W.7.a.

Memorandum Date: November 8, 2006
Order Date: November 29, 2006

TO: Board of County Commissioners

DEPARTMENT: Public Works

PRESENTED BY: Orin Schumacher, Vegetation Management Coordinator

AGENDA ITEM TITLE: ORDER/IN THE MATTER OF APPOINTING THREE MEMBERS TO THE VEGETATION MANAGEMENT ADVISORY COMMITTEE (VMAC)

I. MOTION

Move approval of the Order appointing three members to each serve a four-year term beginning January 1, 2007 and ending December 31, 2010, on the Vegetation Management Advisory Committee (VMAC).

II. AGENDA ITEM SUMMARY

The Board is being asked to approve the recommendation of the VMAC and appoint new members to fill three (3) current vacancies on the Committee.

III. BACKGROUND / IMPLICATIONS OF ACTION

A. Board Action and Other History

The term expirations of Karen Bodner, Paul Clements, Ross Penhallegon, and John Sundquist as of 12/31/06 have created four (4) vacancies on the Committee; however, because John Sundquist was appointed on Aug. 30, 2006 to complete a term with an unexpired portion of less than six months, as per LM 3.506(2)(g), his appointment is for the unexpired portion of the term plus a full four-year term. A Notice of Vacancy was advertised from 9/8/06 to 10/9/06 in accordance with County policy, and a total of eight (8) applications were received.

Membership Positions:	9	**Current Vacancies:**	3
Total Applications Received:	8	**Term Commitment:**	4 Years
Commissioner Rep Mandated:	None		

Expired Terms: Karen Bodner, Paul Clements, Ross Penhallegon

Staff Liaison: Orin Schumacher, Vegetation Management Coordinator
Lane County Public Works – Engineering (682-6908)

COMMITTEE CHARGE: Acts as a forum for public input into the County's Integrated Vegetation Management (IVM) Program. Reviews vegetation management needs and related issues and makes recommendations to the Board of County Commissioners. Works with Public Works staff to establish vegetation management priorities in keeping with available management activities beyond the scope of routine maintenance. Reviews the Program standards and policies, including long-range planning for future Program needs and prepares recommendations for Board action as necessary. Serves as liaison group in representing the vegetation management concerns of the community to the Board and representing Board decisions to the community.

B. Policy Issues

The VMAC was originally intended to be a body representing a broad spectrum of opinions and needs related to vegetation management along County roadsides. Since the Committee's inception, the Board of Commissioners has regularly reiterated its desire to retain a "balanced" membership. "Balance" has at various times been characterized as balance in gender, geographic representation, and/or education/professional background. The one constant, though, was a desire on the Board's part to retain a balance on the Committee with respect to member's philosophy toward the use of chemicals as a vegetation control method. When making its most recent appointments several months ago, the Board again reiterated its desire to maintain balance on the Committee, and noted its agreement with asking additional questions of Committee applicants.

Articulation of what constitutes "balance" on the committee, and the mix of new members that will best further the goal of balance, is a policy choice to be made by the Board.

C. Board Goals

The County Strategic Plan, Part IV states in part that "Lane County Government exists to ensure the safety and well being of the people who live, work and visit our communities." Appointment of citizens to the VMAC is part of the County's effort to fulfill the stated goal of "providing opportunities for citizen participation in decision-making, voting, volunteerism and civic and community involvement."

D. Financial and/or Resource Considerations

There is no overriding financial or resource issues associated with these appointments. Members of the Committee are unpaid volunteers, although those who reside a significant distance from the monthly meeting locations are eligible for mileage reimbursement.

E. Analysis

The Committee reviewed and discussed the applications at their regularly- scheduled November 8, 2006 meeting. Copies are enclosed as Attachment A to this memo.

Applicants:		
	Fuehring, Dan	Stein, Dan
	LaRue, James	Sundquist, John
	Miglioretto, Debra	Williams, Kai
	Penhallegon, Ross	Wroncy, Jan

Following deliberation, the Committee voted to recommend Dan Fuehring, Jan Wroncy, and Debra Miglioretto to the Board as their choices respectively, to fill the three current vacancies.

F. Alternatives/Options

1. Accept the recommendation of the VMAC that Dan Fuering, Jan Wroncy, and Debra Miglioretto be appointed to each serve one of three vacant terms of 1/1/07 – 12/31/10.

2. Appoint one or more of the other applicants to the vacant positions.

3. Reject all applicants and direct staff to re-advertise the position.

V. TIMING / IMPLEMENTATION

Appointees will be informed of the Board's decision and invited to attend the VMAC's next regularly scheduled meeting on December 13, 2006.

VI. RECOMMENDATION

Appoint the three new members that will best provide the balance sought by the Board.

VII. FOLLOW-UP

Staff will prepare new member packets, which will be distributed to all new members at the first official meeting of their term on January 10, 2007.

VII. ATTACHMENTS

Attachment A - Applications & Supplemental Questions
Attachment B - Supplemental Questions-Current Members
Attachment C - Membership Roster
Board Order

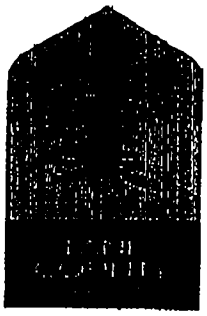
VMAC APPLICATIONS
SUBMITTED FOR CONSIDERATION – INTERNAL USE ONLY

(For December 2006 Vacancies)
Updated October 11, 2006

Applicant	[redacted]	Original Application Submission Date	Re-Submission Date	Supplement received	Commissioner District Residence	Previous Member	Total # of Term(s) Served	Date(s) of Term(s) Served
Fuehring, Dan	[redacted]	6/13/06	9/15/06	yes	South Eugene	No	NA	NA
LaRue, James	[redacted]	9/22/06	NA	yes	West	No	NA	NA
Miglioretto, Debra	[redacted]	9/20/06	NA	yes	West	No	NA	NA
Penhallegon, Ross	[redacted]	9/23/05	9/13/06	yes	Springfield	Yes	Current - 14 months	2003-2006 partial
Stein, Dan	[redacted]	10/9/06	NA	yes	West	No	NA	NA
Sundquist, John	[redacted]	9/23/05	9/13/06	yes	East	Yes	Current – 4 months Past - 10 months + 1 full term	2003-2006 partial; 2000-2004 full 1996-2000 partial,
Williams, Kai	[redacted]	6/15/06	9/15/06	yes	West	No	NA	NA
Wroncy, Jan	[redacted]	12/3/04	10/9/06	yes	West	Yes	Past - 2 consecutive full terms	1991 – 1994 full; 1995 – 1999 full

ATTACHMENT A
Applications & Supplemental Questions

ORIGINAL



Lane County
CITIZEN ADVISORY COMMITTEE

APPLICATION

(Fuehring)

APPLICANT'S NAME AND CITY: DAN FUEHRER, EUGENE	DATE: 6/13/2006
NAME OF ADVISORY COMMITTEE: VMAC	PLEASE CHECK ONE: ☒ New Applicant — Re-submit 9/15/06 ☐ Application for Reappointment

1. Give a brief description of the experience or training that qualifies you for membership on this advisory committee (If you wish, you may attach a resume or other pertinent material.)
   SEE ATTACHED
2. Why do you want to become a member of this committee, and what specific contributions do you hope to make?
3. List the community concerns related to this committee that you would like to see addressed if you are appointed.
4. Briefly describe your present or past involvement in relevant community groups. (Having no previous involvement will not disqualify you for appointment.)
5. Lane County is committed to reflecting diverse cultures on its boards/committees and does not discriminate against any person on the basis of gender, race, color, national origin, religion, disability, or age in employment or in admission, treatment, or participation in its programs, services, and activities. If selected, how would you contribute to this effort?
6. Are you currently serving on any Advisory Boards or Committees? If so, which ones?
7. Are you employed by, have any business, contractual arrangements or family connections with programs having contractual agreements with the County or that might be within the purview of the committee on which you are seeking appointment? (If there is a change in your circumstances, please advise the staff for the committee within 30 days.)
   ☒ No ☐ Yes Specify:
8. How did you learn about this vacancy? ☐ Newspaper ☒ Word of mouth ☐ Other:
9. In which County Commissioner District do you reside? please check one:
   ☐ Unsure ☐ West Lane County ☐ Springfield ☒ South Eugene ☐ North Eugene ☐ East Lane County

**The Board of Commissioners has adopted the following policy on reappointments:*

a. Members of County advisory groups will serve a maximum of two consecutive terms when term lengths are three or more years in length.

b. The deadline for incumbent applications will be the same as the deadline for new applications.

** Unless waived by the Board.*

RECEIVED
JUN 13 2006
LANE COUNTY PUBLIC WORKS
ENGINEERING DIVISION

ORIGINAL

Dan Fuehring
Citizen Advisory Committee Application

1. In my employment as Safety Specialist for Eugene Public schools, I have had a role in evaluating landscape management practices, evaluating the appropriateness of proposed pesticides for use, and communicating with other staff, parents, and public about these issues

   I have also served on the 4J School Closure Committee, as well as the Strategic Facilities Planning Advisory Committee or Eugene Schools.

2. County staff need to be able to do their jobs as efficiently as possible. The public needs to know that they are not being put at risk by practices and procedures used by County staff. In the end, there will be dissatisfied parties among both public and staff, but with enough input, information, and consideration, the committee should be able to develop workable practices with address most of the concerns raised.

3. I feel that the present committee has done a very admirable job in developing the road side vegetation management program, and I would like to participate in the evaluation of this program, and in the recommendation of possible changes that may need to be made.

   I have a deep and abiding belief in the wisdom and efficacy of Integrated Pest Management models.

4. I have chaired the Landscape Management Advisory Committee for Eugene Schools. The LMAC was a committee made up of disparate elements in the community with the task of developing policies around outdoor pesticides and herbicides which would address, as much as possible concerns from a broad spectrum of opinion found in this community.

   I have chaired a number of public hearings, and I have been the main contact, for the district, for members of the public to express concerns.

5. I am not a member of a minority group, but I do have a hearing deficiency. This does not effect my participation in meetings, however it increases my sensitivity for others with various disabilities, and "differences."

6. I am not currently sitting on any advisory boards.

Dan Fuehring
Application for Vegetation Management Committee

Questionnaire:

1. When the weight of scientific evidence indicates that it can be done without damage to the environment, people, or wildlife, and when other methods are determined to be unfeasible.
2. I would list financial cost third, behind safety (weight of scientific evidence, strong procedures) and property rights.
3. The negative would be the current cost of controlling roadside vegetation. The positive would be that the "jury" is still out, and the County will eventually arrive at a very refined, strong policy on roadside vegetation.
4. The control of roadside vegetation is extremely important because the County has a huge investment in its roads, and has the charge to maintain them at a safe level. There are fire issues, as well as "quality of life" issues for drivers using these roads.
5. Mechanical, Chemical, and the Biological/Cultural. I have limited understanding about how biological and cultural methods apply to County roadsides, but I am open to learning/experimentation.
6. Safety, Safety, and Safety. If chemicals are used, they need to have the lowest possible impact, approaching zero. The roads themselves also need to be maintained, and not allowing the vegetation along the roadsides to get out of control is a large piece of this.
7. I think that in some cases, herbicides CAN be used with safety. I do not know enough, yet about whether they SHOULD be used in all cases, but I also do not foreclose using chemicals, if I am satisfied that they can be used under safe conditions.

SEP 2 2006

Lane County
CITIZEN ADVISORY COMMITTEE

APPLICATION

APPLICANT'S NAME AND CITY:	DATE:
James L LaRue	9-19-06
NAME OF ADVISORY COMMITTEE:	**PLEASE CHECK ONE:**
VEGETATION MANAGEMENT ADVISORY COMMITTEE	☒ New Applicant ☐ Application for Reappointment

1. Give a brief description of the experience or training that qualifies you for membership on this advisory committee (If you wish, you may attach a resume or other pertinent material.) B.S. HORTICULTURE, OWNER NURSERY/LANDSCAPE CO. +23 YEARS, OWNER WHOLESALE NURSERY 6 YEARS, PEST DEALER/MANAGER LICENSE, PEST SAFETY-APPLIC COURSES
2. Why do you want to become a member of this committee, and what specific contributions do you hope to make? I HAVE KNOWLEDGE OF THE ISSUES AND METHODS OF VEGETATION MANAGEMENT CONTRIBUTIONS INCLUDE HELPING FORMULATE SOUND PROCEDURES FOR IVM, AND THE ABILITY TO CLEARLY COMMUNICATE TO THE PUBLIC.
3. List the community concerns related to this committee that you would like to see addressed if you are appointed.
   - ABILITY TO BALANE COST VS EFFECTIVENESS OF VARIOUS METHODS
   - PROPER EDUCATION OF PEOPLE WHO APPLY CHEMS OR OTHERWISE WORK IN WEED CONTROL
   - ENVIRONMENTAL IMPACTS OF EACH METHOD OF VEGETATION CONTROL CONTEMPL
4. Briefly describe your present or past involvement in relevant community groups. (Having no previous involvement will not disqualify you for appointment.) CURRENTLY INVOLVED WITH BOTH EUGENE AND SALEM FARMERS MARKETS. CHAIRMAN FOR CERTIFICATION COMMITTEE FOR WASH. ST NURSERY AND LANDSCAPE ASSOC. TAUGHT MASTER GARDNER CLASSES.
5. Lane County is committed to reflecting diverse cultures on its boards/committees and does not discriminate against any person on the basis of gender, race, color, national origin, religion, disability, or age in employment or in admission, treatment, or participation in its programs, services, and activities. If selected, how would you contribute to this effort? I HAVE TRAVELED THRUOUT THE WORLD AND AM FAMILIAR WITH MANY DIVERSE CULTURES. I HAVE EXPERIENCED FIRSTHAND HOW OTHER PEOPLE LIVE. I CURRENTLY HAVE A LATINO LIVING IN MY HOME.
6. Are you currently serving on any Advisory Boards or Committees? If so, which ones?

   NONE IN OREGON - NUMEROUS IN PAST IN WASHINGTON

7. Are you employed by, have any business, contractual arrangements or family connections with programs having contractual agreements with the County or that might be within the purview of the committee on which you are seeking appointment? (If there is a change in your circumstances, please advise the staff for the committee within 30 days.)

   ☒ No ☐ Yes Specify:

8. How did you learn about this vacancy? ☐ Newspaper ☒ Word of mouth ☐ Other:

9. In which County Commissioner District do you reside? please check one:

   ☐ Unsure ☒ West Lane County ☐ Springfield ☐ South Eugene ☐ North Eugene ☐ East Lane County

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b. The deadline for incumbent applications will be the same as the deadline for new applications.

** Unless waived by the Board.*

Applicant Name: Jim LaRue

Lane County
Department of Public Works
Vegetation Division

Vegetation Management Advisory Committee

The Vegetation Management Advisory Committee was designed to be an advisory committee, both to the Board of Commissioners and County staff involved in vegetation management. The Committee was intended to represent a broad base of opinion and interests regarding all aspects of vegetation management, including the use of herbicides as a management tool. In an effort to evaluate the current and future balance of the Committee, with regard to these many issues, the Board has directed staff to complete a questionnaire to evaluate the breadth of representation, and viewpoints of those on the Committee. Board members have further suggested that all future applicants will have this questionnaire included as part of the application process, in order to assist in maintaining both geographical and ideological balance on the Committee.

