from two tanks within each herbicide treatment at 0 and 96 hours for chemical analyses (Edge Analytical Inc., Burlington, WA) to compare nominal vs. actual concentrations.

Table 3.1. Concentrations (ppm a.i.) of the herbicides tested, based on maximum label or operational application rates. Actual concentrations are corrected for percent recovery.

Formulated Product	Active Ingredient	Nominal Concentration	Actual Concentration	% Recovery	% Target
DMA® 4 IVM	2,4-D	4.0	2.6/2.7	130	65/68
Renovate® 3	Triclopyr	2.5	2.1/2.4	113	83/96
Reward®	Diquat	1.37	1.32/1.72	93	96/125
Sonar® A.S.	Fluridone	0.150	0.235/0.164	97	157/109

Olfactory performance was tested using the behavioral response of the fish to a known stimulus. The test apparatus consisted of five replicate counter current chambers. In this design, water enters from both sides of the chamber at equal flows, meeting in the middle at a common drain (Fig. 3.1). An attractant or avoidant is introduced into one side of the chamber per replicate with the other side receiving clean water. There is little mixing between the two flows (chemical vs clean water). Dye tests using food coloring were conducted prior to any testing to confirm the desired flow pattern was achieved (Fig. 3.1).

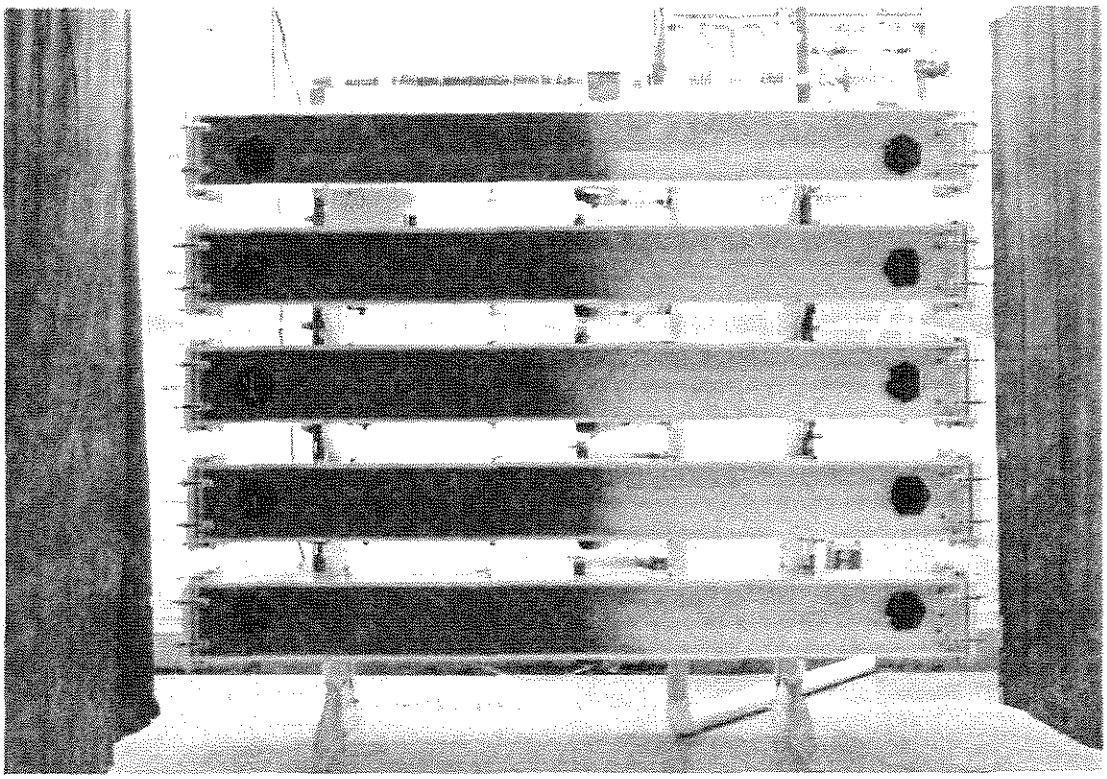

Figure 3.1. Dye test confirming flow of chemical within test chambers. In this photograph water is entering the chambers on the both the right and left side of the apparatus and flows across each chamber to an exit in the middle.

Attraction is defined as the movement of fish into the chemically treated side of the chamber, whereas avoidance is defined as the movement of fish to the side of the chamber with clean water, or away from the chemical. "No response" is defined as no change in position following the introduction of chemical. Digital photography was used to document the position of all fish in the chambers. For my stimulus, I wanted to find a chemical/extract similar to what fish would experience in the wild during out-migration. I tested two food or attraction responses and two predator-like avoidance responses with juvenile rainbow trout prior to herbicide exposures. Only chemical stimuli that elicited a strong response were used and included the amino acids, alanine and serine, a food

extract, and rainbow trout skin extract. Alanine and the food extract were expected to elicit attraction (Steele et al. 1990), whereas serine and skin extract were expected to elicit avoidance (Rehnberg and Schreck 1986).

The olfaction/behavior test was divided into two distinct segments of exposure, the initial flow of 15 min clean water (Period 1, 0-15 min), and a second 15-minute period of chemical flow (Period 2, 15-30 min). For all portions of the test a digital camera collected a photograph every 60 seconds. Fish were only used once. After testing, fish were euthanized, weighed (g), and measured (fork length, mm).

Behavior was quantified by photographic image analysis using Image-Pro Plus® 4.5 (Media Cybernetics, Inc. Silver Spring, MD). Digital photos were used to determine the mean position of fish within each replicate test chamber for each minute of each test. Each fish was assigned a position score as a ratio of its distance from the chemical inlet relative to the length of the chamber. The eye of the fish was the exact point scored, or the nose if the fish faced the camera. The resulting scores ranged from near zero for a fish on the left side (chemical) inlet, to a score of nearly 1 for a fish on the right side (clean) inlet. Presuming no bias for either inlet/side of the chamber, the average of all ratios of the 10 fish within each chamber would be about 0.5, or the outlet/middle of the chamber. It is this average of locations of all of the fish in the chamber (as a ratio) that I refer to as the "mean position". The mean position for each chamber was then averaged

within each test period: the clean pre-treatment, and the chemical treatment. The differences between the mean positions during the clean period were compared with the chemical period using paired t-tests. The comparison of mean position is best suited to detect quick and sustained shifts away from or toward the chemical flow inlet during the chemical period of the test (Curran et al., unpublished manuscript). It was expected that variability would decrease within the chambers from the clean pre-treatment period to the chemical period. To confirm this we did a paired t-test on the coefficient of variation (CV). Due to the more variable nature of behavioral responses and small sample sizes (n=5), I *a priori* chose an alpha level of 0.10 for all hypothesis testing. In addition, the magnitude to shift between the clean time period and the chemical period was examined between control and herbicide exposed fish using a one-way ANOVA followed by Dunnett's test to determine where differences occurred. Again, an alpha level of 0.1 was used to indicate statistical significance. Avoidance replicates were only included when at least one fish was detected in the chemical portion of the chamber during chemical exposure.

Results

Water quality parameters within the test chambers were within those recommended for toxicity tests with salmonids (Table 3.2; USEPA 1996). Actual herbicide concentrations within the exposure portion in each test (Table 3.1) were 35% lower than targeted for

DMA® 4 IVM, and 57% higher for one Sonar® A.S. replicate. All other concentrations were close to nominal.

Table 3.2. Water quality during the 96-hour herbicide exposures prior the testing of olfactory-mediated behavior in juvenile rainbow trout. Data are the mean plus or minus the standard deviation with minimum and maximum below.

	Control	DMA® 4 IVM	Renovate® 3	Reward®	Sonar® A.S.
Temperature (°C)	13.2 ± 0.3 12.5-13.8	13.1 ± 0.5 12.3-14.0	13.2 ± 0.3 12.6-13.9	13.0 ± 0.3 12.4-14.0	13.2 ± 0.3 12.5-13.8
Dissolved Oxygen (mg/L)	9.86 ± 0.29 9.15-10.63	9.55 ± 0.39 8.69-10.01	9.80 ± 0.27 9.06-10.18	9.67 ± 0.35 8.83-10.60	9.85 ± 0.30 8.60-10.22
pH	6.9 ± 0.3 6.4-7.2	6.6 ± 0.2 6.3-6.9	6.9 ± 0.2 6.4-7.2	6.9 ± 0.2 6.3-7.2	6.9 ± 0.3 6.4-7.2
Conductivity (uS)	74.0 ± 2.6 67.4-78.6	71.1 ± 1.6 69.0-73.9	74.3 ± 3.3 67.4-80.4	75.2 ± 2.7 68.3-80.2	73.8 ± 3.2 67.1-78.9

Initial stimulus testing found skin extract to elicit the most statistically repeatable response. A concentration of alanine at 10^{-3}M did not elicit any response in my rainbow trout (Fig 3.2). Food extract resulted in statistically significant attraction (Fig 3.3), but I felt food was not a strong motivator for out-migrating salmon and as such was a less important response for this type of testing. Serine at a concentration of 10^{-3}M only occasionally resulted in a statistically significant avoidance response (Fig 3.4). Lower concentrations did not elicit any response, and higher concentrations were not possible due to limitations of the test apparatus. Rehnberg and Schreck (1986) found that coho salmon (*O. kisutch*) avoided serine concentrations as low as 10^{-7}M, but they used a different test method and species. Using skin extract, created from conspecifics, I was able to create a repeatable and marked response (Fig 3.5).

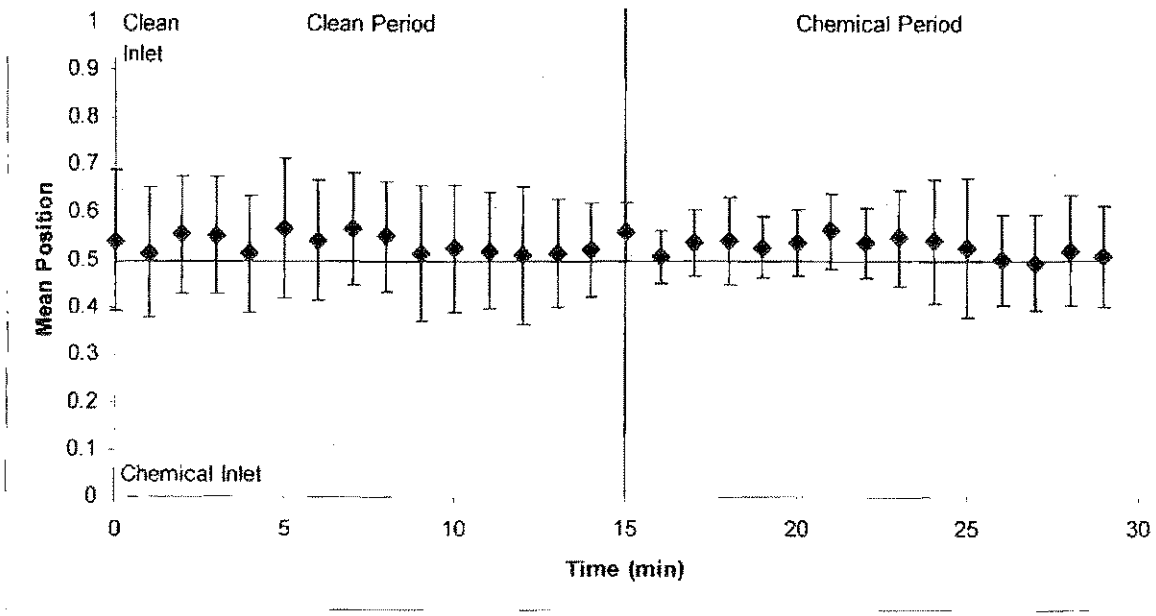

Figure 3.2. Response of juvenile rainbow trout to 10^{-3}M alanine. Data points are the mean position of fish across all chambers and the bars represent standard errors. There was no statistically significant response to the stimulus.

