



City of Richmond

Report to Committee

To: Public Works and Transportation Committee
From: Cecilia Achiam
 Interim Director, Sustainability and District Energy
 Senior Program Manager, CPMG, CAO's Office
Re: Enhanced Pesticide Management Program Review

Date: February 8th, 2011
File: 10-6125-04-01/2011-
 Vol 01

Staff Recommendation

That the Enhanced Pesticide Management Program (EPMP) as described in the staff report titled "Enhanced Pesticide Management Program Review," dated February 8, 2011 be approved to continue on a temporary basis for 2011.

Cecilia Achiam, MCIP, BCSLA
 Interim Director, Sustainability and District Energy
 Senior Program Manager, CPMG, CAO's Office
 (604-276-4122)

Att. 3

FOR ORIGINATING DEPARTMENT USE ONLY			
ROUTED TO:	CONCURRENCE		CONCURRENCE OF GENERAL MANAGER
Budgets	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Engineering	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Community Bylaws	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Parks Maintenance and Operations	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
REVIEWED BY TAG	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	REVIEWED BY CAO
			YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

Staff Report

Origin

The *Pesticide Use Control Bylaw No. 8514* was adopted by Council on October 16, 2009 as recommended in the April 16, 2009 report from the Director of Parks and Public Works Operations, entitled "Pesticide Use Management in Richmond". This report responds to items 2 and 3 of Council's resolution from the April 27, 2009 Council meeting:

1. *That the staff report dated April 16, 2009 from the Director of Parks and Public Works Operations, entitled "Pesticide Use Management in Richmond" be received for information;*
2. *That Option 4 (as outlined in the staff report dated April 16, 2009 from the Director of Parks and Public Works Operations, entitled "Pesticide Use Management in Richmond"), be enacted and related policies and procedures be reviewed in one year to measure its effectiveness and improve it; and*
3. *That the timing of budgetary implications be reviewed.*

Background

This report provides a review of the Enhanced Pesticide Management Program (EPMP), identifies challenges and provides recommendations for improving the Program. The EPMP comprises five main components: Corporate Reduction; Education and Community Partnerships; Senior Government Regulation; Municipal Regulation; and Cost/Resource Implication (**Attachment 1**).

Since the adoption of the full EPMP and the *Pesticide Use Control (PUC) Bylaw No. 8514* in 2009, a number of related actions have taken place locally and at the provincial level:

- Eight municipalities have recently adopted cosmetic pesticide bylaws, for a total of 34 municipal cosmetic pesticide bylaws province wide.
- The Province posted a summary of comments received during the *Cosmetic Use of Pesticides in British Columbia* Consultation (including those provided by City staff). Over 8,000 comments were submitted to the Ministry of Environment. To date the Ministry has not indicated any "next steps" towards the development of a Provincial Cosmetic Pesticide Regulation.
- The Ministry of Forest and Range (MoFR) carried out the Richmond Aerial Gypsy Moth Program as part of the provincial Gypsy Moth Eradication Program. The TFT Environmental Coordinator responded to a number of phone calls and e-mails from residents about the pesticide used and its relationship to the City's new Bylaw. The MoFR has recently informed City staff that there will be no aerial spray program for Gypsy Moth in 2011 due to the successful results of the 2010 Spray Program.
- Staff confirmed the first location of giant hogweed in Richmond in May 2010. A local media campaign in July and August 2010 helped identify more sites on private and City properties. All hogweed plants on City property were manually removed. Re-growth on City sites is being monitored, however site constraints press consideration for traditional

(i.e. non-exempted) pesticide treatments. The media campaign and approach to giant hogweed control required significant staff resources. The TFT Environmental Coordinator was the technical expert and lead staff person to design the response/treatment plan for giant hogweed control as well as provide technical direction for the media campaign.

- The TFT Environmental Coordinator confirmed the first location of the common reed (*Phragmites australis* subsp. *australis*) for the province on City property. This weed poses a significant risk to City infrastructure, biodiversity and agricultural productivity, warranting further consideration for traditional pesticide treatment.
- In September 2010, the Union of British Columbia Municipalities endorsed resolution B28, brought forward by the City of Coquitlam, advocating “(...) *that the Province of British Columbia enact provincial legislation that will ban the sale and use of cosmetic pesticides province-wide.*”

Analysis

As previously reported by the Canadian Centre for Pollution Prevention (C2P2)¹ the efficiency of an EPMP, including the success of a regulatory cosmetic pesticide bylaw, depends on the implementation of a strong education and community outreach program. Bylaw compliance is difficult to measure and therefore challenging to enforce. The City’s EPMP takes a comprehensive approach to the cosmetic pesticide issue by placing emphasis on: Education and Community Partnership; Corporate Reduction; Senior Government Regulation; Pesticide Use Control Bylaw; and Cost/Resource Implications. The following is a review of the *EPMP Program Highlights* in addition to an overview of *Challenges* and *Improvements/Recommendations* for the 2011 Program.