Supplemental Questionnaire:

1. **What would you consider as the wise use of herbicides for roadside vegetation management?**

WISE USE OF HERBICIDES COULD BE APPLIED TO AREAS WHERE OTHER METHODS ARE NOT EFFECTIVE OR TOO COST PROHIBITIVE - AS LONG AS THE HERBICIDE IS PROPERLY APPLIED

2. **How would you rank the financial cost of vegetation management activities, when selecting a method(s) of management?**

IN TIMES OF TIGHT BUDGETS IT IS VITAL TO SELECT ECONOMICAL METHODS OF VEGETATION CONTROL. REGARDLESS OF WHICH METHOD IS SELECTED - IS IT PROPERLY CARRIED OUT AND IS IT EFFICIENTLY MANAGED?

3. **What do you consider as the most negative and positive components, or tools of the current Lane County Integrated Vegetation management policy?**

AS I HAVE NOT YET SERVED ON THE COMMITTEE, I DO NOT HAVE A WORKING KNOWLEDGE OF YOUR CURRENT POLICY. I FEEL IT WOULD BE PREMATURE FOR ME TO COMMENT ON THE POLICY WITHOUT STUDYING IT FIRST.

4. **Do you consider efforts to control noxious weeds in Lane County rights-of-way as important, or insignificant?**
ELIMINATION OF NOXIOUS WEEDS ALONG RIGHTS-OF-WAY IS VERY IMPORTANT. THESE WEEDS CAN EASILY SPREAD TO FARM LANDS AND IN SOME INSTANCES OBSCURE SIGHT LINES FROM SIDE ROADS AND PRIVATE DRIVES.

5. **Listed below are the management tools that Lane County currently has the ability to utilize. In what order of priority would you place those tools as options for roadside vegetation management?** *(Please rank 1 thru 4, with 1 being your first choice)*

1 ***a. Mechanical methods***

4 ***b. Biological methods***

2 ***c. Cultural methods***

3 ***d. Chemical methods***

6. **What do you consider the most important factor when making recommendation(s) regarding roadside vegetation management within Lane County rights-of-way?**
THE MOST IMPORTANT FACTOR IS SAFETY - SAFETY TO THE CITIZENS OF LANE COUNTY, SAFETY TO THE APPLICATORS, AND SAFETY TO THE ENVIRONMENT.

7. **Do you believe that herbicides should be used as a tool in roadside vegetation management?**
YES - IN CERTAIN INSTANCES WHERE TOTAL ELIMINATION OF CERTAIN WEEDS IN CERTAIN AREAS IS VITAL AND OTHER METHODS ARE TOO EXPENSIVE OR NOT EFFECTIVE, THEN HERBICIDES MAY BE NECESSARY.

Lane County
CITIZEN ADVISORY COMMITTEE
APPLICATION

SEP 2 2006

APPLICANT'S NAME AND CITY: Debra Miglioretto, Cheshire	DATE: 09-9-06
NAME OF ADVISORY COMMITTEE: VMAC	PLEASE CHECK ONE: ☒ New Applicant ☐ Application for Reappointment

1. Give a brief description of the experience or training that qualifies you for membership on this advisory committee (If you wish, you may attach a resume or other pertinent material.) 14 year resident of Lane Co. Utility Employee / Tree Program Coordinator & ISA Certified Arborist. Property owner and Business owner.
2. Why do you want to become a member of this committee, and what specific contributions do you hope to make? Experience and interest in Agriculture, Aboriculture & Municipal Urban Forestry.
3. List the community concerns related to this committee that you would like to see addressed if you are appointed. Environmental Vegetation Management, techniques and practices that address maintenance needs and do not harm the environment & wildlife.
4. Briefly describe your present or past involvement in relevant community groups. (Having no previous involvement will not disqualify you for appointment.) Worked closely with Junction City, Harrisburg & Coburg Chambers of Commerce on open space projects and common projects to fund development.
5. Lane County is committed to reflecting diverse cultures on its boards/committees and does not discriminate against any person on the basis of gender, race, color, national origin, religion, disability, or age in employment or in admission, treatment, or participation in its programs, services, and activities. If selected, how would you contribute to this effort? By continuing to value Diversity of others and learn from them where beliefs or practices may differ.
6. Are you currently serving on any Advisory Boards or Committees? If so, which ones? No
7. Are you employed by, have any business, contractual arrangements or family connections with programs having contractual agreements with the County or that might be within the purview of the committee on which you are seeking appointment? (If there is a change in your circumstances, please advise the staff for the committee within 30 days.)
   ☒ No ☐ Yes Specify:
8. How did you learn about this vacancy? ☐ Newspaper ☐ Word of mouth ☒ Other: Web
9. In which County Commissioner District do you reside? please check one:
   ☐ Unsure ☒ West Lane County ☐ Springfield ☐ South Eugene ☐ North Eugene ☐ East Lane County

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** Unless waived by the Board.*

Applicant Name: Debra Migliorello

Lane County
Department of Public Works
Vegetation Division

Vegetation Management Advisory Committee

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Supplemental Questionnaire:

1. **What would you consider as the wise use of herbicides for roadside vegetation management?** For noxious weed control, however applications to be reviewed in areas of waterways, livestock or homan contact use areas

2. **How would you rank the financial cost of vegetation management activities, when selecting a method(s) of management?** If vegetation management is not maintained as an on-going Budget/Expense the results of neglect will end up costing more in the long run, For citizens & taxpayers, Initial expense investen will result in Lower maintanance costs in the future

3. **What do you consider as the most negative and positive components, or tools of the current Lane County Integrated Vegetation management policy?** I think the most effective tool is to promote environmental stewardship among citizens, I am not familiar enough with the policy to be aware of negative components other than the need to protect Landmark or historic trees along Roads

4. **Do you consider efforts to control noxious weeds in Lane County rights-of-way as important, or insignificant?** Very important – noxious weeds are resulting in great expense for cities, county & property owners to remove once established.

5. **Listed below are the management tools that Lane County currently has the ability to utilize. In what order of priority would you place those tools as options for roadside vegetation management?** *(Please rank 1 thru 4, with 1 being your first choice)*

   a. Mechanical methods (1)

   b. Biological methods (3)

   c. Cultural methods (2)

   d. Chemical methods (4)

6. **What do you consider the most important factor when making recommendation(s) regarding roadside vegetation management within Lane County rights-of-way?**

   Assessing property condition and existing vegetation

7. **Do you believe that herbicides should be used as a tool in roadside vegetation management?**

   Yes

LANE COUNTY OREGON

Lane County
CITIZEN ADVISORY COMMITTEE
APPLICATION

APPLICANT'S NAME AND CITY: Ross Penhallegon Eug Springfield	DATE: 9-23-2005
NAME OF ADVISORY COMMITTEE: Veg Mng Adv Committee	PLEASE CHECK ONE: ☒ New Applicant ☐ Application for Reappointment

1. Give a brief description of the experience or training that qualifies you for membership on this advisory committee (If you wish, you may attach a resume or other pertinent material.)

   41 yrs – agriculture Expert – weed control methods

2. Why do you want to become a member of this committee, and what specific contributions do you hope to make?

   Technical information

3. List the community concerns related to this committee that you would like to see addressed if you are appointed.

   Proper vegetative management + economic evaluation along Co. roads

4. Briefly describe your present or past involvement in relevant community groups. (Having no previous involvement will not disqualify you for appointment.)

   Over 30 advisory committees. FSA, Region 2050, LCC Farm Bus, Lane Co Ext adv., Benton Co Ext adv.

5. Lane County is committed to reflecting diverse cultures on its boards/committees and does not discriminate against any person on the basis of gender, race, color, national origin, religion, disability, or age in employment or in admission, treatment, or participation in its programs, services, and activities. If selected, how would you contribute to this effort?

   I do not discriminate + diversity is good

6. Are you currently serving on any Advisory Boards or Committees? If so, which ones?

   See 4

7. Are you employed by, have any business, contractual arrangements or family connections with programs having contractual agreements with the County or that might be within the purview of the committee on which you are seeking appointment? (If there is a change in your circumstances, please advise the staff for the committee within 30 days.)

   ☒ No ☐ Yes Specify:

8. How did you learn about this vacancy? ☐ Newspaper ☒ Word of mouth ☐ Other:

9. In which County Commissioner District do you reside? please check one:

   ☐ Unsure ☐ West Lane County ☒ Springfield ☐ South Eugene ☐ North Eugene ☐ East Lane County

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** Unless waived by the Board.*

I would like to apply for the 1yr position.

Applicant Name: Ross Pentzlager

Lane County
Department of Public Works
Vegetation Division

Vegetation Management Advisory Committee

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Supplemental Questionnaire:

1. **What would you consider as the wise use of herbicides for roadside vegetation management?**

Any herbicide applied at proper rate, proper conditions and the right condition. When needed + other options have not worked.

2. **How would you rank the financial cost of vegetation management activities, when selecting a method(s) of management?**

1 - Safety - public
2. financial

3. **What do you consider as the most negative and positive components, or tools of the current Lane County Integrated Vegetation management policy?**

- Lack of good methods to effective control noxious + invasive weeds. Millions of dollars worth of roads are being impacted. The methods need to allow ALL methods of control to be able to evaluate each method to appropriateness. (cont'd)

(#3 cont)

- Are policies being influenced by "emotion" or by research & facts?

+ The current water board has done an excellent job of looking at ALL options methods to assist with weed controls. ALL options need to be used; as decreases $ our investment in county roads are impacted; and county land and property being impacted by invasive weeds, good methods need to be available

Rose Parkdale

4. **Do you consider efforts to control noxious weeds in Lane County rights-of-way as important, or Insignificant?**

Significant!

Invasives are moving onto private land + vice versa ie - Harlow Road + knapweed.

5. **Listed below are the management tools that Lane County currently has the ability to utilize. In what order of priority would you place those tools as options for roadside vegetation management?** *(Please rank 1 thru 4, with 1 being your first choice)*

1 *a. Mechanical methods*

b. Biological methods

c. Cultural methods

3 - good certain times, certain places

2 *d. Chemical methods*

6. **What do you consider the most important factor when making recommendation(s) regarding roadside vegetation management within Lane County rights-of-way?**

Public safety
Cost to county residents

7. **Do you believe that herbicides should be used as a tool in roadside vegetation management?**

Herbicides are part of the integrated management plan

Lane County
CITIZEN ADVISORY COMMITTEE
APPLICATION

OCT [illegible] 6

APPLICANT'S NAME AND CITY: Dan Stein Eugene, OR	DATE: 10/9/06
NAME OF ADVISORY COMMITTEE: Vegetation Mgmt Advisory Committee	PLEASE CHECK ONE: ☒ New Applicant ☐ Application for Reappointment

1. Give a brief description of the experience or training that qualifies you for membership on this advisory committee (If you wish, you may attach a resume or other pertinent material.) MS in Agriculture
10+ years experience with IPM

2. Why do you want to become a member of this committee, and what specific contributions do you hope to make?
I want to see vegetation mgmt done firmly within an IPM context

3. List the community concerns related to this committee that you would like to see addressed if you are appointed.
- Use of herbicides as a last resort.
- Protection of watersheds.
- Traffic safety.

4. Briefly describe your present or past involvement in relevant community groups. (Having no previous involvement will not disqualify you for appointment.) None.

5. Lane County is committed to reflecting diverse cultures on its boards/committees and does not discriminate against any person on the basis of gender, race, color, national origin, religion, disability, or age in employment or in admission, treatment, or participation in its programs, services, and activities. If selected, how would you contribute to this effort?
I am respectful to people of all kinds.

6. Are you currently serving on any Advisory Boards or Committees? If so, which ones?
NO

7. Are you employed by, have any business, contractual arrangements or family connections with programs having contractual agreements with the County or that might be within the purview of the committee on which you are seeking appointment? (If there is a change in your circumstances, please advise the staff for the committee within 30 days.)
☐ No ☒ Yes Specify:

8. How did you learn about this vacancy? ☐ Newspaper ☒ Word of mouth ☐ Other:

9. In which County Commissioner District do you reside? please check one:
☒ Unsure ☐ West Lane County ☐ Springfield ☐ South Eugene ☐ North Eugene ☐ East Lane County

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Applicant Name: DAN STEIN

Lane County
Department of Public Works
Vegetation Division

OCT [illegible] 2006

Vegetation Management Advisory Committee

The Vegetation Management Advisory Committee was designed to be an advisory committee, both to the Board of Commissioners and County staff involved in vegetation management. The Committee was intended to represent a broad base of opinion and interests regarding all aspects of vegetation management, including the use of herbicides as a management tool. In an effort to evaluate the current and future balance of the Committee, with regard to these many issues, the Board has directed staff to complete a questionnaire to evaluate the breadth of representation, and viewpoints of those on the Committee. Board members have further suggested that all future applicants will have this questionnaire included as part of the application process, in order to assist in maintaining both geographical and ideological balance on the Committee.

Supplemental Questionnaire:

1. What would you consider as the wise use of herbicides for roadside vegetation management?

Herbicides should be used as a last resort when safety + noxious weed control cannot be economically maintained otherwise.

2. How would you rank the financial cost of vegetation management activities, when selecting a method(s) of management?

It is essential to consider it, but decisions should not be made solely on cost.

3. What do you consider as the most negative and positive components, or tools of the current Lane County Integrated Vegetation management policy?

I am not familiar enough with it to say.

4. **Do you consider efforts to control noxious weeds in Lane County rights-of-way as important, or insignificant?**

Very important.

5. **Listed below are the management tools that Lane County currently has the ability to utilize. In what order of priority would you place those tools as options for roadside vegetation management?** *(Please rank 1 thru 4, with 1 being your first choice)*

(2) ***a. Mechanical methods***

(4)? ***b. Biological methods***

(1) ***c. Cultural methods***

(3) ***d. Chemical methods***

6. **What do you consider the most important factor when making recommendation(s) regarding roadside vegetation management within Lane County rights-of-way?**

Traffic safety.

7. **Do you believe that herbicides should be used as a tool in roadside vegetation management?**

There is Yes.

SEP 23 RECD -2005

Lane County
CITIZEN ADVISORY COMMITTEE
APPLICATION

APPLICANT'S NAME AND CITY: John B. Sundquist, Coburg	DATE: 9/16/05
NAME OF ADVISORY COMMITTEE: VMAC	PLEASE CHECK ONE: ☑ New Applicant ☐ Application for Reappointment

1. Give a brief description of the experience or training that qualifies you for membership on this advisory committee (If you wish, you may attach a resume or other pertinent material.) Previously a VMAC member from 1996–2000. Currently attend many meetings, work w/ BCC, and staff and public on V.M. matters. Have researched & written extensively on V.M.
2. Why do you want to become a member of this committee, and what specific contributions do you hope to make? I want to continue to increase the safety and beauty of roads and roadsides, increasing the health of our children, rivers, and future.
3. List the community concerns related to this committee that you would like to see addressed if you are appointed.
① Address concerns of grass-seed farmers raising certified crops about non-certified cross-pollinating grass varieties in the ROW by their fields. County should assist farmers by planting non-crossing ... bac
4. Briefly describe your present or past involvement in relevant community groups. (Having no previous involvement will not disqualify you for appointment.) VMAC 1996–2000, never missed a meeting. Co-wrote "VM Conflict Resolutions" manual. Director and
5. Lane County is committed to reflecting diverse cultures on its boards/committees and does not discriminate against any person on the basis of gender, race, color, national origin, religion, disability, or age in employment or in admission, treatment, or participation in its programs, services, and activities. If selected, how would you contribute to this effort? 3-10% of Lane County's population is genetically susceptible to lifelong damage from exposure to toxic substance
6. Are you currently serving on any Advisory Boards or Committees? If so, which ones?

no.