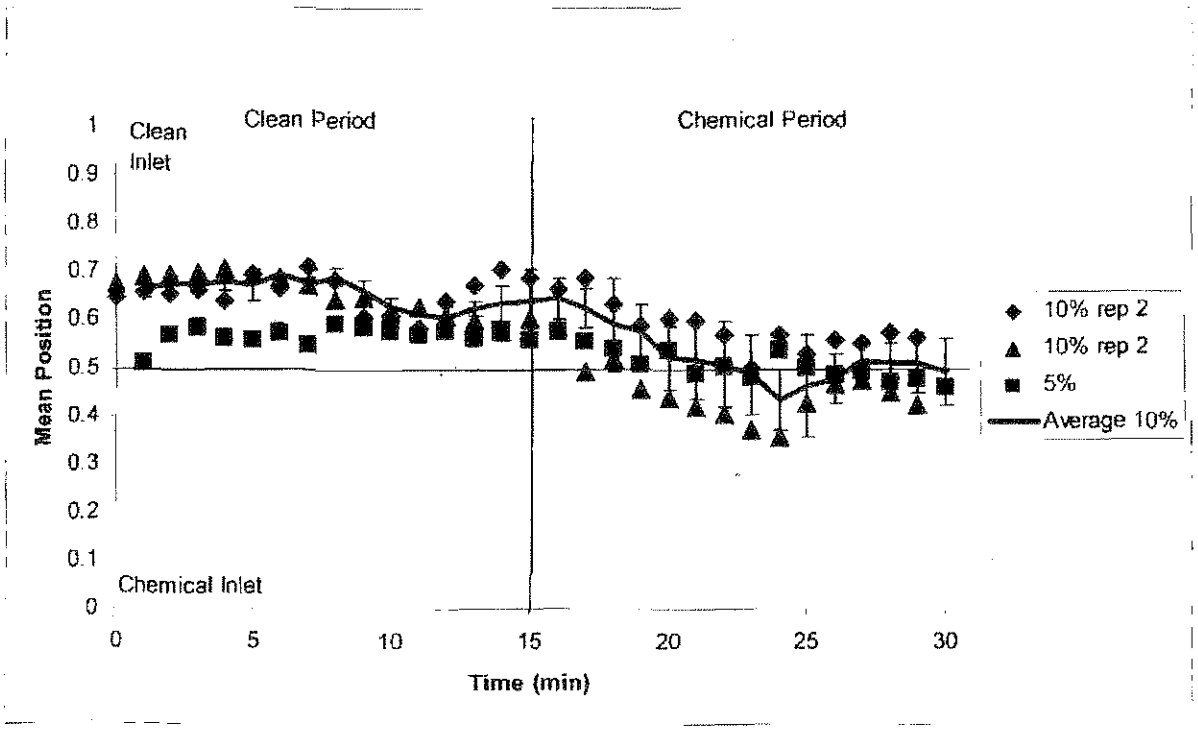

Figure 3.3. Response of juvenile rainbow trout to food extract at various concentrations. The data points are the mean position of fish across all chambers. The 10% concentration resulted in a statistically significant attraction response ($p=0.02$).

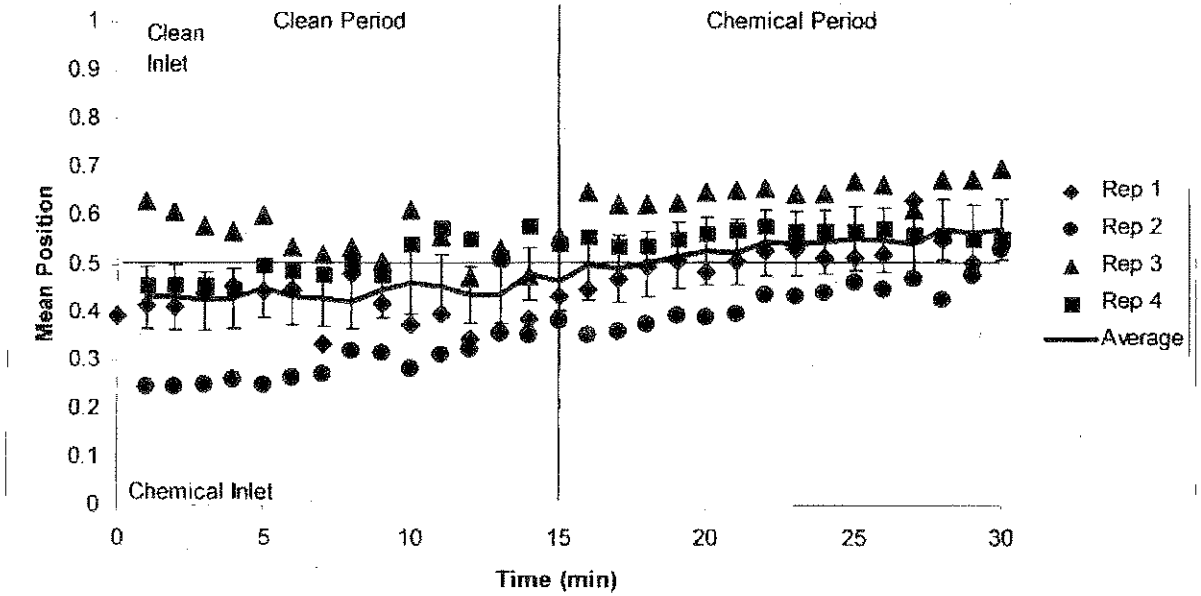

Figure 3.4. Response of juvenile rainbow trout to 10^{-3} M serine. The data points are the mean position of fish across all chambers. Only some replicates resulted in a statistically significant avoidance ($p \leq 0.10$).

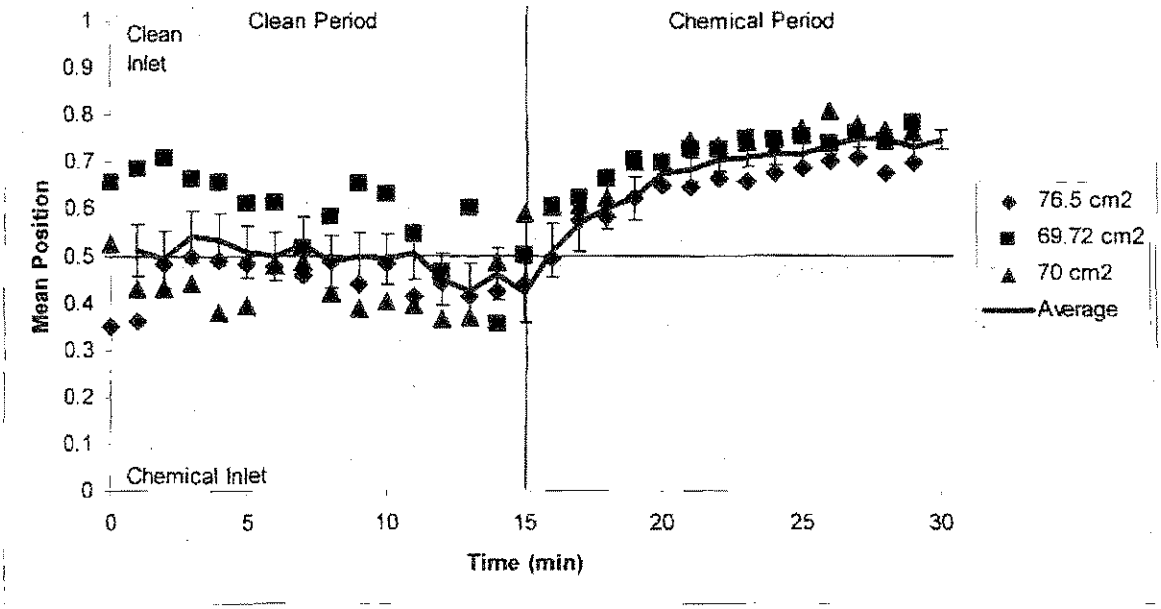

Figure 3.5. Response of juvenile rainbow trout to skin extract created from conspecifics. The data points are the mean position of fish across all chambers. Responses to each concentration were statistically significant ($p \leq 0.10$).

The only mortality observed occurred in two separate replicates of Reward®, in which, one fish died per replicate.

During the first set of exposures (A and B), there was a slight change in procedure between exposures, and because of the change I was unable to combine replicates from both weeks for statistical analysis. In an attempt to eliminate bias associated with the end of the chambers to which fish were added, I changed the location between the 2 weeks of the test. However, because of the low sample size as a result of the split, only DMA® 4 IVM (2,4-D) and the controls showed repeatable responses (DMA® 4 IVM, A: n=3,

p=0.07; B: n=3, p=0.03; Controls, A: n=2, p=0.08; B: n=3, p=0.05; Figs. 3.6 and 3.7). There were only two successful replicates for controls during Exposure A because in the third replicate, run late in the day, the fish behaved differently from all other previous controls. This replicate was removed from the analysis. Both controls and DMA® 4 IVM exposed fish showed marked avoidance of the skin extract. There were no significant differences in the magnitude of the shift in position between fish previously exposed to DMA® 4 IVM for 96 hours or clean water.

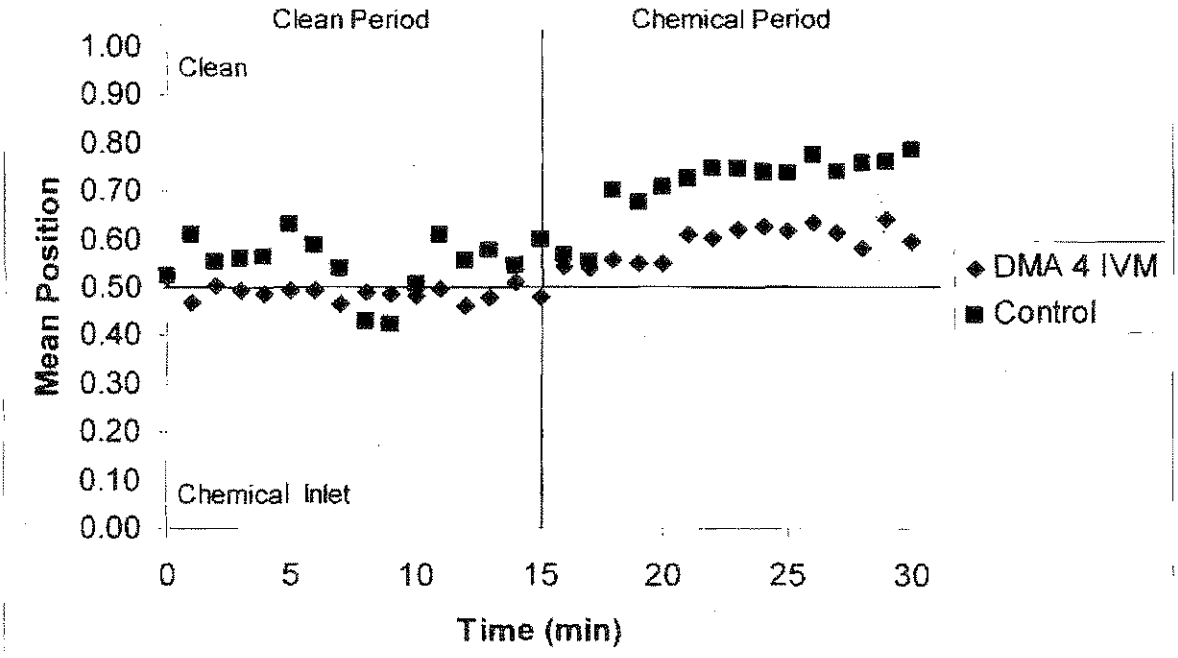

Figure 3.6. Response of juvenile rainbow trout to skin extract following exposure for 96 hours to either the herbicide, DMA® 4 IVM or clean water (controls). Data points are the mean position of fish across all chambers. Avoidance responses were statistically significant (alpha=0.10) in fish exposed to DMA® 4 IVM (n=3, p=0.07) or clean water (n=2, p=0.08).