7. Are you employed by, have any business, contractual arrangements or family connections with programs having contractual agreements with the County or that might be within the purview of the committee on which you are seeking appointment? (If there is a change in your circumstances, please advise the staff for the committee within 30 days.)

☑ No ☐ Yes Specify:

8. How did you learn about this vacancy? ☐ Newspaper ☑ Word of mouth ☑ Other: VMAC meetings

9. In which County Commissioner District do you reside? please check one:

☐ Unsure ☐ West Lane County ☐ Springfield ☐ South Eugene ☐ North Eugene ☑ East Lane County

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b. The deadline for incumbent applications will be the same as the deadline for new applications.

** Unless waived by the Board.*

→ 3. ① low growing ground covers of native plants, creeping Fescues and clovers, as is done in other counties

② Encourage citizen groups and school children to assist in locating and mapping invasive/noxious weed infestations.

③ Encourage same groups to assist in weeding out invasives and establishing and maintaining natives and low-maintenance ground covers. (Adopt-A-Road for UNN.)

→ 4. vice-president of Save Our Valley (S.O.V.), supporting coordinated planning principles ~~and opposed~~ for siting power plants in OR. SOV opposed unnecessary & polluting plants.

→ 5. including pestivides. Children are especially vulnerable. I would act to protect this section of the population.

~~Aug 30~~ John Sundquist

Lane County
Department of Public Works
Vegetation Division

Vegetation Management Advisory Committee

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Questionnaire:

1. **What would you consider as the wise use of herbicides for roadside vegetation management?**

   Least toxic, last resort

2. **How would you rank the financial cost of vegetation management activities, when selecting a method(s) of management?**

   ① Safety first
   ② Long term financial
   ③ Short " "

3. **What do you consider as the most negative and positive components, or tools of the current Lane County Integrated Vegetation management policy?**

Negative — The difficulty of staff embracing the Last Resort Policy.

Positive — orin as VMC

4. **Do you consider efforts to control noxious weeds in Lane County rights-of-way as important, or insignificant?**

extremely important

5. **Listed below are the management tools that Lane County currently has the ability utilize. In what order of priority would you place those tools as options for roadside vegetation management?** *(Please rank 1 thru 4)*

2 ***a. Mechanical methods***

3 ***b. Biological methods*** } establish low-maint turf swales

1 ***c. Cultural methods***

4 ***d. Chemical methods*** last resort — most noxious identified & attacked.

6. **What do you consider the most important factor when making a recommendations regarding roadside vegetation management within Lane County rights-of-way?**

Safety

7. **Do you believe that herbicides should be used as a tool in roadside vegetation management?**

yes, have said so (& written) in public many times.

Lane County
CITIZEN ADVISORY COMMITTEE

APPLICATION

APPLICANT'S NAME AND CITY:	DATE:
Kai Williams Eugene	6-1-06
NAME OF ADVISORY COMMITTEE:	PLEASE CHECK ONE:
Vegetation Managent Advisory Committee	☒ New Applicant – Re-Submit 9/15/06 ☐ Application for Reappointment

1. Give a brief description of the experience or training that qualifies you for membership on this advisory committee (If you wish, you may attach a resume or other pertinent material.)
two terms intensive field training in Natural Resource Mangent - 1 in NW + 1 in Australia
extensive knowledge of native and invasive plants
2. Why do you want to become a member of this committee, and what specific contributions do you hope to make?
I have a strong interest in natural resource management. This will help me exercise my skills and learn more.
3. List the community concerns related to this committee that you would like to see addressed if you are appointed.
Control of invasive species, appropriate pesticide application, public education and awarness as to vegetation management practices, roadside plantings appropriate to microregion
4. Briefly describe your present or past involvement in relevant community groups. (Having no previous involvement will not disqualify you for appointment.) None in this area [Lane County].
Worked on team in British Columbia to recommend uses for a community forest.
5. Lane County is committed to reflecting diverse cultures on its boards/committees and does not discriminate against any person on the basis of gender, race, color, national origin, religion, disability, or age in employment or in admission, treatment, or participation in its programs, services, and activities. If selected, how would you contribute to this effort? Ability to work with and respect others regardless of age, culture, abilities, gender, etcetera. Ability to understand cultural needs in land use.
6. Are you currently serving on any Advisory Boards or Committees? If so, which ones?
No
7. Are you employed by, have any business, contractual arrangements or family connections with programs having contractual agreements with the County or that might be within the purview of the committee on which you are seeking appointment? (If there is a change in your circumstances, please advise the staff for the committee within 30 days.)
☒ No ☐ Yes Specify:
8. How did you learn about this vacancy? ☐ Newspaper ☐ Word of mouth ☒ Other: email
9. In which County Commissioner District do you reside? please check one:
☐ Unsure ☐ West Lane County ☐ Springfield ☐ South Eugene ☐ North Eugene ☐ East Lane County

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b. The deadline for incumbent applications will be the same as the deadline for new applications.

** Unless waived by the Board.*

RECEIVED
JUN 16 2006
LANE COUNTY PUBLIC WORKS
ENGINEERING DIVISION

1. What would you consider as wise use of herbicides for roadside vegetation management?

Wise use of herbicides is to use the least amount of herbicides possible and to use the most innocuous herbicides available.

2. How would you rank the financial cost of vegetation management activities, when selecting a method(s) of management?

Envi*ronmental health is a more important factor in choosing a management style than financial cost. It is important to stay within budget, but the cost to human health needs to be factored in.*

3. What do you consider as the most negative and positive components, or tools of the current Lane County Integrated Vegetation management policy?

I have not yet read the complete Lane County management policy. From what I have read and know from others I consider that the policy looks at vegetation on an ecosystem or community level to be the most positive component. At this time I cannot state my opinion on the most negative tool or component to the policy.

4. Do you consider efforts to control noxious weeds in Lane County rights-of-way as important, or insignificant?

I consider controlling noxious weeds important, but at this time I cannot rank its value next to other priorities of the Lane County Integrated Vegetation management policy.

5. Ranking of methods

1. *c. cultural methods*
2. *b. biological methods*
3. *a. mechanical methods*
4. *d. chemical methods*

6. What do you consider the most important factor when making recommendations(s) regarding roadside vegetation management within Lane County rights-of-way?

I consider human and environmental health to be the most important factors to consider in making recommendations.

7. Do you believe that herbicides should be used as a tool in roadside vegetation management?

I believe herbicides should be used in specific circumstances as a last resort.

Lane County
CITIZEN ADVISORY COMMITTEE

APPLICATION

APPLICANT'S NAME AND CITY:	DATE:
JAN WRONCY, BLACHLY	OCT. 9, 2006
NAME OF ADVISORY COMMITTEE: VEGETATION MANAGEMENT (VMAC)	PLEASE CHECK ONE: ☐ New Applicant ☒ Application for Reappointment

1. Give a brief description of the experience or training that qualifies you for membership on this advisory committee (If you wish, you may attach a resume or other pertinent material.)

   PLEASE SEE ATTACHED SHEET

2. Why do you want to become a member of this committee, and what specific contributions do you hope to make?

   SEE ATTACHED SHEET

3. List the community concerns related to this committee that you would like to see addressed if you are appointed.

   SEE ATTACHED SHEET

4. Briefly describe your present or past involvement in relevant community groups. (Having no previous involvement will not disqualify you for appointment.)

   SEE ATTACHED SHEET

5. Lane County is committed to reflecting diverse cultures on its boards/committees and does not discriminate against any person on the basis of gender, race, color, national origin, religion, disability, or age in employment or in admission, treatment, or participation in its programs, services, and activities. If selected, how would you contribute to this effort?

   SEE ATTACHED SHEET

6. Are you currently serving on any Advisory Boards or Committees? If so, which ones?

   NO

7. Are you employed by, have any business, contractual arrangements or family connections with programs having contractual agreements with the County or that might be within the purview of the committee on which you are seeking appointment? (If there is a change in your circumstances, please advise the staff for the committee within 30 days.)

   ☒ No ☐ Yes Specify:

8. How did you learn about this vacancy? ☐ Newspaper ☒ Word of mouth ☒ Other: L.C. WEBSITE

9. In which County Commissioner District do you reside? please check one:

   ☐ Unsure ☒ West Lane County ☐ Springfield ☐ South Eugene ☐ North Eugene ☐ East Lane County

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** Unless waived by the Board.*

Jan Wroncy's
Application for Vegetation Management Advisory Committee Member

1. Experience:

I have previously served 2 consecutive terms on the VMAC committee (8 years from 1990-1999). Additionally, I have conducted Organic farming for well over 25 years here in Lane County. Previously I worked in various scientific research positions at Scripps Institute of Oceanography, the University of California at San Diego (UCSD), and at the University of Oregon.

At Scripps Institute of Oceanography I assisted Dr. T. J. Chow with Lead Pollution Research which showed that the lead in the atmosphere was coming from lead additive in gasoline, and eventually led to the ban on leaded gasoline. At UCSD, I assisted Dr. Gustaf Arrhenius with research on meteorites. I moved to Oregon in 1967 to work with Dr. Gordon Goles setting up the laboratory to analyze the lunar samples. Later I took a research position with Dr. George Carroll assisting with analysis of samples for the study of Nitrogen Cycling in the Old Growth Douglas Fir Canopy in the Andrews Experimental Forest in Blue River, Oregon.

I have continued to do independent research in various scientific fields, and in medical studies.

2. Specific Contribution:

I would like to rejoin the VMAC committee to offer my expertise in finding viable non-chemical alternatives for vegetation management, and to help assure that the Spray-at-Last-Resort Policy is successful.

3. Community Concerns:

I believe that I can help explain the concerns of organic farmers, environmentally concerned citizens, and chemically sensitive individuals, and that I can suggest ways to address those concerns in meaningful ways to Lane County Public Works for vegetation management programs.

4. Involvement with relevant community groups:

I have previously served on the Board of Directors of Oregon Tilth, as well as on several committees for Oregon Tilth, a certifier of organic farms.

5. Contributions to diverse cultures and non-discrimination:

I would be communicating concerns of women, and chemically sensitive individuals which would help provide balance to the VMAC committee, and preserve the commitment of the Board to reflect diverse cultures and to prevent discrimination.

10-9-06

Jan Wroncy

Applicant Name: JAN WRONCY

Lane County
Department of Public Works
Vegetation Division

Vegetation Management Advisory Committee

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Supplemental Questionnaire:

1. What would you consider as the wise use of herbicides for roadside vegetation management?

SEE ATTACHED SHEET

2. How would you rank the financial cost of vegetation management activities, when selecting a method(s) of management?

SEE ATTACHED SHEET

3. What do you consider as the most negative and positive components, or tools of the current Lane County Integrated Vegetation management policy?

SEE ATTACHED SHEET

4. **Do you consider efforts to control noxious weeds in Lane County rights-of-way as important, or insignificant?**

SEE ATTACHED SHEET

5. **Listed below are the management tools that Lane County currently has the ability to utilize. In what order of priority would you place those tools as options for roadside vegetation management?** *(Please rank 1 thru 4, with 1 being your first choice)*

   a. Mechanical methods 1

   b. Biological methods 3

   c. Cultural methods 2

   d. Chemical methods 4

6. What do you consider the most important factor when making recommendation(s) regarding roadside vegetation management within Lane County rights-of-way?

SEE ATTACHED SHEET

7. **Do you believe that herbicides should be used as a tool in roadside vegetation management?**

SEE ATTACHED SHEET

Attachment to VMAC Questionare for Jan Wroncy:

1. After carefully evaluating the environmental risks and health risks of herbicides, I personally can not imagine any wise use of herbicides for roadside vegetation management on public roadways, however, because I am offering my services, and expertise to Lane County in an effort to propose, research, and evaluate alternative non-chemical means to manage vegetation, and because the VMAC committee does not require consensus to carry out its duties, I feel I can still be a valuable member on this committee.
2. I would rank the financial cost as important; but not as important as safety, health and the environment costs.
3. The most positive component of the current IVM policy is mechanical, manual, cultural, and biological maintenance of sight distance; the most negative is use of chemicals which spread into the environment.
4. Control of noxious weeds in Lane County rights-of-way is important, especially when done using non-chemical means and in coordination with adjacent property owners.
5. a. mechanical methods = #1
   b. biological methods = #3
   c. cultural methods = #2
   d. chemical methods = #4

6. Safety and health of people using and adjacent to the road
7. Same as #1 above

Jan Wroncy

ATTACHMENT B
Supplemental Questions – Current Members

Karen Wauer

Lane County
Department of Public Works
Vegetation Division

<u>Vegetation Management Advisory Committee</u>

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<u>Questionnaire</u>:

1. What would you consider as the wise use of herbicides for roadside vegetation management?

1. Containment or elimination of noxious weeds adversely effecting road safety or having negative impact on economic and agricultural efforts
2. Protection and enhancement of native species both plants and animals
3. Road construction/improvement preparation
4. Visible enhance of roadside
5. Use most effective herbicide as last resort with least amount of product possible

2. How would you rank the financial cost of vegetation management activities, when selecting a method(s) of management?

Most effective, least toxic & least cost

3. What do you consider as the most negative and positive components, or tools of the current Lane County Integrated Vegetation management policy?

The many positive components and tools of the IVM policy are the efforts made by PW management, specifically in the IVM division to listen to public concerns and the hard work they have put into obtaining a balance between keeping our roads safe with public concern for herbicide use. Their policy over the past 8 years that I have witnessed was always herbicides as last resort...it just wasn't a visible process. The LRP provides that commitment and visibility. Our Lane Co. IVM personnel are also some of the best trained in the country and becoming a County other counties look to for ideas. The negative component is that we don't have sufficient funds to aggressively pursue elimination of noxious weeds to the point where we can eliminate herbicides altogether...none of us will live that long.

4. **Do you consider efforts to control noxious weeds in Lane County rights-of-way as important, or insignificant?**

Very important for many reasons: 1) Adverse effect on native plants and animal species; 2) economic costs to farmers and other agricultural efforts; 3) lots of cars travel our highways; noxious weeds in ROW prone to "hitchhike" on those vehicles; 4) road integrity and safety; 5) neat looking roadsides are a sense of pride to any county

5. **Listed below are the management tools that Lane County currently has the ability utilize. In what order of priority would you place those tools as options for roadside vegetation management?** *(Please rank 1 thru 4)*

a. Mechanical methods (2) in some cases used as a prerequisite to cultural methods or herbicide use (e.g. stump spray)

b. Biological methods (3) is really the most desirable method, but at this point the least available due to lack of definitive research

c. Cultural methods (1) in some cases may be the final method practical but would be a goal

d. Chemical methods (4) always the least desirable, but sometimes the quickest and most effective way to get to a final more natural goal

6. **What do you consider the most important factor when making a recommendations regarding roadside vegetation management within Lane County rights-of-way?**

The most important factor overall is what will be the most effective, most economical tool for the situation at hand. Safety is an inherent practice in the IVM program and BMP's, so it would go without saying, except that I just said it.

7. **Do you believe that herbicides should be used as a tool in roadside vegetation management?**

I do indeed believe that (unfortunately) herbicides are a necessary and important tool in PW's arsenal against very aggressive combatants. I am optimistic, however, that with time and a bite-at-a-time out of the "elephant" we can get a handle on noxious weeds. Public education and involvement will go a long way towards hastening that position.

Paul Clements

Lane County
Department of Public Works
Vegetation Division

Vegetation Management Advisory Committee

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Questionnaire:

1. **What would you consider as the wise use of herbicides for roadside vegetation management?**

   HERBICIDES ARE A PRACTICAL AND EFFECTIVE MEANS OF CONTROL OF INVASIVE, NON-NATIVE NUISANCE VEGETATION THAT IS OFTEN NOT SUBJECT TO ALTERNATIVE CONTROL METHODS ON THE SCALE AT WHICH LANE COUNTY OPERATES

2. **How would you rank the financial cost of vegetation management activities, when selecting a method(s) of management?**

   FINANCIAL "COST" IS IMPORTANT TO QUANTIFY AND UNDERSTAND. CURRENT PROGRAM ALSO RESPONDS TO SOCIAL AND POLITICAL COSTS AS WELL. AT PRESENT I AM UNAWARE OF SIGNIFICANT COSTS ASSOCIATED WITH CONSTRAINTS (OTHER THAN SCALE OF PRODUCTION) ON CHEMICAL USE, THE COSTS SHOULD BE QUANTIFIED IN ANY TREATMENT REGIMEN.

3. **What do you consider as the most negative and positive components, or tools of the current Lane County Integrated Vegetation management policy?**

   THE MOST POSITIVE: A) APPARENT UNDERSTANDING, ACCEPTANCE AND SUPPORT OF COUNTY STAFF
   B) G.I.S. TRACKING LEVEL OF PRECISION IN REPORTING ACTIVITIES.

   MOST NEGATIVE: POSSIBLE UNFORSEEN CONSEQUENCES OF REDUCED LEVEL OF TREATMENT DUE TO CONSTRAINTS
   SAFETY ISSUES PRIVATE CITIZEN ACTION

4. **Do you consider efforts to control noxious weeds in Lane County rights-of-way as important, or insignificant?**

IMPORTANT

5. **Listed below are the management tools that Lane County currently has the ability to utilize. In what order of priority would you place those tools as options for roadside vegetation management?** *(Please rank 1 thru 4, with 1 being your first choice)*

2 ***a. Mechanical methods***

3 ***b. Biological methods***

1 ***c. Cultural methods***

4 ***d. Chemical methods***

e.

HOW DOES THIS QUESTION COMPARE TO LEGAL REQUIREMENTS FOR USE OF HERBICIDES AS A "LAST RESORT"; A MOOT POINT, PERHAPS?

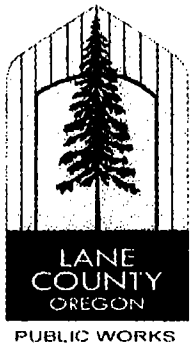
6. **What do you consider the most important factor when making recommendation(s) regarding roadside vegetation management within Lane County rights-of-way?**

PROVISIONS FOR PUBLIC SAFETY

7. **Do you believe that herbicides should be used as a tool in roadside vegetation management?**

YES

PETER GRAHAM



Lane County
Department of Public Works
Vegetation Division

Vegetation Management Advisory Committee

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Questionnaire:

1. **What would you consider as the wise use of herbicides for roadside vegetation management?**

WHEN ALL OTHER METHODS HAVE BEEN EXHAUSTED, DEEMED IMPRACTICAL & NEW RESEARCH SUPPORTS SAFE USE (OF HERBICID

2. **How would you rank the financial cost of vegetation management activities, when selecting a method(s) of management?**

AS A NEW MEMBER, I FEEL UNQUALIFIED TO ANSWER THIS. I HOPE I WILL ACQUIRE MORE INFORMATION DURING MY TENURE AS A MEMBER OF VMAC.

3. **What do you consider as the most negative and positive components, or tools of the current Lane County Integrated Vegetation management policy?**

AS A CASUAL OBSERVER - I SEE EVIDENCE OF GOOD MANAGEMENT, AS WELL - HOW SHOULD I PUT IT - "OVER-EAGER" APPLICATION OF MECHANICAL CONTROL METHODS.

4. **Do you consider efforts to control noxious weeds in Lane County rights-of-way as important, or insignificant?**

FAIRLY IMPORTANT
ALL WEEDS "ARE NOT CREATED EQUAL"

5. **Listed below are the management tools that Lane County currently has the ability utilize. In what order of priority would you place those tools as options for roadside vegetation management?** *(Please rank 1 thru 4)*

a. Mechanical methods

b. Biological methods

c. Cultural methods

d. Chemical methods

I NEED MORE DATA TO ANSWER THIS FAIRLY & INTELLIGENTLY

6. **What do you consider the most important factor when making a recommendations regarding roadside vegetation management within Lane County rights-of-way?**

HEALTH & SAFETY CRITERIA NOT NECESSARILY DRIVEN OR DETERMINED BY "STATE STANDARDS"

7. **Do you believe that herbicides should be used as a tool in roadside vegetation management?**

WHEN ALL OTHER METHODS ARE EXHAUSTED. (SEE QUESTION #1)

Mike Kovsula

LANE COUNTY OREGON PUBLIC WORKS

Lane County
Department of Public Works
Vegetation Division

Vegetation Management Advisory Committee

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Questionnaire:

1. **What would you consider as the wise use of herbicides for roadside vegetation management?**

SEE ANSWER FOR #7

REDUNDANT

2. **How would you rank the financial cost of vegetation management activities, when selecting a method(s) of management?**

CLOSELY FOLLOWING PRIMARY GOAL OF MAKING RIGHT OF WAY SAFE FOR PUBLIC,

3. **What do you consider as the most negative and positive components, or tools of the current Lane County Integrated Vegetation management policy?**

SEE ANSWER FOR #5

REDUNDANT

4. **Do you consider efforts to control noxious weeds in Lane County rights-of-way as important, or insignificant?**

IMPORTANT, BUT BELOW PUBLIC SAFETY NEEDS

5. **Listed below are the management tools that Lane County currently has the ability utilize. In what order of priority would you place those tools as options for roadside vegetation management?** *(Please rank 1 thru 4)*

a. Mechanical methods 2

b. Biological methods 3

c. Cultural methods 1

d. Chemical methods 4

6. What do you consider the most important factor when making a recommendations regarding roadside vegetation management within Lane County rights-of-way?

HOW DOES THE METHOD PROPOSED INCREASE SAFETY FOR RIGHT OF WAY USERS, BALANCED CLOSELY WITH NEGATIVE ASPECTS OF METHOD. COSTS, ENVIRONMENTAL DAMAGE, ESTHETICS, PUBLIC PERCEPTION.

7. **Do you believe that herbicides should be used as a tool in roadside vegetation management?**

YES, WHEN USED ON AGRESSIVE NOXIOUS WEEDS ONLY & WHILE USED IN THE MOST RESPONSIBLE MANNER. IN ADDITION THE HERBICIDE USED SHOULD BE THE LEAST ENVIRONMENTALLY TOXIC VARIETY & USED AS A LAST RESORT ACCORDING TO IPM & LAST RESORT POLICY GUIDELINES.

VMAC QUESTIONNAIRE

Respondent: Chris Melotti
11 October, 2006

1. What would you consider as the wise use of herbicides for roadside vegetation management?

I consider the "wise use" of herbicides for roadside vegetation management to be those practices which are consistent with Lane County's "spray as a last resort" ordinance.

2. How would you rank the financial cost of vegetation management activities, when selecting a method(s) of management?

VMAC has extensively discussed the financial cost and other "external costs" of different vegetation management activities. I would personally advocate that all vegetation management activities adhere to the "last resort ordinance" and that costs be controlled by being proactive (e.g. with invasive weeds) and partnering with other agencies and private entities.

3. What do you consider as the most negative and positive components or tools of the current Lane County Integrated Vegetation management policy?

I consider the open citizen involvement the most positive component of the current Lane County vegetation management policy. The current IVM coordinator, Orin Schumacher, has done and continues to do, an outstanding job of interaction and education with the public. The Vegetation Management Advisory Committee (VMAC) is another vital component of active public participation and support for the IVM program.

As for the most negative component or tool of the current IVM policy, I would point to the County's refusal to deal with private citizens' use of herbicides (outside the scope of the last resort ordinance) within the County's rights of way.

4. Do you consider efforts to control noxious weeds in Lane County rights of way as important or insignificant?

I consider the control of noxious weeds within Lane County's rights of way to be of paramount importance.

5. Listed below are the management tools that Lane County currently has the ability {to} utilize. In what order of priority would you place those tools as options for roadside vegetation management. (Please rank 1 thru 4).

a. Mechanical methods - 1
b. Biological methods - 1
c. Cultural methods - 1
d. Chemical methods - 2

This question over-generalizes this topic. With the last resort ordinance, and the current species specific management matrix developed by the IVM coordinator, Lane County is poised to fully implement all the above methods to manage vegetation along its road system.

6. What do you consider the most important factor when making a recommendation regarding roadside vegetation management within Lane County rights of way?

I consider the health and safety of Lane County citizens the single most important factor when making a recommendation regarding roadside vegetation management within Lane County rights of way.

7. Do you believe that herbicides should be used as a tool in roadside vegetation management?

Yes, I do believe that herbicides can be used as a tool in roadside vegetation management.

Jan Nelson

Lane County
Department of Public Works
Vegetation Division

Vegetation Management Advisory Committee

The Vegetation Management Advisory committee was designed to be an advisory committee, both to the Board of Commissioners and County staff involved in vegetation management. The committee was intended to represent a broad base of opinion and interests regarding all aspects of vegetation management, including the use of herbicides as a management tool. In an effort to evaluate the current and future balance of the committee, with regard to these many issues, the Board has directed staff to complete a questionnaire to evaluate the breadth of representation, and viewpoints of those on the committee. The Board has further directed that all future applicants will have this questionnaire included as part of the application process, in order to assist in maintaining both geographical and ideological balance on the committee.

Questionnaire:

1. **What would you consider as the wise use of herbicides for roadside vegetation management?** Introducing toxins into the environment is not wise. (See attachments)

2. **How would you rank the financial cost of vegetation management activities, when selecting a method(s) of management?**
All costs should be considered

3. **What do you consider as the most negative and positive components, or tools of the current Lane County Integrated Vegetation management policy?**

"balance" of views on herbicide use is irrelavant, esp. since passage of the ordinance 12-03 (LC 15.500-15.553 The whole point of IVM (IPM) is to reduce & eliminate pesticide use. See historical document presented by Veg. Subcommittee to BCC 2-2-88.

4. **Do you consider efforts to control noxious weeds in Lane County rights-of-way as important, or insignificant?**

important

5. **Listed below are the management tools that Lane County currently has the ability utilize. In what order of priority would you place those tools as options for roadside vegetation management?** *(Please rank 1 thru 4)*

   a. Mechanical methods

   b. Biological methods

   c. Cultural methods

   d. Chemical methods 4- last resort per ordinance

6. **What do you consider the most important factor when making a recommendations regarding roadside vegetation management within Lane County rights-of-way?**

7. **Do you believe that herbicides should be used as a tool in roadside vegetation management?**

no, other methods can be used without adding toxins to the environment (see attachments)

Jan Nelson
Attachments

REPORT

DATE: February 2, 1988

TO: Board of County Commissioners

FROM: Vegetation Subcommittee

PRESENTED BY: Commissioners Ellie Dumdi and Jerry Rust

REPORT TITLE: Integrated Vegetation Management Program

RECOMMENDED BOARD ACTIONS

1. Begin a new Request for Proposal (RFP) process to hire a qualified IVM Consultant with a program development timeframe of approximately two (2) years.

2. Recruit and hire a permanent program coordinator at the beginning or in the very early stages of hiring an IPM/IVM consultant.

3. Accept this report from the Vegetation Subcommittee and adopt all or a portion of the report to guide the beginning stages of the vegetation management program development process.

ISSUE

The County needs to establish a policy which relates to how the County could best staff and develop a new Roadside Vegetation Management Program which is based upon principles of Integrated Pesticide Management.

BACKGROUND

In April 1987, the Board directed the department to develop an IPM program for controlling vegetation along County maintained roads.

On November 10, 1987, the Board rejected all consultant proposals which were invited by staff to develop the County's Roadside Vegetation Program. The Board directed staff to return on November 25th with a recommendation to either hire a permanent staff position or hire a consultant to develop the program.

At that November 25th meeting the Board delayed any staffing decisions and instead appointed Commissioners Dumdi and Rust to a Vegetation Subcommittee. The subcommittee was charged with formulating a staffing recommendation along with any broad policy recommendations for the development of the Vegetation Management Program.

STUDY METHOD

The Vegetation Subcommittee began mapping its research strategy in early December 1987. A substantial part of the subcommittee's study method included meetings, interviews and visitations with other governmental agencies such as 4J School District, Contra Costa and Sonoma Counties of California, East Bay Municipal Water District (California), Bio-Integrated Resource Center of Berkley, California and Washington Department of Transportation. The subcommittee met with Greg Prull and Tim Rhay of IPM Associates to clarify parts of that consulting firm's proposal to develop the County's program. Commissioner Rust also attended the 40th annual California Weed Conference during the week of January 18th.

The subcommittee studied a variety of vegetation programs and explored issues such as staffing, costs, methods of treatment, process and program results. The subcommittee was able to gather at least one helpful idea from each of the agencies and is grateful to each of the program managers that hosted the visits.

DISCUSSION

Since IPM is a highly technical and highly specialized area, appropriate staffing has been a large consideration in the program development process. At this time we believe that few candidates are available who have all of the IPM expertise that is needed to develop and implement a new program. Therefore, we are recommending that we first hire a qualified consultant to develop and implement the program over a two year timeframe. We feel that the consultant should be able to provide expertise and knowledge in plant ecology, engineering, chemicals treatments, pavement management, horticulture and human relations.

We are also recommending that the County recruit, hire and train an IPM/IVM coordinator during the very early stages of the consultant's work program. Ideally, we would want this candidate to have those same desirable skills as the consultant and at the very minimum, we should expect the individual to have strong horticultural and biological background. We feel that such an individual would be able to adequately learn IPM principles very quickly and then be in the best position to continue implementing the program for the County after the consultant has completed the work.

We feel strongly that the County needs the expert consulting and permanent staff to bring about a thoughtful and well-planned IPM program which will benefit County government and residents for many years. We envision an expert consultant to shape the beginning of the new program and a permanent staff expert to provide the long-term commitment and management control that is needed to implement the program. We think that an overlapping of contract and permanent staff is essential.

In addition to the staffing issue, Staff and Subcommittee familiarized

themselves with other principles and concepts of vegetation management. The overall vegetation management goal may vary a little from agency to agency. However, the road agencies that we visited want to provide aesthetically pleasing roadways that are safe and easily maintained. Those agencies are equally concerned with protecting their capital investment in the most cost effective manner with the least damage to the natural environment. The vegetation management goal seems fairly simple on paper. The fact is, achieving that goal will be a formidable task, but, we think, one that is worthwhile and achievable.