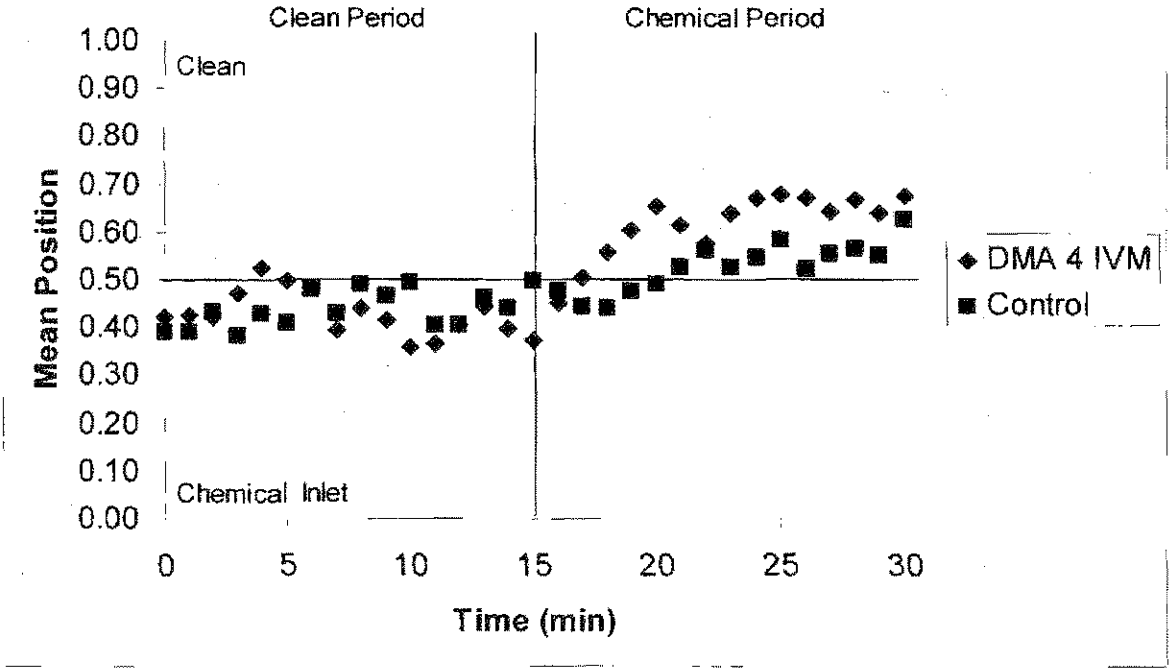

Figure 3.7. Response of juvenile rainbow trout to skin extract following exposure for 96 hours to either the herbicide, DMA® 4 IVM or clean water controls. Data points are the mean position of fish across all chambers. Avoidance responses were statistically significant (alpha=0.10) in fish exposed to DMA® 4 IVM (n=3, p=0.03) or clean water (n=3, p=0.05).

Additional exposures (C-F) were completed with the herbicides, Renovate® 3 (triclopyr), Reward® (diquat), and Sonar® A.S. (fluridone), with the fish loading location varied within weeks, so all replicates could be combined. Also, only two avoidance tests were run per day, so that the problem with the last replicate in the previous tests could be avoided. For exposures C-F, Renovate® 3, Sonar® A.S., and the controls all resulted in statistically significant avoidance responses to the skin extract (control, n=5, p=0.02, Renovate® 3, n=5, p=0.04, Sonar® A.S., n=5, p=0.08; Fig. 3.8). In addition, there were no significant differences in the magnitude of the shift in mean position between fish exposed to Renovate® and Sonar® compared to controls (p=0.54 and p=0.97,

respectively). Rainbow trout exposed to Reward®, however, did not respond to the skin extract, indicating impacts to their olfactory system (n=5, p=0.83; Fig 3.8). This non-response was also detected with the ANOVA, where there was a significant difference between the magnitude of shift between control fish and those exposed to Reward® (p=0.03). There was a slight change in flows during exposure D that caused the mixing zone between clean and chemical side to be wider than for other replicates. However, the response of controls to the skin extract was not affected. Due to this change, I repeated the Reward® exposure to confirm the effects observed. For exposures G and H, only controls and Reward® were used, and again controls showed significant avoidance (n=5, p=0.04), whereas fish exposed to Reward® did not respond to the skin extract (n=4, p=0.81, Fig 3.9). There were only four viable replicates for Reward®, because in one replicate, the fish were not detected in the skin extract side of the chamber.

As expected, the average CV for controls (p=0.01) and fish exposed to DMA® 4 IVM (a, p=0.02, b, p=0.10), Renovate® (p=0.01), and Sonar® (p=0.03) decreased within the second time period, as a result of movement into the clean side of the chamber due to avoidance of the skin extract. The average CV for fish exposed to Reward also decreased (C-F p=0.07, G and H p=0.06) indicating that they moved closer together but failed to shift position into the clean water flow. This change in behavior suggests the fish detected the stimulus but were unsure how to respond to it.

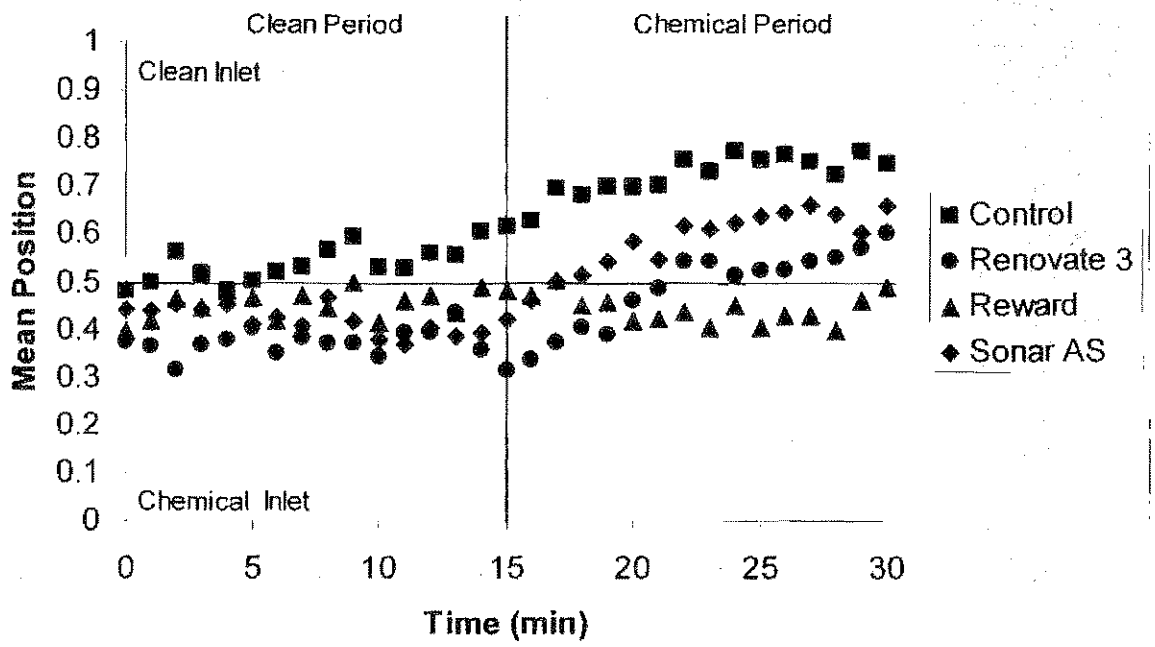

Figure 3.8. Response of juvenile rainbow trout to skin extract following exposure for 96 hours to the herbicides, Renovate® 3, Reward®, or Sonar® A.S., or clean water controls. Data points are the mean position of fish across all chambers. Avoidance responses were statistically significant (alpha=0.10) in fish exposed to Renovate® 3 (n=5, p=0.04), Sonar® (n=5, p=0.08) and clean water (n=5, p=0.02), but not Reward® (n=5, 0.83).

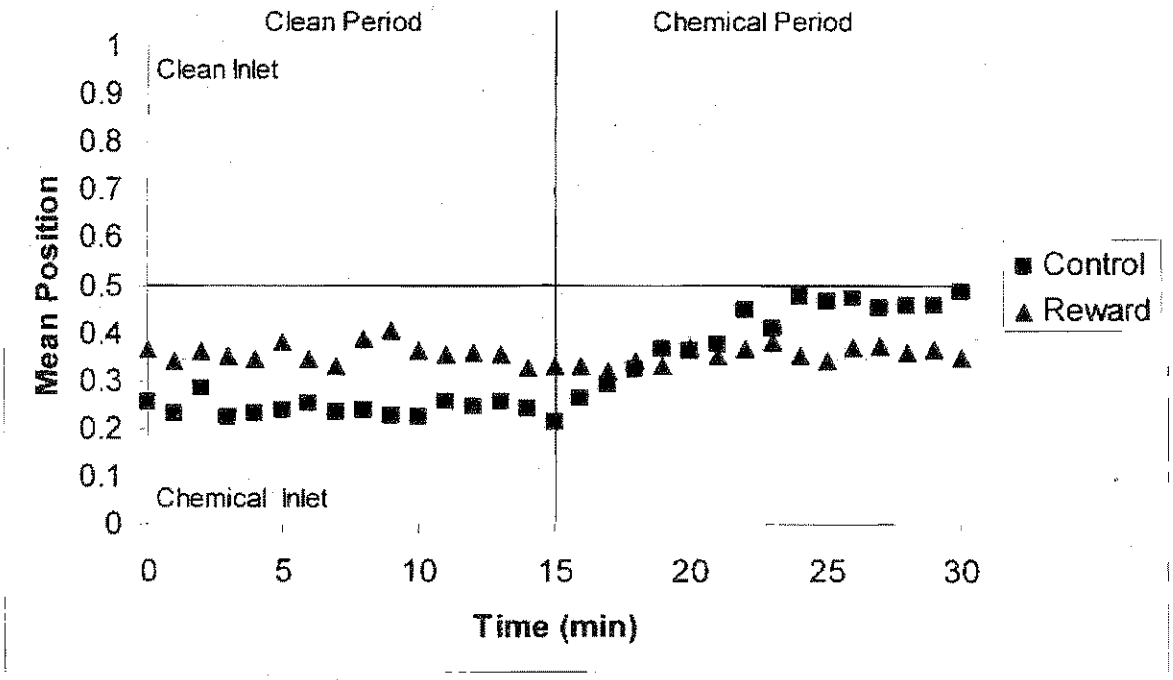

Figure 3.9. Response of juvenile rainbow trout to skin extract following exposure for 96 hours to the herbicide, Reward®, or clean water (controls). Data points are the mean position of fish across all chambers. The avoidance response (alpha=0.10) in control fish was statistically significant (n=5, p=0.04). Avoidance was not detected in the fish exposed to Reward® (n=4, 0.81).

Discussion

Exposure to the herbicides at their maximum application rates DMA® 4 IVM, Sonar® A.S., and Renovate® 3 (2,4-D, fluridone, and triclopyr respectively) did not alter the ability of juvenile rainbow trout to avoid skin extract; exposure to Reward® (diquat) did alter olfactory-mediated behavior.

The response of Reward® exposed fish, as detected with a comparison of CV, indicates the fish may still be able to smell, but have lost the ability to process the odor. Fish exposed to the herbicide did not move out of the skin extract, as did control fish, but did move closer together during the stimulus portion of the tests. Wolf and Moore (2002) found that crayfish were still be able to detect odors after exposure to the herbicide, metolachlor, but did not respond appropriately. When exposed to an odor that normally elicited aversion, the crayfish moved towards the odor, instead of away from it. Because the mechanisms underlying the lack of response were not determined in this study, it is difficult to say exactly what is occurring within the olfactory system of exposed fish. However, results clearly indicate the ability of Reward® exposed fish to respond correctly to a predatory cue is significantly impaired.