Throughout its study process, the subcommittee had an opportunity to see and understand what a good program looks like. More than any single idea, program success seemed to be based upon the vegetation management process itself. Some of the more common elements of a good program are as follows:

Inventory

An inventory is essential not only to familiarize ourselves with the environments in the vicinity of County roadsides, but, it also serves as a critical tool to identify and classify vegetation problems. The inventory should not be limited to vegetation. A comprehensive and continuous IPM/IVM inventory should include pavement conditions, drainage problems, game crossings, sensitive areas, wildlife habitats, noxious weeds, protected plant species, and roads that do not need treatment.

Record Keeping

The emphasis is on process. We propose to document each and every vegetation problem, vegetation control treatment and vegetation management result in order to add valuable data to our information system. Such record keeping activities could eventually be integrated with the department's maintenance management system and other available information systems. Record keeping also helps to ensure accountability. Most of the vegetation managers that were studied made it a practice to make their staff and crew justify every vegetation control action.

Decision-Making

The traditional IPM approach first analyzes the vegetation problem and then utilizes a full range of available vegetation management strategies. We recommend that broad policies be developed to provide the progamatic direction and policy framework necessary to implement the County's IPM Vegetation Management Program. We also recommend that written criteria be developed to handle routine vegetation treatment issues.

Citizen Advisory Committee

A broad-based advisory group will lend itself to a good vegetation management program. The role of such a group would include

dealing with significant vegetation management issues. The composition of the group should include a wide range of disciplines such as agriculture, horticulture, forestry, civil engineering, lay citizenry, wildlife and environmental interest groups. It is recommended that we establish such an advisory body to help implement the vegetation management program.

Education and Training

We believe that all permanent vegetation management staff should participate in continuous educational and training programs. The County should do all that is possible to help staff develop and maintain positive attitudes about vegetation management work. We feel strongly that continuing education is essential to a successful program. We recommend that ongoing IPM education and training, certification and periodical recertification be a prerequisite to working in the County's vegetation management program.

ADDITIONAL RECOMMENDATIONS

1. We have learned through our study that the most desirable vegetation management goal would be to have little or "no management". While we should strive for "no management", we need to balance that ideal with our concern for providing safety and benefit to the motoring public and protecting the County's capital investment.

   The IPM approach includes analyzing vegetation problems, utilizing a full range of available strategies to manage the vegetation, and, then monitoring the results. We recommend that the IPM approach form the basis for all vegetation management policies.

2. Consider dividing roadsides into zones which reflect specific roadside management objectives. These zones, used by the Washington Department of Transportation, are not to be confused with the County's geographical maintenance zones.

   For example, Zone 1 begins at the edge of the pavement and extends to bottom of the ditch. Zone 1 includes more intensive management objectives to ensure rapid drainage of water from roadway surface, improve visibility and reduce breakup of pavement by plants.

   Zone 2, identified as the operational zone, begins on the outside edge of Zone 1 and extends out to a point somewhere within the right-of-way that has direct bearing on operational characteristics of the highway such as sight distance requirements at intersections and horizontal curves, visibility of regulatory and advisory signs, hydraulic performance of drainage facilities, reduction of erosion, visibility of and for pedestrians and wildlife and so on.

Zone 3, the transition zone, begins at the outside edge of Zone 2 and extends outward to property line of abutting landowners. The principal vegetation management objectives in this zone are to create a transition between the operating roadway and the abutting land use. Conservation and preservation of natural features occurs in this area along with control of noxious weeds.

The three zones mentioned above do not necessarily exist on all roadsides. The zone system such as that utilized by Washington State Highway Division is not a substitute for a mile-by-mile inventory. We still recommend a mile-by-mile inventory.

3. County should coordinate vegetation management activities with public and private agencies e.g. utilities, railroad, State Highway Division.

4. Establish scenic windows where appropriate to enhance aesthetics and improve visibility.

5. Coordinate with Oregon Department of Fish and Wildlife to improve site distance for wildlife e.g. identify deer crossings.

6. Use team approach (Engineering and IPM experts) during design phase of County roads. The objective is to design road shoulders so that they require less intensive vegetation treatment if such design is the most cost effective alternative.

7. Strive to contain costs by minimal use of vegetation management tools where appropriate as determined by IPM analysis.

8. Establish stable plant communities that require minimal management e.g. salal;, ferns, fescue, native grasses.

9. Use public input process to encourage public comment on large issues -- use day and evening meetings so that citizens have more opportunity to voice their opinions.

10. Require that IPM staff prepare and submit a vegetation management report to the Board on an annual basis.

11. Continue the current Sensitive Area (No Spray) Permit process as it is currently functioning.

FOLLOWUP

We recommend that Staff proceed immediately with the RFP process to hire an IPM/IVM consultant and the process to recruit a permanent program coordinator.

● PEST CONTROL ISSUES

FIVE STEPS OF IPM HELP REDUCE PESTICIDE U...

BY DAN STEIN

One of the goals of pesticide reform is to reduce and eliminate pesticide use. There are a lot of different ideas on how best to accomplish this. Many activists have supported an Integrated Pest Management (IPM) framework that gives multiple opportunities to find ways to reduce pesticide use.

What is IPM?

While IPM has many definitions, the well-respected University of California IPM program defines it as follows:[1]

"Integrated pest management (IPM) is an ecosystem-based strategy that focuses on long-term *prevention* [italics added] of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and non-target organisms, and the environment."

Note the emphasis on prevention. Once there is an out-of-control pest problem, the situation may require difficult decisions that could have been avoided with better foresight. In pest control, like in many other areas, "an ounce of prevention is worth a pound of cure."

IPM—A Functional Definition

IPM also has a functional definition that can be used as the basis of making pest management decisions. The process below was developed by the Bio-Integral Resource Center in Berkeley, California.[2] According to this definition, there are five strategic steps involved in all pest management decision-making. Each step provides an opportunity to thoroughly think through the pest control process and to reduce pesticide use.

Here are the 5 Steps, one by one...

Step 1: Identify the Pest

This often-overlooked step is important. Most species of living things are NOT pests, but are contributing members of the broader ecosystem. By taking the time to ensure that a suspected pest is an actual pest, you can eliminate a lot of unnecessary pest control efforts.

Step 2: Monitor Pest Activity

By monitoring pest populations over time, you can determine if there are sufficient numbers of pests present to be concerned about potential damage. Pest populations are dynamic and go up and down in response to many factors. Sometimes a stray pest shows up and passes through, doing no harm. Pest populations may decline due to natural forces. Nature is complicated. You don't really know what is happening unless you look. Monitoring ensures that unnecessary treatments are avoided.

Step 3: Determine Action Thresholds

An action threshold is the point at which further damage is considered intolerable and some kind of pest control action needs to take place. Action thresholds can be determined according to different criteria—economical, legislative, medical, even psychological. Many sophisticated models exist that can help determine the point at which economic damage becomes unacceptable.

In an office or at home, individuals may have personal ideas on when "enough is enough." It is important to keep in mind that many people are affected when one person decides pest control action is needed. This is the time for some discussion and for cooler heads to prevail. Setting the action threshold high delays the point at which pest control treatments take place, leading to fewer treatments.

Step 4: Explore Treatment Options and Make Treatments

There are many treatment options besides pesticides, and prevention should always be considered the first. Committing to use Best Management Practices (BMPs) is another treatment option. Crops are less likely to get pests in the first place if they are pest-resistant varieties and are grown under conditions that optimize fertility and plant health.

In urban environments, exclusion is key. Using screens and caulking goes a long way to keeping pests out. Increasing levels of sanitation often plays a big role in preventing pests.

If pesticides are necessary, priority should be given to treatments that are highly targeted to the pest organism, and to pesticides that create the least havoc to human health and the environment.

Step 5: Evaluate Results

A commitment to evaluating results loops the process back to the beginning. Pest management is a dynamic, on... process. Monitoring after treatme... how you know how effective the treatment was, and if pest populations are now at acceptable levels. No further treatments are made unless monitoring shows that pests are again at action thresholds.

Five Opportunities to Quit

The five step approach of a pest management plan gives more opportunities to reduce and eliminate pesticide use. IPM can be very useful as a framework to help look at the big picture. The goal is not just to focus on the use of pesticides. Rather, the goal is to look at the ecosystem and how it is managed in order to figure out how to prevent pests in the first place. If treatments are necessary, IPM can help determine which treatments will be most effective and have the least negative impact.

References

1. UC IPM Online. 2006. UC Statewide IPM Program. http://www.ipm.ucdavis.edu/IPMPROJECT/about.html.
2. Bio-Integral Resource Center. Undated. What is Integrated Pest Management (IPM)? http://www.birc.org/IPM.htm.

IMF saves Russia

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IMF is key to increasing confidence.
Agence France Presse, 1998
(July 13, LN)

Russian financial markets, battered by the storms which swept in from collapsing Asian markets last autumn, have been bled white by an investor exodus prompted by the government's acute fiscal crisis and mounting fears of a potentially devastating ruble devaluation.

Agence France Presse, July 13, 1998

The cash-strapped government has been forced into expensive borrowing to close a burgeoning budget deficit caused by its chronic inability to collect taxes, increasing pressure on its strained resources.

The central bank has been spending hard currency heavily to defend the ruble with reserves dwindling to about 15 billion dollars, insufficient to stave off devaluation in the event of a mass exodus of investors.

Economists say only an IMF rescue can inject badly-needed confidence into financial markets and buy the Russian government time to rebuild its finances and implement structural reforms, notably of the tax system which is largely to blame for the government's fiscal crisis. > L/N

IMF package buys time for vital Russian reforms
The New York Times, 7-17-98 [p. A1]

The final package is not a permanent solution: it buys time for what American officials believe is the most reform-minded government in Russia in years. In Washington, however, there is palpable nervousness about the deal that was struck. It is unclear whether Mr. Yeltsin and his new Prime Minister will be able to fulfill their commitments to remake their economy.

The accord has set off a rally in Russian markets. Yesterday, after a series of ups and downs, the lower house of the Parliament approved key parts of the package as the Kremlin rushed to fulfill the I.M.F. requirements before the fund convenes on Monday to consider the rescue package. "We view this very much as a last chance for Russia," said Stanley Fischer, the No. 2 official at the I.M.F., who directed the negotiations for the fund. "The country is running out of time."

IMF bailout and a continued reform government is the best chance available to prevent the catastrophic impacts of Russian economic collapse.
McIntyre, Staff writer of the Deutsche Presse-Agentur, 1998
(Dave, Deutsche Presse-Agentur, July 14, LN)

For the U.S. political debate, the Russian bailout package highlights the importance of having the IMF around when urgent international action is needed.

For after all, while IMF critics can question the need to bail out Indonesia, it's hard to dispute the importance of Russia.

The conservative Washington Times newspaper, normally no fan of the IMF or the Clinton administration, said in an editorial Tuesday that a Russian collapse was "simply too potentially catastrophic to contemplate, both economically and politically."

"Pouring additional billions into Russia by no means guarantees success, just as past billions proved ineffectual," the paper said. "Yet, without the latest bailout, failure and chaos were near- certainties. The new funds, coupled with a genuine reform government, offer a chance at success - a limited chance, admittedly, but the best chance anybody's got." dpa dm ma

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Comments on Lane County Public Works Permitted Products List 2006
As required in Lane County Ordinance 12-03 (LC15.500-15.530)

MILESTONE Milestone is 40.6% aminopyralid and 59.4% "inerts"
The only information source listed by Public Works(PW) is DOW Agrosciences. U.S. Pesticide Law only requires testing of the "active" ingredient (except for acute toxicity which is required for all ingredients). Dow has not revealed ingredients other than aminopyralid. Many so-called known "inerts" have detrimental health effects and have even been found to be toxic by the EPA and other government agencies.

Milestone's aminopyralid was issued conditional EPA registration on August 10, 2005. Therefore little is known about this herbicide other than the testing submitted by Dow in their application for registration to the EPA. (see Data Gaps, below)

<u>The Public Works document shows 2 items of noncompliance with 12-03</u>
<u>Noncompliance to Ordinance 12-03</u> ----- acknowledged by PW
1.Aminopyralid exceeds soil half-life limits in LC15.510(5)(a)

<u>Noncompliance to Ordinance 12-03</u> ------ as reported in the PW document but not highlighted as noncompliant
2.Section 5(e) compliance concerning toxicity to fish, birds, bees, wildlife, or domestic animals is not met.
(3.) Also carcinogenicity classifications are not conclusive. See PW 4(a)i "Not likely to be carcinogenic to humans", and 4(a)ii "Probably not carcinogenic to humans" This shows the uncertainty because of lack of more information by the EPA conditional status. (see Data Gaps, below)
(4.) While the EPA toxicity class IV is "Caution" for Milestone, aminopyralid is in the most toxic class I, "Danger". (4)(d).

INDEPENDENT RESEARCH -------- NONE
The only source of information is the Pesticide Fact Sheet issued by the U.S. Office of Prevention, Pesticides Environmental Protection and Toxic Substances detailing testing done by Dow and their contractors in 2004 and 2005.

<u>Soil Persistence</u>
According to Dow's own tests on 5 different soils, half-lives ranged from 31.5 days to 533.2 days

<u>Water Persistence</u>
Aminopyralid's half-life in water systems was listed as 462 to 990 days.

(over)

Animal Testing

Test study times seemed too short to fully understand long term effects. All testing was done in 2004 & 2005.
The lab test for reproduction effects covered only two generations of rats.
Dermal studies were for 28 days
Chronic toxicity studies on dogs lasted 1 year.
A 90 day mouse and a 90 day rat dietary study was done. The animals were dosed until toxic health effects were noticeable.

Cumulative exposure

EPA has not made a toxicity finding for aminopyralid in combination with any other substances. US Geological Service frequently finds multiple pesticides in single water samples.*

Data Gaps

The EPA has requested 6 additional pieces information from Dow including "repeated tests and method analysis and justification." Also uncertainties were noted in determinations of soil half-life, chronic effects on birds and effects upon cyanobacteria."

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*U.S. Geological Survey. National Water Quality Assessment (NAWQA) Program 2003. USGS NAQWA constituents – pesticides http://water.usgs.gov/nawqa/constituents/pesticides.html.

Comments on Lane County Public Works Permitted Products List
As required in Lane County Ordinance 12-03 (LC15.500-15.530)

GARLON 3A **Garlon is 44.4% triclopyr, 55.6%" inerts"**

The only herbicide information source listed by Public Works(PW) is Dow Agrosciences, the manufacturer of Garlon.
Triclopyr is the "active" ingredient, and as such is the only chemical ingredient required to be tested(except for acute toxicity tests)according to U.S. pesticide law.
The so-called "inert" ingredients listed are ethanol, triethylamine, and EDTA(ethylenediamine tetraacetic acid). A FOIA lawsuit also revealed polyglycol as an ingredient. Dow asserts it is a confidential chemical additive.

The Public Works document itself shows 4 items of noncompliance with 12-03
Noncompliance to Ordinance 12-03------acknowledged by PW
1. Garlon does not meet soil half-life limits in LC 15.510 (5) (a)
2. Ethanol a so-called "inert" ingredient is listed as carcinogenic by IARC (EPA 4B). IARC is the International Agency for Research on Cancer.* (note EPA equivocation)

Noncompliance to Ordinance 12-03------ as reported in the PW document but not highlighted as noncompliant
3. Garlon does not meet soil mobility level limits in section (5) (b)
4. Garlon does not comply to section (5) (e) but is listed as slightly toxic to aquatic organisms on acute basis. What is meant by slightly toxic?
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INDEPENDENT RESEARCH or research information from the EPA of Dow research that differs from that offered by Public Works.

Soil Persistence
A field study in western Oregon found that triclopyr remained in soil for a year.[1]

Soil Mobility (noncompliant with section 5(b))
According to the EPA, triclopyr is very mobile in soil.[2]

Water Contamination
Because triclopyr is very mobile in soil, as well as persistant, the EPA "believes this chemical has the potential to leach to ground water."[3] Indeed wells have been found to be contaminated.[4] A USGS study of 10 urban watershed streams near Seattle, found triclopyr at 90 percent of the sites sampled.[5]

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[1] Norris, L.A., M.L. Montgomery, and L.E. Warren. 1987. Triclopyr persistence in western Oregon hill pastures. Bull. Environ. Contam.Toxicol. 39: 134-141.
[2] U.S. EPA. Prevention, Pesticides and Toxic Substances. 1998 Reregistration eligibility decision (RED): Triclopyr. Wash. D.C., Oct. p. 62.
[3] Ibid. p. 62-64.
[4] Ibid.
[5] U.S. Geological Survey. 1999. Pesticides detected in urban streams during rainstorms and relations to retail sales of pesticides in King Co., WA USGS Fact Sheet 097-99 Tacoma WA, Apr.

INDEPENDENT RESEARCH (cont.)

Cancer (noncompliant with section 4(a) i)
In lab studies, rats and mice fed triclopyr showed an increase in breast cancer. An increase in dose increased tumor frequency.[6] Despite the EPA's own proposed guidelines,[7] they did not classify triclopyr as a human carcinogen.

Reproductive effects (section 4(b) & section 5(c))
Lab animals fed triclopyr had smaller offspring, smaller litters, with more skeletal abnormalities, and more fetal deaths than unexposed animals.[8] A breakdown product of triclopyr may be interfering in nervous system development.[9]

Acute Toxicity (except for acute toxicity testing, U.S. pesticide law does not require the combination of ingredients to be tested.).[10] Symptoms of short term exposure to triclopyr include lethargy, incoordination, weakness, difficult breathing, tremors, anorexia and diarrhea.[11] The EPA classifies triclopyr in the agency's highest category for acute toxicity to eyes.[12]

Chronic Toxicity
Lab rats and dogs showed long term damage to the kidney, liver, and hemoglobin.[13]

Further information is available of effects on wildlife, non-target plants and trees, and mycorrhizal fungi, if requested.

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*The Dow Material Safety Data Sheet on Garlon 3A states that "Epidemiology studies provide evidence that drinking of alcoholic beverages containing ethanol is associated with cancer...." & ethanol has also been shown to cause birth defects and fetotoxicity.

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[6] U.S. EPA. Office of Prevention, Pesticides, and Toxic Substances.1996. Carcinogenicity peer review of triclopyr. From McMahon, T.F., and E. Rinde, Health Effects Div., to R. Taylor, Registration Div. and T. Luminello, Special Review and Reregistration Div. Wash. D.C., May 9.

[7] U.S. EPA. 1984. Proposed guidelines for carcinogen risk assessment. Fed. Reg. 49: 46299-46300.

[8] U.S. EPA. Prevention, Pesticides and Toxic Substances. 1998. Reregisration eligibility decision (RED): Triclopyr. Wash., D.C., Oct. pp.11-14

[9] Das, K.P. and S. Barone. 1999. Neuronal differentiation in PC12 cells is inhibited bt chlorpyrifos and its metabolites: ....Toxicol. Appl. Pharmacol. 160:217-230
Hunter, D.L., T. L. Lassiter and S. Padilla. 1999. Gestational exposure to chlorpyrifos:...Toxicol. Appl. Pharmicol. 158:16-23

[10] 40 Code of Federal Regulations 158.340.

[11] U.S. Dep. Of Justice. Drug Enforcement Admin. 1998. Cannibus eradication.... Supplement to he environmental impact statements. Wash., D.C. pp. 145-146

[12] Ibid. #8 p. 6-7 and Health effects test guidelines: OPPTS 870.2600. Skin sensitization. Wash.D.C., Aug. www. Epa.gov/pesticides.

[13] Ibid. #8, pp. 8-9.

Comments on Lane County Public Works Permitted Products List 2006
As required in Lane County Ordinance 12-03 (LC15.500-530)

AQUAMASTER **Aquamaster is 53.8%glyphosate, 46.2% "inerts"**
(formerly Rodeo aquatic herbicide)
The only herbicide information source listed by Public Works(PW) is Monsanto, the manufacturer of Aquamaster. Glyphosate is the "active ingredient. The "inert" ingredients are water & according to one source FD&C Blue #1.

The Public Works document shows noncompliance with the ordinance regarding soil half-life LC 15.510(5)(a). The PW document lists half-life at approximately 40 days. The Monsanto Material Safety Data Sheet lists soil half-life to be from 2-174 days.

INDEPENDENT RESEARCH or research information from the EPA of Monsanto research that differs from that offered by Public Works.

Water Contamination Glyphosate is thought to be tightly bound by most soils, but in certain conditions "this herbicide can be extensively mobile in the soil environment(noncompliant with section 5b) if it is applied on soils unable to retain the molecule long enough for its microbial degradation."[1] Since shoulder soils are chosen to promote drainage, herbicides are problematic. Even when glysophate binds to soil, it does move into water when this soil is eroded and washed into streams.[2] Many of our county roads follow waterways. Glyphosate has been found in Oregon and Washington streams.[3 &4] Glyphosate has been found to persist in pond sediments for over one year.[5]

Fish Toxicity Both glysophate and the commercial products that contain glysophate are acutely toxic to fish[6], contradictory to labeling and section (5)(e). Acute toxicities of glyphsate vary widely: Median lethal concentrationsLC50(the concentrations killing 50% of a population of test animals) ranging from 10 ppm to over 200ppm have been reported depending on the species of fish and test conditions.[7](noncompliant with 5d)

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[1] Piccolo, A. et al. 1994. Absorption and desorption of glyphosate in some European soils. J of Environ. Sci. Health B29(6):1105-1115
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There have been continual problems with drift and persistence from glyphosate. [8,9,10] Since many county roads follow rivers and streams, glysophate could pose risks to our fish(especially salmon). [11]

Cancer Three recent studies have shown a link between glyphosate exposure and non-Hodgkin's lymphoma. A 2001 study by the University of Saskatchewan showed men exposed more than two days a year had double the risk than unexposed men.[12] A 2002 study conducted by Swedish oncologists had similar findings, and also found associations with leukemia[13]. A 2003 review of earlier studies by the National Cancer Institute of Midwestern farmers had similar findings[14]. A fourth study by the National Institutes of Health and the EPA found an association with another cancer, multiple myeloma[15]. Yet the EPA still classifies glyphosate in the odd Classification: E "Evidence of non-carcinogenicity for humans." They did add that this classification "should not be interpreted as a definitive conclusion."

Monsanto Ethical Problems In 1983, Congressional investigation found "routine falsification of data." Again in 1991 the EPA found more falsified tests,, and contract lab workers were indicted on 20 felony counts. The lab was fined $15.5 million, and the owner was sentenced to 5 years in prison and fined $50,000. In 1996 Monsanto negotiated a false advertising claim with the NY attorney general and ordered to pay costs. The EPA made a similar finding in 1998 but did nothing.

Other Studies show glyphosate causes hormonal and genetic damage, immune system damage, increased risk of miscarriage, and childhood attention deficit disorder. Toxic effects were found in lab tests in all but the lowest doses despite the EPA Classification as"Practically Non-Toxic". Glyphosate resistant weeds are appearing. Since 1996 six glyphosate resistant plant species have been reported in 7 countries.

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selected pages

Pesticides Literature Review

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Systematic Review of Pesticide Human Health Effects

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Acknowledgements

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Chapter 1 — Introduction

History

In recent years, few environmental issues have aroused the concern of the public as much as pesticides, especially in relation to the health of children. In spite of the many published studies on the subject of pesticides and human health, there remains deep controversy surrounding this issue. This report will try to elucidate the results of the many studies of pesticides and health, and draw conclusions as to the true health effects of pesticides.

To understand this controversial issue it is helpful to look at the history of pesticide use. Prior to World War II, the pesticides that we use now did not yet exist. Some pesticides currently in use were in fact developed during the World War II for use in warfare. The organophosphate insecticides were developed as nerve gases, and the phenoxy herbicides, including 2,4-D (the most commonly used herbicide in Canada), were created to eradicate the Japanese rice crop, and later used as a component of Agent Orange to defoliate large areas in jungle warfare. After World War II, these chemicals began to be used as pesticides in agricultural production, for environmental spraying of neighbourhoods for mosquito eradication, and for individual home and garden use.

During the 1960s and 1970s, epidemiologists in the USA noted a rise in the incidence of non-Hodgkin's lymphoma (NHL). When plotted on a map of the USA these cases were clearly clustered in agricultural areas. This increase in NHL incidence paralleled the rise in pesticide use, prompting some epidemiologists to theorize that there was a causal link. Rachel Carson's revolutionary book, *Silent Spring* (1), first published in 1962, started the slow process of raising political and public awareness of the hazards posed to wildlife, humans, and the ecosystem by the use of pesticides. This process continued with *Our Stolen Future* (2), described by then Vice-President Al Gore as the sequel to *Silent Spring*, which documented the health effects of endocrine-disrupting chemicals. Since then there have been hundreds of scientific studies done on all continents to determine if there is a relationship between pesticide use and human health problems.

Laws in Canada

Since 1990, when the municipality of Hudson, Quebec passed a by-law restricting the use of cosmetic pesticides on public and private property, pesticides have received considerable media attention in Canada. In 1991, two lawn-care companies challenged the Hudson by-law on the grounds that pesticide use was not within municipal jurisdiction. The court affirmed that municipalities do indeed have the power to pass by-laws regarding pesticide use, so the lawn-care companies appealed the ruling. In 2001, the Supreme Court of Canada upheld the municipality's right to pass the by-law. Interestingly, although the health effects of pesticides were not argued during the Supreme Court challenge, the judgement implied that this had been an important factor in the Court's decision (3). Since then, many municipalities across Canada, including Toronto and Halifax, have passed by-laws restricting the cosmetic use of pesticides. Cosmetic use of pesticides remains a complicated issue involving arguments about the rights of lawn-care and pesticide companies, property owners' rights, and increasingly, the health effects of pesticides.

the effect at the individual level is the primary limitation of this study design. Nevertheless, these studies are useful for generating hypotheses and suggesting future directions for observational studies.

The following Chapters (3–9) detail the findings for each health effect, and are accompanied by reference lists and summary tables.

Chapter 3 — Solid Tumours

Brief Methodology

Nine solid tumours were chosen for study in this review, using data from the Canadian Cancer Statistics webpage on cancer incidence, potential years of life lost and percent change in age-standardized incidence for selected cancer sites. (See Chapter2 – Methods for a detailed description). From these lists the following solid tumours were selected to be included in this review: lung cancer, breast cancer, pancreatic cancer, brain cancer, prostate cancer, stomach cancer, ovarian cancer, and kidney cancer. Testicular cancer was also selected, but the one retrieved article was of such poor methodological quality that it was excluded from the review. Colorectal cancer was also a tumour of interest, but despite numerous searches, no primary studies of pesticide exposure and bowel cancer were found.

General Strengths and Weaknesses in Study Design

Most of the solid tumour primary studies share common methodological strengths and weaknesses. There are several well-designed studies that include large sample sizes with an extensive follow-up period. Although the majority of the studies in this area are cohort or case-control, there are a few ecological studies, and they have also been included in this review.

The studies investigated a variety of populations including farmers, aerial pesticide applicators, children of pesticide applicators and employees of pesticide production plants. A small number of studies look at household and garden pesticide exposure. The exposures under study vary from pesticides as a general exposure category, to sub-categories of pesticides (i.e. fungicides, herbicides, insecticides), to specific pesticides. For the case-control studies, exposure was typically assessed through questionnaires regarding occupational and/or home exposure. Usually an industrial hygienist assigned categories of exposure based on the questionnaire answers. The cohort studies relied on agricultural census data and pesticide application licenses to assess exposure. However, the major drawback to most of the poorer quality papers is that the proxy measure of exposure is poor, introducing the possibility that the study results may be biased. In addition, several of the weaker papers do not sufficiently consider the broad range of potential confounders that are necessary to investigate (particularly in the breast cancer papers where several ignore important covariates like age at menarche, menopause, reproductive history, history of breast cancer in the family, etc). However, for the most part, the solid tumour studies evaluated in this review are of moderate to good quality, and present interesting and clinically relevant findings regarding the relationship between pesticide exposure and solid tumour cancers.

Brain Cancer

This review included eleven papers (14–24) that investigated the association between pesticide exposure and the risk of brain cancer. Of these studies, seven looked specifically at brain cancer as an outcome; one at intracranial gliomas, and another at astrocytoma and PNET (primitive neuroectodermal tumours) while the other four considered all cancers in general. Of the eleven studies, five were case-control, five cohort, and one ecological. The studies include populations in the US, Canada, and Europe and all were considered of good methodological quality, with global rankings of four or above.

The cohort studies all found significant positive associations between pesticide exposure and brain cancer. One study included a large sample size of 323,292 offspring of Norwegian farmholders and used census data to develop an exposure proxy through pesticide and spray equipment purchase (17). Increased risk was found for brain tumours, in particular non-astrocytic neuroepithelial tumours. In addition, there was a dose-response relationship with the magnitude of the effect strongest in children aged 0 to 14 years. The case-control studies found similar results. With regards to household pesticide use, another good quality study found a significant positive association between risk of pediatric brain tumours and prenatal use of flea-tick products (OR 1.7, CI 1.1-2.6) (20).

Breast Cancer

For the breast cancer group, twelve articles were found using the search strategy. Of these, four were excluded because they were lab studies rather than studies about human populations, and two others were excluded on quality scores. The remaining six papers include one cohort study with non-exposed controls, two case-controls, and three ecological studies. The cohort study (27) followed a group of women with at least ten years' work in greenhouses for more than four hours daily. Mammographic findings were compared between exposed women and matched, non-exposed women who were residents of large towns with non-agricultural occupations. The exposed women were found to be at a higher risk of having mammographic findings that are risk markers for the development of breast cancer. However, there was not a statistically significant difference between the groups in findings of malignancies following biopsy and histological confirmation.

Of the two case-control studies, two present positive associations, and the other two (excluded) found no association. One population-based study interviewed 1018 women with incident breast cancer, identified from the British Columbia Cancer Registry (26). Using interview information, occupations were coded in an effort to assess exposure to a variety of chemicals, one of which included pesticides. Excess risk of breast cancer was found in crop farmers and in the fruit and vegetable industries. Another case-control study focused specifically on farming and incident breast cancer (28). After controlling for a large number of potential confounders, this study concludes that among women who farmed, ORs were elevated for those who reported being present in fields during or shortly after pesticide application (OR 1.8, 95% CI 1.1-2.8) and for those who reported not using protective clothing while applying pesticides (OR 2.0, 95% CI 1.0-4.3). Interestingly, an increased duration of farming was associated inversely with breast cancer risk. Possible mechanisms for this may include a protective effect of physical activity against breast cancer, exposure to sunlight, which may increase vitamin D levels and thus decrease breast cancer risk, or the possibility that some pesticides or contaminants (like TCDD) may possess antiestrogenic activity.