The different results in the controls during Exposure A could be due to the fact that few fish moved around the chamber during the 15 minutes prior to stimulus introduction. Therefore when 3 fish became more active during the chemical period, the group as a whole appeared to move into the stimulus. Unfortunately, the amount of time actually spent on that side of the chamber could not be determined due to the testing protocol. In all previous tests, control fish were always active during the entire test period, but never moved into the chemical side of the chambers while skin extract was flowing. Additionally, the inactivity in Reward®-exposed fish during exposure H that resulted in none of the fish experiencing the skin extract is similar to the inactivity in the control fish

observed in Exposure A, and both likely reflect the natural variation in behavior among different groups of fish.

The mortality observed in two Reward® tanks is interesting because the MSDS for Reward® reports an LC50 of trout as 14.8 ppm a.i., which would suggest that the concentration I tested is likely to be within the lower bounds of the effects range. This could explain the occasional mortality I observed in the Reward® exposed fish. The LC50 of triclopyr for juvenile rainbow trout is greater than 100 ppm a.i. (Mayer and Ellersieck 1986), which is well above my highest nominal concentration of 2.5 ppm a.i.. Similarly, the LC50 of fluridone for juvenile rainbow trout is 4.25-8.4 ppm a.i. (Mayer and Ellersieck 1986); suggesting that the nominal concentration I tested (0.150 ppm) was well below lethal levels. Mayer and Ellersieck (1986) report LC50 values for 2,4-D for rainbow trout of greater than 100 to 420 ppm a.i., again well above the tested concentration of 4 ppm a.i.. Overt toxic effects would not be expected in juvenile salmon occupying ponds and lakes in which any of the herbicides were applied according to the label. No fish mortalities have been reported in Washington State due to use of these herbicides in surface waters (K. Hamel, personal communication). Chinook smolts were slightly attracted to 10X the concentrations of Renovate® 3 and Reward® I tested, suggesting fish might move into a potentially toxic environment (Curran et al, unpublished manuscript), and in the case of Reward®, that exposure has the potential to impact olfactory performance. However, the concentrations I tested have not been

associated with adverse effects in juvenile coho or Chinook smolts (King et al, unpublished manuscripts).

After I initiated my studies, the manufacturer changed the label rate for Reward® and the maximum application rate is now half of the concentration I tested. Because I did not test lower concentrations, I cannot say whether applications at the lower concentration would impair olfactory-mediated behavior. However, a 2X exposure following operational applications at the new rate may not be unrealistic. Additional studies are needed. If effects occur at the new rate, minimum effective exposures and recovery times should also be determined. An examination of the timing and location of applications relative to out-migrating salmon smolts would also help in determining the actual hazards posed by the herbicide.

The Renovate® 3 label has a maximum target water concentration of 2.5 ppm triclopyr as acid equivalents, which when converted to active ingredient is 3.49 ppm triclopyr. Due to an error interpreting the label, I tested 2.5 ppm a.i. of the active ingredient, ca. 28% less than the legal maximum. However, operationally no more than 2.5 ppm triclopyr is permitted in Washington State. Additional studies are needed to determine the threshold for effects.

Chapter 4- Synthesis of studies and research needs

The overall goal of my research was to determine if aquatic herbicides used in Washington State have adverse impacts on the olfactory mediated behavior of salmonids. The objective of my first study, Chapter 2, was to determine if juvenile Chinook salmon (*Oncorhynchus tshawytscha*) avoid the formulations of three herbicides: Renovate® 3 (triclopyr-TEA), Reward® (diquat), and Sonar® A.S. (fluridone). The objective of my second study, Chapter 3, was to determine if exposure to the three herbicides noted above and DMA® 4 IVM (2,4-D), alter olfactory performance in juvenile rainbow trout (*O. mykiss*), used as a surrogate for juvenile salmon.

Juvenile Chinook smolts were attracted to concentrations of triclopyr (34.9 ppm a.i.) and diquat (13.7 ppm a.i.), both as formulated products, Renovate® 3 and Reward®, respectively. According to the labels for these products, concentrations eliciting attraction were 10 times greater than maximums associated with field applications. My work did not include 2,4-D (as DMA® 4 IVM) because previous work by Folmar (1976) determined fish would avoid 1 and 10 ppm of the herbicide as a.i.. DMA® 4 IVM is applied at rates of 2-4 ppm a.i., suggesting that fish would avoid application rates of the herbicide.

Knowledge of the characteristics of the pesticide plumes created by applicators of the herbicides would be helpful in evaluating fish response. Should concentrations be greater than those I tested, additional avoidance/attraction tests would be warranted. Applicators often note that fish swim away from the treatment area during their applications (K. Hamel personal communication), but my data suggest this response may be caused by the disturbance associated with the application and not the herbicide itself.

A concentration of 1.37 ppm a.i. of diquat, as the aquatic herbicide Reward®, resulted in juvenile rainbow trout being unable to properly respond to skin extract, a known deterrent. This effect was observed after fish were exposed to the herbicide for 96 hours. However, whether or not the same effects would occur following shorter exposures is not known. Diquat (Reward®) has been shown to have a half life of 1-4 days (Emmett 2002). The other herbicides tested have shown similar half lives. 2,4-D (DMA® 4 IVM) has been shown to break down in the environment in as little as 23 hours, and as long as 7 days (Emmett 2001), while triclopyr has a typical half life of 3.5-7.5 days, but it can be as little as 12 hours (Emmett and Morgan 2004). Fluridone (Sonar® A.S.) is the most variable with a half life of 2-60 days depending on environmental conditions (Emmett 2001). These data suggest that the 4 day exposure I used, in most cases, probably represents the maximum fish would receive in natural waters.

I tested my fish immediately after they were removed from the chemical. It is possible that fish would be able to recover their olfactory ability once exposed to uncontaminated

water. Given that whole lake treatments are rare, except for some fluridone treatments (K. Hamel, personal communication), there frequently may be clean water within the system for fish to move to. Although my research (Chapter 2) suggests they will not move away due to the chemical presence, fish may naturally move within the system. In addition to out-migrating smolts there are juvenile Chinook and coho populations that overwinter in lakes. These populations may experience more frequent exposure to aquatic herbicides and of longer duration. An additional study quantifying recovery times would provide a more complete assessment of possible impacts the herbicide may have on olfaction in juvenile salmonids.

I used formulated products in my tests that are available for use by pesticide applicators. Formulated products, however, contain more than just the active (herbicidal) ingredient. Manufacturers do not need to report what those other ingredients are on the label; they just have to report what percentage of the product is the active ingredient. It is possible that it is not the diquat or triclopyr itself that is causing attraction or, in the case of diquat, that which is altering the olfactory system, but instead one of the "other" ingredients. For aquatic herbicides, it has been found that the additional ingredients in end products are actually the most toxic component (Smith et al. 2004). A test comparable to mine, but using technical grade diquat and triclopyr would determine whether it is actually the herbicide, or one of the "other" ingredients in the formulated products, or an interaction between the herbicides and other components of the formulation that is causing the

response I observed in juvenile salmonids. It is the end products, however, that ultimately enter the water.

Rainbow trout appear to be a good surrogate for salmon in toxicological studies (Teather and Parrott, unpublished manuscript). However, it would be useful to examine out-migrating smolts because non-anadromous trout do not go through the parr-smolt transition, which is a critical stage in the development of the olfactory system. For my olfactory study, I tried to use Chinook smolts, but there was significant morality due to infections of branchial ichthyobodiasis, and secondary bacterial septicemia that we could not cure with medicated feed and formalin treatments as prescribed by the University Animal Care Veterinarian. It was a problem throughout Washington State hatcheries that year. The second year I tried to use Chinook again, but they were schooling and did not respond well to the exposure to serine. This has been seen in other fish species, where fish will tolerate higher levels of contaminants when there are other motivating factors to remain in the area, such as shade, and prey availably (Scherer and McNicol 1998). These Chinook, however, were likely at a physiologically younger age than their hatchery counterparts due to reduced food rations and that could have impacted results. As Chinook get older they tend not to school as much as their younger counterparts (D. Beauchamp personal communication). Chinook used in the avoidance study were of an older age and did not school at all. It might be possible to repeat my olfaction tests using Chinook, or another salmonid species that do not have a tendency to school, to better access effects at the critical stage of smoltification and olfactory development. To further

examine the biological significance of olfactory effects with salmon, it would be interesting to expose smolts prior to release and see if there are any differences in survival during outmigration and return rates compared to unexposed controls.

A variety of different apparatuses and methods have been used to assess avoidance/attraction in fishes exposed to contaminants (Chapter 1). The development of standardized methods for behavior testing, increasing comparability among studies, would be a significant contribution to the field of behavioral toxicology. A standardized method would also allow future researchers to begin to test for sublethal effects more efficiently. As it stands now, most researchers have to familiarize themselves with the available methods and protocols and then choose the most appropriate for their research question, undoubtedly involving many trials and failures before perfecting their system. In my avoidance study, I made a number of improvements to the methods described by Exley, including replicate tubes, tube shape, and chemical delivery. Statistical methods for analyzing the data were also improved. In addition, skin extract proved to elicit a highly significant and reproducible avoidance response.

Although none of the herbicides at the maximum label rates resulted in avoidance or attraction, however, Chinook were attracted to Renovate® 3 and Reward® at 10X the maximum label. Exposure to DMA® 4 IVM, Renovate® 3, and Sonar® A.S. did not alter the olfactory ability of rainbow trout. Reward®, however, did impact olfaction. A full hazard assessment with salmonids and aquatic herbicides is needed. Information on the

factors governing exposure, including the intersection between the habitats treated and the presence of fish, and the magnitude and duration of effects (Grue et al. 2002) are necessary to place my results in a broader ecological context.

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OREGON TOXICS ALLIANCE

OTA works for all Oregonians to expose root causes of toxic pollution and help communities find solutions that protect human and environmental health.

1043

January 5, 2010

Bureau of Land Management
Vegetation Treatments EIS Team
P.O. Box 2965
Portland, OR 97218

Re: Vegetation Treatments Using Herbicides on BLM Lands in Oregon: Comments on Draft Environmental Impact Statement (DEIS)

The groups and individuals listed below submit these comments opposing BLM's proposed alternative to greatly increase herbicide use on BLM land in Oregon. We heartily support the Comments already submitted by Northwest Environmental Defense Center, KS Wild/Center for Biological Diversity, and Northwest Coalition for Alternatives to Pesticides, and hereby incorporate those comments by reference. Additionally, we offer the following further comments for BLM consideration:

- 'Encouraging' weed free feed for grazing animals and recreational pack animals is not sufficient. BLM should mandate weed free feed and hay for any grazing or pack animal on BLM land and should provide strong inspection and enforcement measures to ensure its mandate is followed.

- BLM states that commodity enhancement (e.g. timber production) is not a factor in choosing to use herbicides, but then somewhat contradicts itself when it uses the justification of a cost increase to adjacent landowners as one of the stated purposes of the proposed action. Increased costs to ranchers are specifically cited as a reason for increased herbicide use. BLM complains that it cannot efficiently cooperate in jointly funded projects to remove invasive species and prevent their re-infestation because it does not have the same tools as adjacent landowners. Purpose 5.

- BLM should implement a stronger Integrated Vegetation Management Program/Last Resort Policy to ensure that chemical herbicides are used only when there is no feasible alternatives. BLM dismisses the use of Vinegar because it is 'not an approved herbicide in Oregon.' However, other than the four herbicides currently permitted by the district court injunction, none of the other herbicides are currently 'approved in Oregon.' BLM could easily examine the suitability of using nontoxic herbicides in Oregon instead of jumping into the expanded use of chemicals with known toxicity to humans and wildlife. Furthermore, research indicates that chemical use can exacerbate the invasive species problem in many instances. BLM should thoroughly examine and compare the full range of potential harmful and beneficial effects of using chemical herbicides and nontoxic alternatives before it chooses its preferred alternative.

- See, eg. *Control Effort Exacerbates Invasive Species Problem* journal article. http://www.ars.usda.gov/research/publications/publications.htm?seq_no_115=215397. That study in its entirety is hereby incorporated by reference.

- Studies indicate that vinegar herbicides can perform as well or better than chemical herbicides. *See, e.g.,* Cornell University Study on Vinegar herbicides found at http://www.ccerensselaer.org/Horticulture-Program/Turfgrass-Research/Vinegar-Herbicide.aspx.

- Other miscellaneous problems in BLM's current DEIS analysis and possible solutions include the following:

  - Recent USGS studies have found the widespread presence of herbicides in Oregon waters, including drinking water supplies. The full range of USGS studies on pesticides and water quality is found at the USGS Pesticide National Synthesis Project website, http://water.usgs.gov/nawqa/pnsp/. BLM should take these ongoing problems into account in choosing the most suitable alternative.

  - Cost effective analysis of herbicide use should include both sides of the cost equation. I.e., BLM cannot just say that manual removal is cost prohibitive and therefore not a feasible method of invasive plant removal. BLM must also analyze the environmental and health costs of using the herbicides. Studies showing the impacts of pesticides on human health have been published by Oregon Environmental Council. *See, e.g., The Price of Pollution: Cost Estimates of Environmental Disease in Oregon,* estimating those costs on an annual basis to be $1.57 billion. That report in its entirety is hereby incorporated by reference. The report can be accessed at http://www.oeconline.org/our-work/kidshealth/priceofpollution.

  - Many of the studies BLM has used in assessing the environmental and human health risks are old and outdated. BLM should thoroughly examine all current scientific literature on these herbicides before deciding on the preferred alternative.

  - Weed management program grants – BLM should thoroughly explore possibility of obtaining these available funds to expand manual removal programs and to test the feasibility of using alternatives such as vinegar and other available nontoxic herbicide formulations.

  - Stimulus funds – BLM should seek federal stimulus funds to provide much-needed jobs in the arena of nontoxic removal/management of vegetation and ecosystem restoration. These jobs could be modeled along the lines of WPA projects of the 1930's.

- BLM should search for ways to coordinate and cooperate with other federal agencies seeking to study the effects of and reduce the toxic impacts of pesticides to our human and wildlife communities.

Thank you very much for the opportunity to comment on this DEIS. We look forward to hearing BLM's responses to all of the comments.

Sincerely,

Dona Hippert, President
Lisa Arkin, Executive Director
Oregon Toxics Alliance

Lesley Adams, Rogue Riverkeeper
Klamath-Siskiyou Wildlands Center

Amy Harwood, Program Director
Bark

Richard K. Nawa
Siskiyou Project

Nina Bell, Executive Director
Northwest Environmental Advocates

Jan Wroncy
Canaries Who Sing

Mary Camp, President
Deer Creek Valley Natural Resources Conservation Association

Tom Dimitre, Gordon Lyford, and Elaine Wood
Rogue Group Sierra Club

Daryl Jackson, Biologist
Willamette Waterways Project

Francis Eatherington
Umpqua Watersheds, Inc.

Ingrid Edstrom
Citizen

Mari Anne Gest, Executive Director
Oregon Center for Environmental Health

Maxine Centala
Concerned Citizens for Clean Air

Tom Kerns
Environment and Human Rights Advisory

Amy Pincus Merwin
InForm Media

(1044)

Prabha rao
<raogprao@gmail.com>
01/05/2010 09:06 PM

To orvegtreatments@blm.gov
cc
bcc
Subject Mail

Dear Sir
For the past several years I am hearing about the protection of Oregon forests. Now they plan to use herbicides for a massive increase in logging. This spreads invasive species. Eco Advocates supports Alternative One because: 1) prevention should come first, 2) herbicide research has generally been inadequate to determine long-term consequences and the results of exposure to mixtures of herbicides (quite common in the field but virtually never tested in the lab), 3) even milder herbicides can be especially detrimental to children and aquatic organisms already negatively impacted by herbicides from private forest lands that are routinely poisoned (40,000 Oregonians live within a half-mile of BLM land, and the BLM is proposing to spray the areas most frequently visited by people), and 4) **we could create green jobs by putting people to work doing nontoxic weed removal.** The BLM is least choose Alternative One without loosing the forests.

Pl consider my suggestions seriously.

G.P. Rao
Scientist (Germplasm)
RRII, India

(1045)

RECEIVED
JAN 05 2010

December 29, 2009

Robert Miller
84906 N. Enterprise Rd.
Pleasant Hill, OR 97455
(541) 746-9493

Mr. Todd Thompson
BLM Restoration Coordinator
P.O. Box 2965
Portland, OR 97208-2965

Dear Mr. Thompson:

This letter is in response to our phone conversation in early December, and to register my comments on the Vegetation Treatments Draft EIS. I really appreciated the depth and breadth of your knowledge of the many issues involved. Per our conversation, I have a small, family wildcrafting business which gathers several wild fungi (edible mushrooms) and medicinal plants (Oregon Grape Root, Juniper berries and others) from BLM, USFS and private lands. It is my hope and intention to have these issues thoroughly considered and included in what guidelines are eventually adopted.

On looking over the draft EIS and in our conversation it appears that wild edible mushrooms have not been considered up to

this point other than a brief mention of "mushroom picking" in the environmental justice section. Wild edible mushrooms, particularly Chanterelles and matsutake, are a fairly sizeable industry in Oregon. A very broad guess is that several hundred tons of Chanterelle ad matsutake are harvested each mushroom season (late summer, fall, early winter) in Lane County. This is a guesstimate, but in any case it is a significant amount of food, much of it from BLM lands. The expectation of "wild harvested" foods is that they are better, cleaner, safer, more nutritious, etc. than organic foods, and do not contain pesticides, herbicides, chemicals, and/or other pollutants.

With this as a backdrop I am very concerned about potential spraying on areas that mushrooms are harvested on. Non-target effects of herbicide spraying, particularly herbicide mist or drift that could go from roadside into the forest, is of great concern. Chanterelles, for example, often grow most prolifically in the zone within 50 to 100 feet of forest roads. Wide-scale spraying of those areas could effectively close my business. I could not ethically

and responsibly harvest and sell "wild harvested" mushrooms potentially tainted with herbicides.

Currently I've been that these roadside areas are kept open with mowers and brush hogs. I'd like to see this practice continue.

Another area of concern is along the coast where the forest and sand dunes meet. This is where matsutake and porcini or king boletus grow. The draft EIS includes the possibility of spraying these areas for scotch broom. Again, my preference is manual removal. Although pulling the roots would likely disrupt the mycelia, I see it as a "lesser of two evils" decision compared to herbiciding.

Another issue with herbicide spraying and wild harvesting is liability. Were someone to become ill from eating wild harvested mushrooms or taking wildcrafted medicinals, who then is liable? Me? The BLM? This doesn't even begin to address the personal and familial tragedy of pesticide/herbicide related illness.

Personally, my beliefs and preferences lead me to a no herbicide option using mechanical and manual methods. Understanding, the BLM's situation and current use, ~~[illegible]~~ my belief is that the Alternative 3 would work

best with the caveat that it must include guidelines that consider and protect edible wild mushrooms and wildcrafted medicinals.

In the spirit of engagement and not trading one problem for another I'd like this letter to be an opening for dialogue. I'd be happy to provide what information I can about types of harvesting areas, resources, etc. Please contact at the address or telephone number listed above. I do not use e-mail.

I would like to receive a reply to these concerns.

Again, I thank you for considering my concerns and the wide range of issues around the Draft EIS.

Thank you.

Sincerely,

Robert Miller

1046

Baker County Weed Control

2960 Broadway
Mailing: 1995 3rd
Baker City, Oregon 97814

Weed Sure Appreciate Your Help

Arnie Grammon - Baker County Weed Supervisor

Office : 541-523-0618
Cell: 541-519-5157
Fax: 541-524-7666
agrammon@bakercounty.org

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

Comment on Treatments Using Herbicides on BLM Lands in Oregon
Draft Environmental Impact Statement

To Whom It May Concern:

Thank you for allowing Baker County Weed District to comment on the proposed "Treatments Using Herbicides on BLM Lands in Oregon" Draft EIS regarding noxious weed treatment in Baker County and the State of Oregon. We commend your staff for taking the time to write an exceptional document. In carefully reading the document, it became obvious that the staff and specialists involved in this draft are passionate about the weed fight here in Northeast Oregon. Thank you for your continued commitment.

We emphatically support Proposed Action Alternative "4". We believe that this preferred alternative strikes a balance between effective weed management and all other resource needs. We also believe that this alternative will once again allow the BLM to be proactive in their obligatory fight to protect against further invasion by noxious weeds.

However, while we acknowledge the need for a sound environmental process, we feel we must note that the system in place is frustratingly rigid, and thus discouraging innovation. For example, a new herbicide molecule is currently in the pipeline that shows tremendous promise with Leafy Spurge. That molecule is not listed within Table S-4 of the Draft EIS: Summary. Sound weed management in the 21'st Century must include innovative methodologies, especially safe and effective herbicides. There must be a process of deviation from the existing approved herbicide list. Otherwise, we are doomed to repeat the very scenario that we currently find ourselves in, where very safe and effective chemicals are not available for federal weed managers.

As stated above, we emphatically support Proposed Action Alternative "4". Make no mistake; if we go with "status quo", future generations will have to face the consequences of the spread of new and existing invasive species, with very detrimental effects.

Sincerely,

Arnie Grammon
Baker County Weed Supervisor

RECEIVED
JAN 03 2010

1047

kim roemer
<halfpass_kim@yahoo.com>
01/07/2010 01:13 PM
Please respond to
halfpass_kim@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,

Kim Roemer

kim roemer

,

(1048)

Shannon Bartow
<zcanoe@gmail.com>
02/18/2010 04:50 PM
Please respond to
zcanoe@gmail.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

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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,

Shannon Bartow

(1049)

Not coded - See res. Jake

COMMENTS ON
VEGETATION TREATMENTS USING HERBICIDES ON BLM LANDS IN OREGON
DRAFT ENVIRONMENTAL IMPACT STATEMENT

RECEIVED
FEB 22 2010

40 CFR 1502.2(g) states, Environmental impact statements shall serve as the means of assessing the environmental impacts of proposed agency actions, rather than justifying decisions already made."

By its title and contents, this DEIS clearly intends herbicide use on expanded targets, in effect shutting out any non-herbicide alternative. Since a Supplement to the 2007 Programmatic EIS written for 17 western states including Oregon would have been more appropriate to the situation and less time-consuming and expensive than writing a separate new EIS tiered to the 2007 PEIS, it is puzzling that BLM chose that course which necessitates much repetition and does not adhere to NEPA's objective of reducing paperwork.