Of the three ecological studies of breast cancer, one examined a mixed pesticide exposure, and the other two looked at herbicides only. The former study used National Cancer Institute data and focused on the whole population of Mississippi (25). The total number of acres planted during 1997–2000 for each Statistical Economic Area and by type of crop was used as a proxy measure for pesticide exposure. The total number of acres planted was positively and statistically significantly associated with breast cancer mortality rate. Specifically, the strongest correlations were associated with rice crops and catfish crops. The authors suggest that this may be due to pesticide bioaccumulation through the food chain. The other two ecological studies consider exposure to herbicides, specifically atrazine and triazine. Both of these study populations are the residents of the state of Kentucky and are part of the same research group, so it is likely that

these papers present information about the same study population (29, 30). While the results did not support a relationship between exposure to atrazine and breast cancer incidence (29), there was a statistically significant positive association with triazine exposure (30); specifically, there was an increased breast cancer incidence with medium and high levels of triazine herbicide exposure (OR 1.14, $p<0.0001$ and OR 1.2, $p<0.0001$ respectively).

Kidney Cancer

Seven papers evaluated the relationship between kidney cancer and pesticide exposure. However, one of these was excluded due to its poor methodological quality. Of the remaining six studies, four are case-control, and two are cohort studies. One of the cohort studies looked at kidney cancer mortality in a large retrospective cohort of 167,703 children (32). A statistically significant excess of kidney cancer was found among the offspring of men with potential occupational exposure to pesticides (PMR 1.59, 95% CI 1.18-2.15). The other cohort study assessed the relationship between occupational exposure to pentachlorophenol and cause of mortality at a chemical company that produced this pesticide (35). It also found a statistically significant positive association between exposure and death from kidney cancer (SMR 502, 95% CI 101-1468). Unfortunately, the confidence intervals are quite broad in this latter study due to the small numbers in the group.

The four case-control studies all found statistically significant positive associations between pesticide exposure and kidney cancer (31, 33 ,34, 36). This effect was seen most consistently for longer duration of exposure, and found in the cases of children whose parents were occupationally exposed to pesticides.

Lung Cancer

Four studies examined the association between lung cancer and pesticide exposure. Of these, two looked specifically at lung cancer mortality and incidence, and two considered all types of cancer mortality. One of the latter two is a retrospective cohort study of male farm workers in Italy who obtained a license to handle pesticides during the period 1973–1979 (38). The authors conclude that this cohort actually had a lower risk of mortality due to lung cancer when compared to provincial and national mortality data. This lowered risk was attributed to the 'healthy worker effect,' or the possibility that smoking is less common among farmers. Smoking status was not measured in the study. Given the clear relationship between smoking and lung cancer, the absence of information on this important covariate limits the usefulness of the study's findings. The other cohort paper considered all causes of mortality in a cohort of golf superintendents (39). Conversely, they found an elevated PMR (proportionate mortality ratio) of lung cancer in the exposed cohort. However, they also failed to control for smoking or passive smoking exposure and thus it is difficult to assess any potential causal relationship between the two.

The other two papers, case-control studies, included smoking as an important covariate in the analysis. One examined the occupationally related risk of lung cancer among non-smoking women for several occupations (37). Of these occupations, pesticide exposure was considered as a specific exposure in the workplace. An elevated incidence of lung cancer was found for women exposed to pesticides when compared to a population-based sample of controls (OR 2.4, 95% CI 1.1-5.6). A dose-response relationship was also found where the higher exposure range had a higher risk of lung cancer when compared to the lower exposure range. The other case-control study was nested within a retrospective cohort of Florida pest control workers (40), and considered specific types of pesticides, rather than the broad category as in the other two studies.

This study looked at lung cancer mortality, rather than incidence, as the outcome of interest. Information regarding specific pesticide use was collected from proxy interviews of next-of-kin and included information regarding use of organophosphates, organochlorines, carbamates, inorganics, organobromides, natural products, and phenoxy herbicides. Results were provided for comparisons between cases and dead controls and cases and living controls. Of these results, there was a statistically significant increased risk of lung cancer mortality for carbamate use in cases versus dead controls (OR 16.3, 95% CI 2.2-122.5) and for phenoxyacetic acid use in cases versus living controls (OR 22.4, 95% CI 1.8-276.2). Unfortunately, the confidence interval ranges for these values are quite broad, making it difficult to assess the precision of this value. Although increased risks were also found for the use of organophosphate, organochlorine, and inorganics, these findings were not statistically significant.

The results from these studies suggest that there may be a relationship between some pesticide exposures and risk of lung cancer. However, there is a need for further studies in this area that consider smoking and passive smoking exposure as important covariates before any causal associations can be concluded.

Ovarian Cancer

The current literature review failed to find any studies that looked exclusively at ovarian cancer. Rather, there was a selection of papers that considered ovarian cancer in addition to several other solid tumour cancers. One of these actually found a negative association between ovarian cancer and atrazine exposure (41). However, this suggested protective effect on incident ovarian cancer was not statistically significant, and determined in the context of an ecological study. Thus, its findings are limited in making associations between ovarian cancer risk and atrazine exposure.

Pancreatic Cancer

The risk of pancreatic cancer and exposure to pesticides was evaluated in three studies; two case-control, and one cohort. All the papers found a positive association, particularly for high intensity exposure, and exposure to herbicides and fungicides.

The retrospective cohort study followed male aerial pesticide applicators for their cause of death (43). This large study found a statistically significant positive association of pancreatic cancer in the applicator group when compared to non-exposed individuals (SMR 2.71, 95% CI 1.4–5.3). Unfortunately, the study did not consider smoking as a potential covariate.

The two case-control studies also found positive significant associations, and one of these included smoking habits as an important covariate. One Spanish study (42) compared incident cases of pancreatic cancer with hospital controls. Occupational history was obtained through interview and exposures evaluated by industrial hygienists. Moderately increased ORs were found in the high-intensity category of pesticides, highest for arsenical pesticides (OR 3.4, 95% CI 0.9–12.0) and 'other pesticides' (OR 3.17, 95% CI 1.1–9.2). The other case-control study, conducted in the United States (44, 45) compared pancreatic cancer cases with a random sample from the population. Occupational information was also collected through interviews, and then a job-exposure matrix was used to estimate the level of occupational risk for pesticide exposure. Excess risks were found for occupational exposure to fungicides (OR 1.5, 95% CI 0.3–7.6) and herbicides (OR 1.6, 95% CI 0.7–3.4).

Prostate Cancer

Ten papers looked at the risk of prostate cancer with exposure to pesticides. However, two were excluded due to poor methodological quality. Of the remaining eight papers, five are cohort studies, two case-controls, and one ecological (46–53). An excellent study (46) investigated a cohort of 55,332 male pesticide applicators and found a positive statistically significant association between exposure to pesticides and prostate cancer when compared to the rest of the population. This increase was also evident with the use of methyl bromide and use of chlorinated pesticides among applicators over 50 years of age (OR up to 3.75, $p<0.004$) (46). The other studies present a similar trend, suggesting that pesticide exposure, particularly at high levels of exposure, is a risk factor for the development of prostate cancer.

Stomach Cancer

One paper from Ontario investigated the relationship between exposure to nitrate and atrazine and stomach cancer (54). Although they found a positive significant association between atrazine contamination levels and stomach cancer ($p<0.05$), this study was an ecological design, and therefore it is difficult to make any conclusions from this about causality. Nevertheless, it is interesting for forming hypotheses about this new and yet to be studied area.

General Conclusions

In summary, there are many studies showing positive associations between solid tumours and pesticide exposure. In particular, the large well-designed cohort studies consistently show statistically significant positive associations. The relationships are most consistent for high exposure levels such as those found in occupational settings. The results frequently show dose-response relationships, and quality of studies was generally good. Overall, these findings strongly support a reduction of pesticide use, particularly for those individuals with occupational exposure (agriculture, pesticide applicators) at high doses. Future work targeted at non-occupational exposures, in addition to further work on some of the less studied solid tumours is warranted and will provide continued direction for clinical practice.

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Reference	Population Description (Design, Country)	Pesticides Type and Exposure Assessment	Covariates	Health Outcomes and Measurement	Statistical Analysis	Measures of Association and Values	Global Rating
		the capital city 700 km away. 25-30 years prior to study					
Jarrell, J.F., Gocmen, A., Akyol, D. & Brant, R. 2002. Hexachlorobenzene exposure and the proportion of male births in Turkey 1935-1990. *Reproductive Toxicology. 16, 65-70.*	Turkey 126 women Retrospective Cohort	Hexachlorobenzene exposure 40 years ago Exposed=42 women who had had confirmed porphyria cutanea tarda from HCB exposure 40 years ago; Control 1=no history of exposure to treated grain or prophyria cutanea tarda; Control 2=subjects who had lived 900 km from exposed area - no known exposure	year of exposure spontaneous abortion rate	Self-reported: Sex ratio and proportion of male births of individual subjects who had survived.	Binary logistic regression Chi-squared, ANOVA	Significant change in calcualted sex ratio among children 0-4 years of age between 1935 and 1990 in Turkey (F=11.62, p=0.007). Sex ratio G1= 0.92, G2=1.24, G3=1.03. Subject % male G1=50.17%, G2=53.12%, G3=54.22% Males born to exposed women vs. controls - no significant differnce in either the sex ratio between groups or the means of the proportio of males by subject. Factors predicting the proportion of male births among exposed subjects: year of exposure (p=0.03); year of exposure + spontaneous abortion rate (p=0.013)	4.5 Possible recall bias; results subject to modelling asumptions;
Levario-Carrillo,M., Feria-Velasco,A., De Celis,R., Ramos-Martinez,E., Cordova-Fierro,L. & Solis,F.J. 2001.	Chihuahua, Mexico 10 placentas from women living in agricultural region (exposed) and 10 placentas from	Parathion during pregnancy Geographical area, agricultural activities and Cholinesterase activity	age, gestational age	Lab Diagnosis: Morphological study of placentas (descriptive)	Descriptive Fisher's test	Blood cholinesterase activity U/ml significantly difference p<0.01 between exposed and unexposed: 4.34 +/-0.3 (exposed); 5.54+/-0.8 (unexposed) Placental weight 616 g in exposed and 554 in	4 Qualitative study, low power

Reference	Population Description (Design, Country)	Pesticides Type and Exposure Assessment	Covariates	Health Outcomes and Measurement	Statistical Analysis	Measures of Association and Values	Global Rating
Parathion, a cholinesterase-inhibiting plaguicide induces changes in tertiary villi of placenta of women exposed: a scanning electron microscopy study. *Gynecologic & Obstetric Investigation. 52, 269-275.*	women living in a urban area. Cross-sectional					unexposed, diameter 17.5*16.4 cm and 19*16cm respectively Qualitative results: Placental characteristic a) surface aspect: Velvet appearance in exposed and unexposed b) surface texture: nonhomogenous (exposed); homogenous & finely granular (unexposed) c) characteristics of tertiary villi: bulous or fungiform ending with incomplete sulci and numerous plaquest of fibrinoid material (exposed); normal (unexposed) d) presence of microvilli: some areas devoid of microvilli (exposed); all villi covered by microvill (unexposed) e) characterstics of miscrovilli: some microvilli showed bullous ending and others were bifurcated (exposed); normal (unexposed).	
Levario-Carrillo M, Chavez-Corral D, Ramos-Martinez E, Solis F, Gonzalez-Horta C, Sanin LH. Exposicion de mujeres a	Chihuahua, Mexico 300 women, and subset of 68 with microscopic assay Cross-sectional	Lab diagnosis, self-report ACh level, also agricultureal vs urban community, and <5 km from fields	maternal nutrition via: pre-pregnancy weight/height2 or BMI, body composition post partum (amount of fat)	Lab diagnosis: macroscopic placental characteristics: weight, diameter, presence of infarction, etc.	multivariate logistic regression t-test for descriptives, Odds ratio	OR for placental ischaemia or infarction 3.5 (2.1-5.85) for rural vs urban OR for ACh units/gm hemoglobin depression (i.e. <43.14 at least 25% less than "normal", about lower two tertiles) approximately 2.2	5.5 Lack of bio-marker for sub-chronic exposure. (Geographic and ACHE activity

Reference	Population Description (Design, Country)	Pesticides Type and Exposure Assessment	Covariates	Health Outcomes and Measurement	Statistical Analysis	Measures of Association and Values	Global Rating
plaguicidas organofosforados durante el embarazo y alteraciones en la placenta. *Rev Bras Toxicol 2002; 15(2): 79-85*						(1.2-4.3) adjusted	based in own model)
* Savitz,D.A., Arbuckle,T., Kaczor,D. & Curtis,K.M. 1997. Male pesticide exposure and pregnancy outcome. *American Journal of Epidemiology. 146, 1025-1036*	Ontario, Canada 1,898 farm couples, 3,984 pregnancies. Retrospective Cohort	Pesticide classes, families and active ingredients. Self-reported Timing: Paternal pesticide Exposure if reported use of a specific chemical on the farm and the father was involved in pesticide activities during the critical window (3 months before conception and first month of pregnancy). Unexposed group: those with no chemical activity or no farm or chemical activity.	Mothers and fathers age, education, jobs outside the farm, tobacco, alcohol, and caffeine use, mothers language, ethnicity, religion, parity, income, child's sex, interval between conception and the survey and the month of conception.	Mother-reported: Miscarriage, preterm delivery, small for gestational age (SGA), and sex ratio.	Crude and Adjusted ORs Logistic regression	Risk of Miscarriage A) Crop herbicide: Herbicides OR=1.4 (1.0-2.0); Thiocarbamates OR=1.9 (1.1-3.3); Carbaryl OR=1.9 (1.1-3.1) B) Crop insecticides or fungicides: Insecticides OR=1.6 (1.1-2.4); Carbaryl OR=2.1 (1.1-4.1); C) Yard herbicides: OR=2.1 (1.0-4.4) i) use of protective equipment: OR=2.5 (1.1-5.8) ii) Chemicals used on farm: triazines OR=3.2 (1.2-8.9); 2,4-DB OR=3.5 (1.2-9.9); No associations were found between farm chemicals and small-for-gestational-age births or altered sex ratio.	5.5 Possible exposure misclassification, limited power; lengthy recall

* Papers marked with an asterisk were considered in other tables.

Chapter 10 — Pesticide Health Effects and Children

Children are ubiquitously exposed to low levels of pesticides in their food and environment, yet there has been a paucity of studies on the long-term health effects of these exposures (10, 26, 32). Many pesticides persist in the environment, are often transferred long distances from their original area of application, are routinely detected in human tissue, and are transferred across the placenta and via breast milk (1, 19).

Relative to adults, children eat more in proportion to their body weight, resulting in more concentrated exposures. Intakes by children of the four primary pesticides (chlorpyrifos, malathion, diazinon, and atrazine) appear to come primarily from the ingestion of solid food (2). Another common exposure source is indoor and outdoor home pesticide applications, where children may be exposed by playing on floors, treated lawns and play areas, or by handling treated pets (8). Agricultural uses of pesticides may expose children inadvertently from spray drift or farm work (31).