Why was this EIS written? Throughout the document, a number of reasons are set forth. The State Director's letter introducing the DEIS states that it was prepared "to address the affects (sic) of a proposal to add additional herbicides to the ones BLM already uses to control noxious weeds in Oregon, and to expand the uses of those herbicides beyond just the control of noxious weeds." The sections titled "The Need" (page 5) and "The Purposes" (pages 7-10) expand on those reasons. But on page 2 it is stated, "This Oregon-wide EIS has been prepared primarily 1) to directly address the U.S. District Court's concerns in a single programmatic document, and 2) because, unlike the other western states, many of the herbicides proposed for use have not been used on Oregon BLM lands in the past 20 years." (A Supplement containing material pertaining to Oregon could have avoided all the repetition involved in a separate EIS, which goes against the NEPA objective of reduction of paperwork)

The statement about the Court's concerns could refer to the injunction cited on page 1, par. 2, but the sentence describing it does not correspond to my reading of the Judgment in that case (NCAP v. Block etal), and it is not directly connected to the statement about the Court's concerns. Since those concerns are not articulated, but are described as the primary reason for undertaking the extremely difficult, expensive, and time-consuming job of writing a new EIS, reviewers need to understand this key reason to even begin to evaluate the document.

FLPMA directs BLM to manage public lands "in a manner that will protect the quality of scientific, scenic, historic, ecological, environmental, air and atmospheric, water resources, and archeological values ...". Although it is admitted on page 7 of the DEIS that the use of herbicides could potentially expose the environment to negative effects, BLM is proposing ever-increasing use of these chemicals.

A principal problem in reviewing this DEIS is the overwhelming amount of material incorporated by reference. On page 2 is the statement "This EIS tiers to the PEIS and incorporates its entire analysis as Appendix 1". (emphasis added) Appendix 1 is a two-page Table of Contents with an introductory paragraph that states, "This Appendix consists of the ... PEIS (June 2007)." (emphasis added) The PEIS is in three volumes plus a separately published Biological Assessment. Then on page 67 of the DEIS, 6000+ pages of Risk Assessments "are included in this EIS as Appendix 8." Appendix 8 occupies three pages containing the same material almost word-for-word occupying pages 67-69 of the section of text that referred to the Appendix. Further, Footnote 5 on page 4 of the DEIS states, "Currently used non-herbicide methods are also discussed in detail in the Final Vegetation Treatments

on BLM Lands in the 17 Western States Programmatic Environmental Report (PER)", which is another document. 40 CFR 1502 .21 states "... No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment." It seems to me that 3 volumes of the 2007 PEIS plus a Biological Assessment and 6000+ pages of Risk Assessments as well as the 548-page DEIS itself, are not "reasonably available" in the time allowed for comment, even with the extension. Although I wrote comments (which included comments about the use of herbicides) on the recent WOPR, I was not on the distribution list for this DEIS (I understand that list was formed from those who participated in the process for the 2007 PEIS, but I didn't know about that). I wrote a witness statement in the SOCATS v. Watt case (cited on page 534 of the DEIS) based on comments and appeals I had written for that organization, and there is an injunction against the Medford District from that case, yet Michael Jewett, the attorney for the case, was not notified of any EISs being written. I also had written and oral testimony in the NCAP case. In the Opinion and Order of NCAP v. Lyng etal (Civ. No. 83-6272-BU) which partially dissolved NCAP's injunction, Judge James Burns wrote (regarding BLM's failure to notify any of the Plaintiffs in the case regarding the FEIS for noxious weeds) "Were it not for the doctrine of separation of powers, I would seriously consider ordering a review of the policies, procedures and personnel in the Oregon Office of the BLM to ensure this disappointing conduct does not occur again." (page 7, lines 11-14). I learned about the current DEIS by reading a small article in the Oregonian. Because I do not have access to the internet, I requested a print copy and promptly received one, but by then there was only a week to read and comment; the comment period was extended, but I have needed to spend most of that time trying to catch up with what has happened since 1984. I know that many reviewers evaluate particular subjects, but for those who want to do a broader review, the volume of material in this situation is impossible to cover.

The DEIS contains much good information, but there are many conclusory sentences, and the material on any of the topics is so scattered, it is very difficult to study; the one-page Index is inadequate, and does not even show all the locations at which the limited topics listed can be found. There is much repetition, which unnecessarily increases length and could be remedied by reference to one location for other sections where the same information is needed; this would not only reduce bulk, but would make the document more readable, easier to index, and more useful for decisionmaking. There are also problems with footnotes: Many people do not look at footnotes unless they want to look up a particular reference; all but two of the 80 footnotes in the document are sentences that should be directly in the text because of their importance. Referenced documents should include page numbers, including references to the 2007 PEIS and other incorporated documents. Conclusory statements especially need to be footnoted for reference. 40 CFR 1502.24 states, "Agencies shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the environmental impact statement." Regarding Appendices, 40 CFR 1502 .16 states, "If an agency prepares an appendix to an environmental statement the appendix shall (c) Normally be analytic and relevant to the decision to be made."
While the Appendices in the DEIS are all relevant to the decision, most of them are informational rather than analytic and should be moved to the text.
For instance, Appendix 2 should be in Chapter 2; Appendix 3 should be in Chapter 3; Appendix 4 should be [illegible] Chapter 5 (this is especially important because it is a new type of action and I cannot find it included in any existing chapter); Appendix 5 should be Chapter 6; Chapter 6 should be Chapter 7; Appendix 7 should be Appendix 2; Appendix 9 should be Appendix 3.
Additional Appendices should be added to provide backup information for tables in the Chapters: (for instance, Samples of the currently-available Risk Assesment Worksheets described on page 73, par. 4; itemization of the various separate costs

included in the various separate totals in Tables 4-32 and 4-33 on page 305; and the most recent report and analysis compiled from required implementation and efficacy post-treatment monitoring reports. Appendices should not contain the same text as appears in the Chapter that refers to that Appendix (as was done with pages 67-69 and Appendix 8 in the DEIS) nor should they (or the Chapter that refers to an Appendix) call it something it isn't (Appendix 8 is not a risk assessment and Appendix 1 is not a PEIS).

The DEIS lacks the essential element of reality. As stated on page 74, "The BLM has a long history with herbicides." So why aren't analyses built on examination of a long period of actual experience, instead of computer modeling built on theoretical predictions or expectations which are transformed into Tables that simplify risks into high, medium, low, and even zero with letters, numbers, checks, other symbols, and NE for "not evaluated" which ignore actual experience. Information must get out of agency files into EISs, which must become the planning documents intended by NEPA. Conclusions that seem valid today will be subject to change as scientific knowledge expands; EPA's current process issues Data Calls-Ins whenever new concerns are raised, and now reviews each reregistration on 5 year cycles. Oregon BLM intends this EIS to be applicable for 10 to 20 years, according to page 14.

The DEIS admits on page 86 that "Risk assessments test or model a range of plausible scenarios including spills and direct application on non-target organisms, exposure beyond those modeled is possible." BLM EISs balance mitigation measures with risks, but the actual failure of such measures in the real world needs to enter risk and cost analyses. For example, a by-the-book aerial spray treatment on a 20,000-acre burned-over area in Idaho was followed by herbicide-treated soil and ash being carried onto adjacent farmland, severely damaging thousands of acres of the following years' crops (environmental damage); the liability (economic cost) incurred by such unforeseen "incidents" must show up in risk and cost analyses, as should other real costs. However, program treatment costs shown in Tables 4-32 and 4-33 on page 305 of the DEIS include only "direct" costs (and I question if all of those are counted) and according to page 304, "do not include program planning (e.g. NEPA) or overhead." Sulfometuron methyl, the herbicide used in the program described above, is the subject of an EPA Reregistration Eligibility Decision (RED) which proposes to prohibit its use under some conditions, but a final decision has not been reached; this herbicide is one of the additional ones proposed for use in the DEIS. Although NCAP's scoping comments about unique hazards, including troubling plant reproduction problems reported in studies by Fletcher and others, BLM did not put those studies in the DEIS Reference list, and I could not find that they were considered.

The DEIS contains a section titled Incomplete and Unavailable Information which quotes 40 CFR 1502.22, which was the basis of injunctions (SOCATS v. Watt, SOS v. Watt consolidated with Merrell v. Block etal, and NCAP v. Block etal). However, that quotation omits the first part of the regulation:

> When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking. (emphasis added)
>
> (a) If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant the agency shall include the information in the environmental impact statement.

According to the last paragraph of the section "Petition to Cancel All Registrations of 2,4-D on page 91 of the DEIS, BLM is still disregarding 40 CFR 1502.22, or still does not understand the reregistration process and/or RED documents. The word "However" in the above-mentioned paragraph misinterprets the situation; NRDC submitted the Petition in reaction to the RED, which was issued in June 2005 and updated in June 2008 and the Petition was filed in November 2008 and supplemented in February 2009, all of which pre-dated the DEIS. The Regulatory Conclusion on page 10 of the 2,4-D RED Fact Sheet states, "EPA has determined that all products containing 2,4-D as the active ingredient are eligible for reregistration, provided changes specified in the 2,4-D RED are incorporated into the label and additional data identified in Section V of the RED confirm this conclusion." (emphasis added) A "Completed" Reregistration will be reached when all or most products containing the active ingredient have completed these conditions satisfactorily (the final step in the reregistration process). On page 9, under "Additional Data Required", is the statement, "EPA is requiring multiple confirmatory data requirements for 2,4-D" and the first paragraph on page 4 reads "There have been no studies on 2,4-D that specifically address its endocrine disruption potential" (a study for thyroid effects and immunotoxicity is required, as well as a more thorough assessment of the gonads and reproductive/developmental endpoints).

In the early 1980s when the Southern Oregon Citizens Against Toxic Sprays (SOCATS), Save Our EcoSystems (SOS), and the Northwest Coalition for Alternatives to Pesticides (NCAP) were instituted, the underlying situation was that many pesticides required tests for serious adverse effects that had not been done. Originally, the Department of Agriculture was responsible for pesticide registration based on satisfactory acute toxicity (lethal and sub-lethal) tests. After the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) was passed and the Environmental Protection Agency (EPA) was established, pesticide registration was transferred to EPA, and when the National Environmental Policy Act (NEPA) was passed, that law came under the authority of EPA. As science advanced, long-term and chronic effects were being linked to pesticide exposure, and much new testing was required. FIFRA 1978 amendments provided a means for continuing existing registrations by conditional registration provisions of 7 U.S.C. sec. 136a(c)(7); until all required tests were completed and found satisfactory, registrations were "conditional". Only when all requirements were met, could reregistration be achieved and a finding of no unreasonable adverse effects when used according to label directions be made. FIFRA forbids the word "safe" from appearing on pesticide labels; as seen on page 70 of the DEIS, categories are "slightly toxic", "moderately toxic", and "highly toxic". I challenge all the Os (No Risk) in the many risk tables in the DEIS which seem to represent the risk assessments that are incorporated by reference from the 2007 PEIS.

Most people knew nothing about the very important difference between conditional and full registration (reregistration); labels have registration numbers, but do not specify the status of the registration. In NEPA documents written by BLM and USFS both agencies consistently maintained that they used only registered herbicides which FIFRA required to carry a finding of no unreasonable adverse effects when used according to label directions* and that was sufficient information to fulfill NEPA disclosure standards. For years I wrote comments and appeals explaining conditional registration, but the comments were ignored, and appeals (which went all the way to the national office) were routinely denied. We were literally told at the Medford District that we would have to go to court; we had known for a long time that decisions were made from the top down. When we were finally able to take court action, our case was based on violation of 40 CFR 1502.22 (Incomplete or unavailable information), and SOCATS chose to file against BLM because its programs were affecting more of our members than USFS. While the case moved from the U.S. District Court to the 9th Circuit, and then

on behalf of SOCATS

*the fact that this finding cannot be made until full registration (reregistration) is achieved was completely ignored (no pesticides had that status at the time

to the Supreme Court where a hearing was denied, allowing the lower Courts' decisions to stand in SOCATS' favor, SOS, Paul E. Merrell, and NCAP also brought suits covering a number of issues including the one we had raised. They also prevailed, and all four cases have injunctions against BLM.

The 1984 injunction in the NCAP case is incorrectly described on page 1 of the DEIS; while BLM may not have adequately considered "the cumulative human health effects of the herbicides being used at that time," the judgment reads:

> ... based upon the trial herein and the Court's January 6, 1984 Opinion and Order, the Court makes the following findings:
>
> 1. The Defendants have not prepared an adequate Worst Case Analysis, pusuant to their NEPA obligations under 40 CFR 1502.22;
> 2. Because of the foregoing, the Court makes no findings on Plaintiffs' remaining claims for relief ...
>
> Defendants are immediately enjoined from all spraying herbicides within Region Six of the United States Forest Service and within the BLM Districts within the State of Oregon until they complete adequate Worst Case Analyses, pursuant to 40 CFR 1502.22. This injunction applies to the spraying programs of the BLM and Forest Service in their entirety ...

The 1987 modification of the injunction (Civ. No. 83-6272-BU) permits the use of four herbicides limited to control and eradication of noxious weeds, as stated at the bottom of page 1 of the DEIS.

With the chemical companies dragging their feet in getting tests done or having to do them over after testing scandals, 1988 amendments to FIFRA created an accelerated reregistration program involving phases with time limits: first, registrants are required to declare whether they intended to seek reregistration; next, they were required to notify EPA to identify and commit to providing new studies; then they were to summarize and reformat acceptable studies, and recommit to satisfying all data requirements; after EPA reviews all submissions from previous phases, registrants must meet any unfulfilled data requirements within 4 years; then EPA reviews remaining studies and decides whether or not products containing the active ingredient(s) are eligible for reregistration, whether the data base is substantially complete, and whether the pesticide causes unreasonable adverse effects to humans and the environment, and whether it meets the standard of the Federal Quality Protection Act (FQPA) which considers aggregate exposure from all sources, cumulative effects of pesticides and other substances, special sensitivity of infants and children, and estrogen or other endocrine effects; then the results of this complete review are presented in a RED. When certain product-specific data and revised labeling are submitted and approved, products have a completed reregistration (all the active ingredients in a pesticide product must be eligible before the product can be reregistered).

I checked recently on 2,4-D, which has been marketed and used since 1948, and constituted half of the formulation of Agent Orange and it is still in the lsst phase of reregistration. BLM needs to be knowledgeable about the court cases on herbicide use so the importance of inadequate information and the meaning and requirements of product registration can be correctly described and evaluated in planning documents. Under the "EPA Labels" section on page 70 of the DEIS, the partial information in par. 2 is misleading; it is true that "EPA herbicide registration looks at the acute toxicity of an herbicide", but lethal dose usually occurs only deliberately for humans (although it is important for fish), while chronic and long-term effects have become increasingly important. Also, while acute toxicity used to be "the most common basis for comparing the relative toxities of herbicides", and herbicide enthusiasts

still emphasize that, registration now requires many more chronic and long-term tests such as carcinogenicity, teratogenicity, mutagenicity, neurotoxicity, endocrine disruption, and developmental toxicity; such effects are more likely to occur in humans and other creatures than acute toxicity. The last paragraph on page 70 should be placed on page 71 under the first paragraph to seperate it from the material on acute toxicity.

On page 86 it is stated, "...it is understood that many prudent individuals view herbicides, either individually or in combination with other chemicals already added to the environment, as having a potential for the aforementioned 'catastrophic consequences'." It should be recognized that both small and large organizations (such as the Pesticide Action Network) have scientists as members and on their boards, and that individuals also can be scientists.

Submitted as partial comments on 18 February 2010

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Although I worked on these comments (& more which I have not yet typed), I was unable to submit them by the deadline because of exacerbation of a long-term infection which required hospitalization & additional time for others to find and copy these pages so I could at least get them sent in during the finalization and decision process. As soon as I had a grasp of the scope of this EIS, I asked for additional information in order to be able to make specific and substantive comments. Because of my intervening hospitalization, I was unable to make necessary decisions about the charges I would have to pay for information I thought should have been available in the EIS or which I could have found myself if I had been physically able to come to the BLM office. (My FOIA was underlined because I did not meet a stipulated deadline.) As I finish my comments, I may want to reactivate portions of that if possible.

Paul E. Merrell, the Plaintiff in Merrell v. Clarke [illegible]

rec 5/10/10 Not coded (read)

still emphasize that, reregistration requires many more chronic and long-term tests on carcinogenecity, teratogenicity, mutagenicity, neurotoxicity, endocrine disruption, and developmental toxicity; such effects are more likely to affect humans and other creatures than acute toxicity, but are slower to develop, and therefore more difficult to trace. The last paragraph on page 70 should be placed on page 71 under the first paragraph to separate it from the material on acute toxicity.

The statement on page 86 of the DEIS that "... it is understood that many prudent individuals view herbicides, either individually or in combination with other chemicals already added to the environment, as having a potential for ... 'catastrophic consequences'" should also include organizations such as Pesticide Action Network (PAN) which have scientists as members and on their boards, and that individuals can also be scientists. This is an important point because individuals with this view used to be called the lunatic fringe.

Scoping, an EIS process that involves the public and expert agencies "to identify issues, concerns, and opportunities associated with the proposed action in an EIS" (page 10) resulted in verbal comments from most of the 40 non-BLM attendees at 12 scoping meetings, and 80 commenters communicated via letters, postcards, email, phone, and the comment page on the project website (page 11). Because of its authority and responsibilities regarding the National Environmental Policy Act (NEPA), the Environmental Protection Agency (EPA) is required to comment, not only for scoping, but on the Draft and Final EISs as well. My comments cite numerous EPA comments on this DEIS and on the 2007 PEIS to which it is tiered, because these comments support points raised by the public which BLM has not adequately covered.

In evaluating the content and adequacy of an EIS, it is important for the reviewer (especially the decisionmaker) to see exactly how scoping comments are addressed. Rather than the incomplete summary of "the variety and detail" in three general categories on pages 287-288, it would be clearer and more useful to list each suggestion, concern, and/or opinion with the number or name(s) of the commenter(s) on that issue, with page references to where each subject is addressed; this would enable commenters and other reviewers with similar concerns and/or opinions to find where and how the EIS covers the issues of greatest importance to them. After I obtained copies of scoping comments for this EIS from organizations I knew had written them and from the EPA, I had great difficulty finding where the comments are discussed in the DEIS, and could not find some of them addressed at all.

An outstanding example of a subject raised in many scoping comments, including those of EPA, is the suggestion for an alternative emphasizing prevention; that is not even mentioned in the DEIS's summary of scoping issues on pages 287-288. The matter is indirectly addressed in the section "Alternatives Eliminated From Detailed Study" under "Reduce Ground-Disturbing Activities" on page 22, and in other statements in the DEIS which declare that Integrated Vegetation Management (which incorporates prevention) is general BLM policy, deferring to other NEPA documents and Federal Acts, in effect concluding that such an alternative is neither needed nor appropriate in this EIS. However, I can find no reports of acreage involved in ground-disturbing projects on which weed infestations have been prevented, or any predictions of how preventive actions will influence the estimates of weed spread on which a proposed program is based. Without such information, there is no reason not to believe that the proposed vegetation management preferred alternative for this EIS should be one that emphasizes prevention, avoiding costly control treatments. "Prevention and early detection programs have been shown to have benefit-cost ratios as high as 30:1 and more (Radke and Davis 2000." (page 45 of DEIS) Rather than stating "A determination of the relative contribution of all BLM land uses to the introduction and spread of noxious weeds is beyond the scope of this analysis" (bottom of page 22), that data is essential to the analysis.

By their omission, BLM has refused to include alternatives focusing on prevention and early detection combined with non-herbicide control methods for established weedspread (which could replace Alternative 1, but would have to be analyzed differently), or herbicide use only as a last resort (which could be incorporated in any or all of the present herbicide alternatives). Because of the many claims in the EIS that prevention is general BLM policy and is "an element of all of the alternatives"(page 6, par. 4), this should be explained in the descriptions of each alternative, because the section "Elements Common to All Alternatives" in Chapter 2 (pages 15-16) does not even mention prevention; although the value of prevention is acknowledged in many parts of the DEIS (except with alternatives), it evidently does not meet the criteria for appearing in the Index or Table of Contents.

One of the major reasons advanced for rejecting "Reduce Ground-Disturbing Activities"as an alternative (on page 22 of the DEIS) is:

> ... All NEPA planning processes for ground disturbing projects and projects that have the potential to alter plant communities must include an assessment of the risk of introducing noxious weeds and other invasive plants. If the analysis determines there is a moderate or high risk of spread, the project planning must include a noxious weed risk assessment that identifies the actions that managers will take to reduce or prevent the spread of noxious weeds and describe the conduct of monitoring follow-up actions that would prevent noxious weed establishment on previously uninfested sites(USDI 1992b).

These are empty words without accompanying information verifying the results of BLM's decades of experience with these required assessments and the related actions prescribed and taken (or not) and the consequent on-site conditions. For instance, in (specified time period), out of a total of (number) ground-disturbing projects, (Number) were predicted to have a moderate to high risk of weed spread, necessitating special actions and preventive practices, which were (percentage) effective (needed no vegetation management treatments), (percentage) partially effective (needed some control treatments), or (percentage) not effective (needed extensive control treatments); the degree of weed spread on the project sites on which moderate to high risk of spread was not determined to require preventive actions also needs disclosure. In any case, such determinations should be included in a vegetation management alternative. While actual cessation of management activities "because they have been implicated in weed spread is often not practical" and "the EIS does not suggest reconsideration" of commodity target levels or other uses of BLM lands, responsible monitoring and resultant analyses of ground truth at any level could correctly suggest adjustments. EPA's March 2002 scoping comments on the PEIS, which are applicable to this EIS, concur with the above comments; the first section of the EPA Detailed Comments is titled "Changes to the type and level of management activities that alter plant communities and ecosystem processes," and begins with the subjects of grazing and roads:

> Several species of noxious weeds are a far more significant problem on lands that are intensively grazed and/or roaded. The EIS should recognize and consider deferral of grazing as an effective means for controlling several species of noxious weeds and promoting reestablishment of desirable native species. The EIS should examine data that show closing roads in weed infested areas and limiting new roads in uninfested areas can be in some cases the most effective way of slowing or stopping the spread of noxious weeds. ...

> The EIS should evaluate and disclose historic rangeland conditions on a broad, landscape scale and identify avenues to incorporate flexibility in grazing plans and allotments that permit both BLM managers and public-lands ranchers to account for special circumstances such as drought and reduce grazing use when necessary. (page 1 of EPA Detailed Comments)

Page 2 of the EPA Detailed Comments states, "The EIS should contain an appropriate range of alternatives to achieve multiple-use goals for lands that are desired for other economic and human uses" and "The EIS should evaluate the efficacy of land management practices in protecting lands from noxious weeds and other non-native plants and in restoring ecosystem functions in areas that previously have been degraded by nonnative species." The comments also cite 43 CFR 4110.3-3 which requires closing or modification of grazing allotments (or portions of allotments) when an authorized officer determines that resources require immediate protection because of adverse conditions that pose imminent likelihood of significant resource damage. This EIS needs to disclose how many allotments that are now considered to be weed problem areas have been closed under this regulation; the section on page 22 that rejects an alternative for reducing ground-disturbing activities states only that "It is in the interest of persons holding grazing permits ... to help manage their allotments to prevent their degradation by noxious weeds." What are the benefit/cost ratios of grazing fees and permit fees for other land uses to the costs of management on those lands? Contrary to the rationale on page 22 of the DEIS, these EPA comments (last sentence of the first section on page 1) state, "Integrated weed management should include environmentally sound resource management as a preferred alternative." And counter to BLM's statement (also on page 22 of the DEIS) that "A determination of the relative contribution of all BLM land uses to the introduction and spread of noxious weeds is beyond the scope of this analysis," in the last paragraph on page 1 of EPA's letter accompanying the scoping comments cited above, is the statement, "As a critical first step, BLM should determine 'state of the Land,' explain how it reached its existing state, and identify how BLM will manage the unit or resource in order to achieve a desired future condition or set of future conditions,"and on page 2 of the letter, "Detailed description of the issues related to long term problems, such as mines and old unmaintained roads, and current practices that are contributing to the noxious weeds is essential."