Children present a number of unique characteristics with regard to risks from exposure to pesticides and other environmental pollutants. The most vulnerable time is during fetal development when the brain is known to be subject to environmental influences at all phases of development, with critical windows at different points (6). Since in the female, ova are formed in the fetal stage, and environmental contaminants have been found in follicular fluid, the next generation of children born may be affected by their grandmother's exposures (6). The newborn child has low levels of the enzyme paraoxanase-1, which detoxifies organophosphate pesticides (7).

Environmental contaminants may pose a greater risk to children than adults for another reason: children have a longer life expectancy in which to develop diseases with long latency periods. For example, if a 70-year-old adult and a 5-year-old child are exposed to a carcinogen with a 40-year latency period, the child has a much higher lifetime risk of developing adverse health consequences (20).

Studies in children have so far demonstrated subtle neurotoxic effects of low level, intrauterine, or early childhood exposures to a variety of environmental agents including lead, methyl mercury, and PCBs. While studies of pesticide health effects in children are still lacking, it is possible that a parallel model may emerge for low-level exposures to pesticides, some of which are by design neurotoxic (28, 32, 33). A range of developmental disabilities including learning disabilities, attention deficit hyperactivity disorder, developmental delays, autism, and behavioural disorders are of great importance due to possibly increasing incidence, and personal and public health costs. (12, 17, 18, 33). These are disorders of unknown etiology with a link between genetic susceptibility and environmental factors, perhaps including pesticides in some small proportion of cases (18, 27). Research is urgently needed to fill in the many gaps in this area.

Summary of Findings Concerning Children

The few studies we found which addressed children's health effects from exposures to pesticides have been discussed in detail in each relevant chapter and will be summarized here.

Several studies found associations between pesticide exposures and solid tumours in children. An elevated rate of kidney cancer was associated with paternal pesticide exposure through

agriculture (11). Four studies found associations with brain cancer: two found associations with indoor household use of pesticides (9, 30), one with parental farming occupation (16), and one with parental occupational exposure to pesticides (34).

Several studies in this review implicate pesticides as a cause of hematologic tumours in children. One study found an association with childhood non-Hodgkin's lymphoma (5), and several studies found elevated childhood leukemia rates with pesticide exposure (16, 21, 23, 24). An excellent study by Ma (23) showed an association between maternal pesticide exposure and childhood leukemia. More detailed information on these studies is in Chapters 3–5.

In the genotoxicity or immunotoxicity area (Chapter 6) there were two studies relevant to children. In the first, children with poor metabolizer polypmorphisms, genotyped at birth and representing just over 40% of the Montreal study group, had overall increased risk of acute lymphocytic leukemia if exposed to pesticides in utero or during childhood, especially for exposure to repellents and sprays for outdoor insects during pregnancy, and exposure to mite and spider killers during pregnancy or between birth and leukemia diagnosis. Herbicide use (mainly 2,4-D), both during pregnancy and in childhood, showed a consistent interaction with poor metabolizer genes and was associated with a 2-fold increase in leukemia incidence (14). Phillips (29) found that children exposed to chlordane and/or heptachlor had more cytokine panel abnormalities than matched controls.

Neurodevelopmental effects (Chapter 8) were found in pre-school children in pervasive pesticide exposure situations in Mexican valley agriculture, and likely resulted from maternal, in-utero, and early childhood exposures (13). The only other study of effects on children (15) found substantially higher proportions of residents — including adolescents — exposed to pesticides from aerial spraying drift to have mental and emotional symptoms compared to those not exposed by aerial spraying, consistent with other studies of broader nervous system function.

In the reproductive review (Chapter 9), findings suggested that occupational exposure to agricultural chemicals including pesticides may cause intrauterine growth retardation, and may increase a woman's risk of giving birth to children with congenital anomalies, such as limb defects, nervous system and musculoskeletal defects, cryptorchidism and hypospadias, cardiovascular defects, oral clefts, and other multiple and specific defects. The adverse reproductive effects that are non-fatal produce future risks for the individual and for the next generation. Intrauterine growth retardation has been shown to increase susceptibility in later life to hypertension, type 2 diabetes, heart disease, and breast and prostate cancer (3, 4). Men with birth defects are twice as likely to produce children with birth defects (22).

Future Studies

There have been some plans to develop a parallel Canadian cohort study that would be complementary to the US National Children's Study, a study that will follow a cohort of 100,000 children from the prenatal period to adulthood to study environmental influences on health and development. Scientists from Health Canada were involved in the planning along with the US National Institute of Child Health and Human Development, the US Environmental Protection Agency, the Centers for Disease Control and Prevention, and the National Institute of Environmental Health Sciences. The Canadian involvement is dependent on federal funding which as of February 2004 is still uncommitted. Such a large and comprehensive prospective study is vital and would finally provide sufficient data to inform whatever policy decisions are necessary to protect our children and their futures.

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Chapter 11 — Implications of the Review for Family Physicians

This systematic review of pesticide health effects was undertaken to help family physicians and their patients interpret the large body of literature in this area and make effective decisions about prevention efforts. These include patient education, identification of vulnerable groups, risk assessment, and clinical problem solving. We also identified areas where existing information is insufficient to inform clinical decision-making.

Family physicians, and other health professionals who are points of entry for health care, have at least three kinds of responsibilities in dealing with possible pesticide health effects.

A. Patient Inquiry

Patients ask questions about their concerns relating to pesticide exposure and potential health consequences. Their concerns may be related to occupational, home, or environmental exposures. We need good evidence-based information, distilled from methodologically acceptable studies, to answer these concerns, and to provide reassurance, educational intervention, or direction for further investigation into links between exposures and disease or illness. The information in this review is reported by health effect and will be useful in determining whether patients' concerns about specific health effects may be related to pesticide exposure. Because most human studies are of multiple pesticide exposures, the health effects of specific pesticides are still difficult to infer from the literature.

B. Health Screening

Patients also come to us for routine preventive care, giving us the opportunity for early intervention if their pesticide exposures are at a level that may cause significant health problems. Routine functional enquiries on farmers, pesticide applicators, professional gardeners, homeowners with lawns or gardens, floriculturists, and greenhouse workers should include specific questions about frequency, duration, and type of pesticide exposure, as well as about the use of protective gear, and any patient concerns about these exposures. Many studies document neurological, reproductive, genotoxic, and carcinogenic effects of pesticides, both in occupational and domestic settings, and preventive action is warranted for patients who are specifically vulnerable.

C. Case Finding: Relationship to ill-defined symptoms?

Finally, patients present with non-specific symptoms—for example, fatigue, dizziness, low energy, rashes, weakness, sleep problems, anxiety, and depression. An important step in diagnosing such non-specific symptoms is to take an exposure history (1) including pesticide exposures (2). There have been no studies of incidence of pesticide-related illnesses in primary care settings. Many of the studies in this review measure health effects that are subclinical, such as chromosome aberrations. There is a high level of consistency in results to indicate a wide range of pesticide-related clinical and subclinical health effects. Reviewing the literature since 1992, most studies of pesticides as a cause of health effects show a positive association. This is true across diverse areas including hematologic cancers, solid tumours, birth defects, increased time to pregnancy (a measure of couple fertility), neurological diseases, skin reactions, and genotoxic effects on lymphocytes.

Which pesticides are most harmful?

The results of the systematic review do not help indicate which pesticides are particularly harmful. Exposure to all the commonly used pesticides — phenoxyherbicides, organophosphates, carbamates, and pyrethrins — has shown positive associations with adverse health effects. The literature does not support the concept that some pesticides are safer than others; it simply points to different health effects with different latency periods for the different classes. Triazine herbicides increased breast cancer risk (3). Carbamate and phenoxyherbicide exposure increased lung cancer risk (4). Spraying of an organophosphate during pregnancy caused deterioration in placentas (5). Indoor use of insecticides was associated with brain cancer and acute lymphocytic leukemia in children (6, 7). Six pesticides, including 2,4-D and Dicamba, were associated with increased time to pregnancy (8). Fungicide exposure had positive associations with dermatitis (9, 10, 11).

Some more surprising positive associations were found for pesticides that are considered less toxic in acute poisoning settings. For example, pyrethrins were associated with chronic psychiatric effects (12), chromosome aberrations (13), rashes in licensed pet groomers (14), and intrauterine growth retardation, which is a major determinant of health in the first year of life (15). The herbicides glyphosate and glufosinate had associations with congenital malformations (16, 17). Parental preconception exposure to glyphosate was associated with late abortion (18).

Reducing exposure is the best advice

Given the wide range of commonly used home and garden products associated with health effects, our message to patients should focus on reduction of exposure to all pesticides, rather than targeting specific pesticides or classes. Such exposure reduction efforts could include: supplying information about organic methods of lawn and garden care and indoor pest control, education about the high skin absorption of pesticides, and instruction in the use of respirators for home and occupational exposures. For patients with occupational exposures, the history should include use of personal protective equipment, and timing of re-entry into recently sprayed work settings (19, 20). Information from a number of studies suggests that the use of protective equipment reduces exposure and health effects.

Vulnerable patient groups for pesticide health effects

Pregnant women are a special risk group, given the findings showing increased risk of childhood acute lymphocytic leukemia when women use pesticides in the home and garden during pregnancy (7). Women who intend to become pregnant need specific information about avoiding pesticide use in their homes, gardens, and workplaces.

Children are another very important group with specific vulnerability to pesticides. Family doctors need to consider possible pesticide exposures, which can occur by take-home exposures from a parent's workplace, use of pesticides on lawns, gardens, schoolyards, and parks, or by treating/spraying pets or homes (see Chapter 10 for a more detailed discussion of the vulnerability of children).

We have reported on many studies showing excess cancer risk in children exposed directly or indirectly to pesticides. These associated cancers include: brain cancer (6, 21), kidney cancer in offspring of occupationally exposed men (22), and excess acute lymphocytic leukemia in children whose mothers used pesticides in homes and gardens during pregnancy (7). In spite of

the important concern that pesticides may be toxic to the developing nervous system, only two studies (both positive) specifically examined neurological effects in children (12, 23). Reproductive effects of concern include increased miscarriage, fetal death, infertility, IUGR, and birth defects (see Chapter 9).

The elderly also have chronic neurological diseases that have been related to long-term pesticide exposure. These include Parkinson's disease, amyotrophic lateral sclerosis, and Alzheimer's disease (Chapter 8). All these diseases are difficult to treat, which highlights the importance of prevention by reducing lifetime pesticide exposure.

Prevention and education opportunities for family doctors

Making a correct diagnosis that leads to effective treatment is still one of the enduring rewards of family practice. Consider pesticide exposure in your differential for recurring rashes and other non-specific symptoms, and that satisfaction may be yours.

There is little satisfaction for a family doctor in knowing that a patient's infertility, tumour, or Parkinson's disease was probably caused by pesticide exposure. The severity of many pesticide-related illnesses is a reason to focus on prevention rather than diagnosis.

Patients trust family doctors as a source of information on environmental questions (24). We need to earn this trust by informing ourselves: first about high-risk groups in our practices, then about methods to reduce pesticide exposure for women of childbearing age, occupationally exposed patients, and most importantly, children. Our offices can be used to promote reduction of pesticide use by our patients, and improved use of personal protection for those who choose to work with pesticides. We can promote community-based solutions by involving ourselves in the promotion of municipal bylaws aimed at reducing the cosmetic use of pesticides. Our concerns about health effects of pesticides can be transmitted to politicians who are making regulatory decisions which impact public health. We can be an important voice in encouraging our hospitals to stop using pesticides on lawns, and our schools to stop spraying areas where children play. We can promote the use of the precautionary principle in the area of pesticide use. This principle asserts "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully understood" (25).

What we can do

1. Correctly diagnose and treat acute and chronic pesticide health effects.
2. Emphasize prevention vs. retrospective case-finding for chronic or terminal disease
3. Inform ourselves about pesticide health effects and consider high-risk groups in our practices.
4. Advocate reduction of risk to or use by individual patients.
5. Advocate reduction of use in the community, schools, hospitals, and to governments.

Why we should do it

Very few of our patients willingly expose themselves to harmful chemicals, but information about pesticide health effects is not common knowledge, and we are in an excellent position to make it so. Strong one-to-one messages from health care providers about the potential harm from

pesticide exposure are an effective way to inform our patients. The evidence for harm is strong, and just as the public became aware of the health risks of smoking over decades of education, we now have an important role in heightening awareness of the risks of pesticide exposure.

In 2003, well-known non-Hodgkin's lymphoma researchers Hardell and Eriksson (26) published a careful analysis of the decline in this disease in countries where the herbicide 2,4-D has been banned for over ten years. Their analysis concluded that 5% (3.0–7.7%) of NHL is attributable to chlorphenoxy herbicide and chlorophenol exposure. If this level of attributable risk is similar for even some of the other tumour–pesticide associations, it is clear that a concerted effort by physicians to reduce patients' pesticide exposures could produce measurable reductions in cancer. Stronger intervention at the regulatory level, such as the province-wide cosmetic pesticide ban instituted by the Government of Quebec in 2003, could well prove to provide important cost savings to the health care system. Even in the absence of cost reductions, the smallest reduction in incidence of non-Hodgkin's lymphoma, childhood leukemia, or brain cancer would reduce human costs and be a cause for celebration.

Vegetation Management Advisory Committee
Membership Roster 2006
(Reflects Year-End Vacancies)

Name	Current Term Start Date	Current Term Expiration Date	Previous Term(s) Served	Status	Residence Location in Lane County
Graham, Peter	01/01/05	12/31/08	NA	1st Meeting 9/13/06	East
Koivula, Michael Co-Chair	01/01/05	12/31/08	01/01/01-12/31/04	Active	Springfield
Melotti, Chris	01/01/05	12/31/08	01/01/01-12/31/04	Active	Springfield
Moser, Douglass	01/01/05	12/31/08	NA	Active	East
Nelson, Jan	01/01/05	12/31/08	NA	1st Meeting 9/13/06	East
Sundquist, John	01/01/07	12/31/10	03/96-12/31/96 01/97-12/31/00 09/06-12/31/06	Active	East
VACANCY					
VACANCY					
VACANCY					

IN THE BOARD OF COUNTY COMMISSIONERS OF LANE COUNTY, OREGON

ORDER NO. (**IN THE MATTER OF APPOINTING**
(**THREE MEMBERS TO THE VEGETATION**
(**MANAGEMENT ADVISORY COMMITTEE (VMAC)**

WHEREAS, three (3) vacancies exist on the Vegetation Management Advisory Committee due to the departure of Karen Bodner, Paul Clements, and Ross Penhallegon, each of whose membership terminates on 12/31/06; and

WHEREAS, appointing replacements to serve the remaining terms of these vacancies is in the best interests of the citizens of Lane County; and

WHEREAS, the vacancies were duly advertised on one (1) occasion and eight (8) applications were ultimately received; and

WHEREAS, the Vegetation Management Advisory Committee has reviewed and considered the eight applicants and has recommended three of those applicants as their choices to the Board; **NOW THEREFORE, BE IT**

ORDERED, that the following named persons be appointed, as indicated below, to the Vegetation Management Advisory Committee.

NAME	**TERM**
_____	1/01/07 – 12/31/10
_____	1/01/07 – 12/31/10
_____	1/01/07 – 12/31/10

DATED this _____ day of _____, 2006

_____
Bill Dwyer, Chair
Lane County Board of Commissioners

APPROVED AS TO FORM
Date 11-20-06
OFFICE OF LEGAL COUNSEL