Also in the "Reduce Ground-Disturbing Activities" section of the DEIS (page 22) is the statement, "A wide variety of management activities ... are mandated by FLPMA, the O&C Act, and other policy and direction"; both Federal Acts mentioned cover commodity and non-commodity uses, as well as necessary protection of public lands. Regarding this matter, the DEIS states on page 2:

> ... Although these two acts provide for different management priorities, both result in BLM providing for various land uses and outputs, and accommodating various developments for the public good. These include, but are not limited to, utility corridors, access roads, mining, grazing, timber production, recreation, and communication sites. These human uses and developments, and the vegetation management in support of them, have resulted in changes to native plant communities. While many of those vegetation changes have been intentional and beneficial, some have occurred at the expense of ecosystem health. These include the expansion of noxious weeds and other invasive plants and the build-up of hazardous fuels.

That passage would make a good introduction to the kind of discussion and analysis that the EPA comments quoted above stress are necessary to the kind of EIS that the Oregon BLM is writing, but has not included. It seems just common sense that only intensive study of the problem to be addressed can lead to optimal understanding of appropriate and effective actions needed to meet the real needs, objectives,

purposes of a proposed program. Instead, this DEIS jumps into defining a Need and Purposes tailored to a predetermined intent to expand the use of herbicides because "The ability of non-herbicide methods to effectively meet all vegetation management objectives is limited." (first sentence of "The Need" section of the DEIS). This section gives examples of woody species and deep-rooted species that resprout after mechanical treatment and states in the second paragraph (and in other parts of the DEIS) that BLM uses all available treatment methods, but I have not found covering (with natural materials or plastic) mentioned anywhere, and it can be effective for the two problems cited above; when sprouts begin under the covering, it can be removed for the sun to kill the weak sprouts, and then replaced as necessary until the roots die for lack of nourishment. BLM needs to be more creative and do more research on alternatives, which would include consulting engineers, organizations such as PAN, and other agencies with more experience using alternative control measures, and establish test plots. EPA's February 2006 Detailed Comments on the Draft PEIS included "Small investments in demonstration projects can pay off over time and improve or expand the understanding of how to manage vegetation and achieve the desired condition." For roadside weed control, I discussed an idea with an inventor regarding using a tank truck of water with a spray boom, between which a device (now used in some homes) that heats the water as it comes out of the truck is attached (if a power source that is not dangerous can be used); prior to considering details of such an idea, plot testing of various temperatures of water for efficacy (considering it would lose heat travelling through the boom) would be necessary, as well as determining the feasibility of a power source. If such an idea could be developed, it would certainly be less costly than herbicide spraying and would not involve toxic residues in the soil, and most important, the very large problem of toxic runoff to waterways.

The State Director's letter at the beginning of the DEIS states in the second paragraph, "The purpose of the comment period is to ensure the Final EIS includes an appropriate range of reasonable alternatives to the proposed action, and that the analysis of effects is complete, appropriately presenting and interpreting the available published information." For reasons already presented, and those to follow, if the FEIS does not contain drastic changes from the DEIS, those purposes will not be achieved. Regarding "an appropriate range of reasonable alternatives", the DEIS makes it clear throughout the document that BLM considers only the three herbicide alternatives (3, 4, and 5) which progressively expand the number and amounts of herbicides and the types of plants to be targeted, as reasonable; the DEIS has already concluded that Alternative 1 ("No Herbicide Use") "will not meet the Need" (page 18 of DEIS), and that Alternative 2 (continuation of current program) "is not expected to meet the Need" (page 17), and both are included "for Comparison purposes". Comparisons can be made without presenting programs as alternatives, but in the case of the non-herbicide alternative, the additional reasons for including it ("it was suggested by numerous scoping commenters" and "it is conceivable for a variety of legal, social, or effects reasons that it might be selected, at least in localized areas") would appear to make it seem reasonable, were it not that the decision to be made "will be based on the degree to which the selected alternative meets the Need and Purposes" (page 10), and BLM has already decided that Alternative 1 "would not meet the Need" (page 18). If Alternative 1 included emphasis on prevention, as suggested on page 7 of these comments, and if consideration was given to the positive effect that would have on reducing the rate of weed spread, that alternative would be truly reasonable, and even preferred. Also, one of the "Alternatives Eliminated From Detailed Study" ("Increase Use of Non-Herbicide Methods" on page 23 of the DEIS) would naturally come under Alternative 1 and should be included in it. I talked with a SOLV volunteer who had worked on BLM projects, and I believe that other organizations have interest in being involved, and that use of volunteers can be increased.

The "alternative of no action" which 40 CFR 1502.14 (d) requires be included in EISs, would seem self-explanatory. However, BLM has for some time been using "current management", which in this case is use of 4 herbicides to control noxious weeds (action) as its "no action" alternative. I have serious doubts that was the intent of those who wrote the NEPA regulations; a true no action alternative would actually be management that involves no action, which would establish a real baseline for comparison with action programs. The DEIS does not contain such an alternative.

Another of the "Alternatives Eliminated From Detailed Study" warrant comments: The "No Use of Acetolactate Synthase (ALS)-inhibiting Herbicides" (pages 21-22). Although it would have to be combined with some action alternative, the DEIS rejected it because the 2007 PEIS (to which this DEIS is tiered) analyzed it and did not select it "because these herbicides are potentially less harmful to plants, animals, and humans than other herbicide active ingredients proposed" and "ALS-inhibiting herbicides are, as a group, the least toxic herbicides to the environment and human health evaluated in this EIS, and some of the most problematic invasive weeds are best and most safely controlled with these herbicides." These conclusory statements do not cite any specific references to support them (see quotations of 40 CFR 1502.24 and 40 CFR 1502.21 on page 2 of these comments). FIFRA does not allow the word "safe" on pesticide labels, and it should not be used by pesticide users when discussing these chemicals; pesticides are classified by degree of toxicity (because of data gaps, some may be more toxic than currently known). I looked up all the Index listings for these herbicides and did not find documentation for BLM's conclusions about them; I did find some disclosure in portions of the text that there were data gaps, and some NEs ("not evaluated") in the Tables, but no analyses for inadequate or unavailable information, and these gaps are certainly not "made clear" as required by 40 CFR 1502.22 (see bottom of page 3 of these comments). Further, I could find no discussion, or even mention, of the Fletcher et al findings referenced by NCAP in their scoping comments; only a 1994 Literature Review is listed in the Reference section of the DEIS (one of the publications referenced by NCAP was a 1996 article). Those authors have serious concerns about this class of herbicides which needed discussion in the DEIS. This section of the DEIS (page 21) and also page 86, mention an incident in Idaho in which BLM spraying of one of this group of herbicides (stated as metsulfuron methyl on page 21 and as sulfometuron methyl on page 86 and in these comments on page 3, referring to the information on page 86 of the DEIS) damaged crops on surrounding lands by windblown dust carrying the herbicide. EPA's comments on the Draft PEIS noted that risk assessments in that document did not address incidents, and stated on pages 2 and 3, "It is clearly desirable to avoid off-target effects and the EIS should include a discussion of risks from incidents for this and other herbicides." The EPA comments, and perhaps those from others, are likely responsible for the disclosure of this incident in the DEIS (four lines on page 21 and 5 lines on page 86), but there still seems to be no inclusion in risk assessment; the paragraph mentioning the incident on page 86 begins, "Risk assessments test or model a range of plausible scenarios including spills and direct application on non-target organisms, but exposure beyond those modeled is possible" (nothing about including it). Page 21 disposes of the subject with "SOPs designed to prevent such an event are included in this EIS", and page 86 states, "Herbicides killing non-target plants would be the most common unplanned effect, herbicides are designed to kill plants." This was a "by-the-book aerial application," but now we are to be reassured that EPA's 2008 sulfometuron methyl Reregistration Eligibility Decision (RED) "includes application constraints designed specifically to avoid a repeat of the Idaho incident" with reference to another section (which turns out to be on page 91) that says EPA has not yet issued a decision. The proposals are to prohibit sulfometuron in counties with an annual rainfall of less than 10 inches, and use within 100 feet of water, and 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. Evidently BLM would not intend to adopt the prohibitions

until and unless EPA makes that decision, because the DEIS states, "A decision to adopt the proposed standards would particularly affect aulfometuron 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."

The lack of scientific and documented information in the DEIS extends to the very basis of the real need for invasive plant control, which arises from BLM's estimates of weed spread. According to a statement on page 423 of the DEIS, these estimates are not statistically valid: "Setting up a statewide series of randomly selected (but unmarked) plots soon, and then rechecking in five years or other selected interval, could provide a statistically valid estimate of weed spread time." (emphasis added) This situation needs to be discussed in the section "Inadequate and Unavailable Information", as well as every section of the DEIS (including Appendix 7) that address weed spread. Treatment acreage projections are based on spread rate estimates. Referring to Table 3-3 (Estimated Annual Treatment Acres)a statement on page 57 of the DEIS is applicable:

> The accuracy of estimates is limited by the uncertain nature of future invasive weed spread rates, and by uncertainties about future program funding and emphasis. ... The estimates are projected to apply for the next 10 to 20 years.

Another piece of information that needs to be included in all sections of the EIS that address weed spread is contained in a footnote on page 106 (see page 2 of these comments regarding footnotes and indexing), but is not listed under Spread Rate in the Index, is,

> "Infested" means anything from a single individual to a monocultures of noxious weeds , so the 1.2 million acres is gross acres. Radke and Davis' (2000) examination of 21 noxious weeds in Oregon (all ownerships) suggested a gross to net ratio of about 5:1. Adverse effects to various resources described within this chapter usually vary by the level of infestation. Nevertheless, adverse effects are proportional to the acres expected to become infested under each alternative.

Also, the estimated degree of herbicide control effectiveness shown in Tables A7-3, A7-4, A7-5, and A7-6 on pages 525-527 is not documented by reports of required effectiveness monitoring.

Submitted by Phyllis Cribby
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Portland, OR 97236

Phyllis Cribby

Enclosed are five additional pages of my comments on the Vegetation Treatments DEIS and a page 6 to replace the page 6 sent with the first 5 pages, which was incomplete. I am still trying to complete the comments.

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Portland, OR 97236

charles thomas
<wellbeing@jeffnet.org>

03/16/2010 06:24 PM

Please respond to wellbeing@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,

charles thomas

1052

Wolfgang Nebmaier
<conservancy@shakti-moon.com>

03/23/2010 02:10 PM

Please respond to conservancy@shakti-moon.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

OK, guys, this is a different letter,

in a number of previous discussion with BLM personnel, I have proposed the well-proven option of weed control, combined with fertilization of public land.

We are talking closely monitored goat herds. Free. Non-poisonous. Plus free fertilizer.

Of course, there may not be a "box" for this around here, but ion other states, is has been implemented successfully. And even your own people in Grants Pass, particularly Rachel Showalter, have shown interest in discussing this solution.

Goats LOVE poison oak, blackberries, and in return, they give us manure, and perhaps wool or even milk. But that's my reward for giving you a free weed controller.
Btw. There are a number of links that illustrate successful work along these lines, somewhere in the middle west.

Now back to the stock letter, almost:
Please consider THIS alternative 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 WORK WITH ME TO develop and implement a more balanced and thoughtful approach to noxious weeds.

Sincerely,

Wolfgang Nebmaier
541 951 4151

Wolfgang Nebmaier

NO KSW news lketters, please
,

Charlotte Nuessle
<livinginwellness@gmail.com
>

03/24/2010 11:10 AM

Please respond to livinginwellness@gmail.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,

Charlotte Nuessle