EPMP Highlights

The following list highlights key actions and initiatives undertaken over the past 12 months to assist the City’s implementation of a successful EPMP (See **Attachment 2** for a full list of EPMP achievements):

- Hiring of a Temporary Full-Time (TFT) Environmental Coordinator to implement the EPMP in accordance with the program endorsed by Council (February 2010)
- 44,000 Pesticide Use Control (PUC) Bylaw Information inserts sent with utility bills (February 2010)
- 65,000 PUC Bylaw Information inserts sent with property tax bills (May 2010)
- 5,000 PUC Bylaw Information inserts distributed to City facilities, retailers, and to the general public during events
- 37 Natural Gardening and Lawn Care Workshops, including two Chinese language workshops
- Advertisements and promotion for the PUC Bylaw (e.g. local newspapers, Leisure Guide, City website, community events etc.)

¹ *The Impact of By-Laws and Public Education Programs on Reducing the Cosmetic / Non-Essential, Residential Use of Pesticides: A Best Practices Review*, (2004), Canadian Centre for Pollution Prevention and Cullbridge Marketing and Communications: <http://www.c2p2online.com/documents/PesticidesBestPracticeReview-FINAL040324.pdf>

- 143 PUC Bylaw information inserts, surveys and training opportunity invitations sent to all licensed landscapers operating in Richmond
- 20 City staff and six licensed Richmond landscapers attended a *Pesticide Free Weed Management Training* workshop hosted by the City in partnership with the British Columbia Landscape and Nursery Association (November 19, 2010). An additional spring training workshop is currently being developed
- Informal surveys suggest high community awareness of EPMP (i.e. ~ 79% of responses)
- Staff visited 8 Richmond retailers of cosmetic pesticides
 - All 8 agreed to provide the City PUC Bylaw information at point of sale
 - Three retailers have since removed non-exempted pesticides from their shelves
- Parks and Recreation Department has dramatically expanded the use of exempted (i.e. permitted) pesticides such as horticultural vinegar (i.e. acetic acid) and corn gluten meal since adoption of the PUC Bylaw
- City staff purchased two *Greensteam* machines which utilize high temperature steam to control weeds on City hardscapes
- City staff are collaborating on a number of pilot weed control programs to determine the effectiveness of new products on the market
- Community Bylaws Division have reported two pesticide use incidents and no municipal tickets have been issued under the new PUC Bylaw. While there were no tickets issued, the TFT Environmental Coordinator assisted Community Bylaws with complaints and conducted on-site visits with Bylaw staff. The TFT Environmental Coordinator also fielded numerous information and complaints calls, e-mails and *front of house* requests to support voluntary compliance of the Bylaw.
- Letter sent by Mayor and Council to the Province to support the introduction of province-wide legislation prohibiting the cosmetic use of pesticides
- Staff applied for funding (\$12,000) to Environment Canada to develop an invasive plant management best practices strategy (December 2010)

EPMP Challenges

Corporate Reduction

This first year of transition under the EPMP required a significant change in the City's weed management programming. The new program necessitated a paradigm shift for City landscape management that now requires a higher demand on staff labour resulting from greater dependency on mechanical and labour intensive approaches, with the following consequences:

- Selected shrub medians, beds and borders are in the process of being changed to turf grass in effort to reduce the additional labour costs resulting from the additional weeding;
- Exempted pesticides now used by staff may be more costly or less efficient than non-exempted pesticides, demanding more frequent application and staff time in order to obtain similar results. For example, hardscapes such as boulevards, sidewalks and walkways which used to require two annual applications of glyphosate for maintenance, now require three applications of horticultural vinegar. (**Attachment 3**);

- Planted medians, beds and gardens in popular areas, such as City Centre, now require more frequent tending to manually control weed growth, with some locations requiring up to seven visits per year to maintain the standards expected. As a result, staff labour is concentrated on high priority, publicly visible landscapes;
- Parks Operations has experienced a significant increase in vegetation management complaints since Bylaw implementation.

The cost of weed management in the City has increased considerably this year, and will remain elevated during this adaptation period. Scientific literature cites that a minimum 25% increase in costs is typically anticipated when an organization moves from the use of non-exempted pesticides to exempted pesticides². Staff anticipate that while Parks costs may continue to increase over the next few years as new methods, machines and products are piloted on the various City landscapes, over time as innovation continues, processes evolve and new methods, machines and products increase, costs should stabilize or decrease. The immediate establishment of a well-resourced, efficient and effective program will position the City to best manage City lands with a sustainable approach, resulting in pest reduction for the community.

Education and Community Partnerships

Following the findings from the previously sourced C2P2 study, the City has taken a very proactive approach to Education and Community Partnerships and targeted a broad audience. Though ambitious and amongst the most comprehensive in the lower mainland, the EPMP's success is difficult to measure. Due to the City's inability to access actual sales data for non-exempted pesticides sold in Richmond, it is very difficult to verify an actual reduction in non-exempted pesticides used on residential lands. However, overall community awareness of the EPMP and Bylaw appears to be high, based on informal surveys and general community feedback from City staff attendance at public events (e.g. Steveston Farmers Market).

Senior Government Regulation

Despite the over 8,000 responses to the Province's *Cosmetic Use of Pesticides in British Columbia Consultation* paper, there are no indications of further action towards a provincial regulation at this time. The TFT Environmental Coordinator will continue to liaise with the province to ensure inclusion on any further consultation. To date, staff effort has been focussed on lobbying for the development of provincial regulation and exploring partnership opportunities locally.

Pesticide Use Control Bylaw No. 8514

Since the adoption of the EPMP, both giant hogweed and the common reed have been confirmed in the City of Richmond. Giant hogweed is an invasive plant that presents ecological, infrastructure, agricultural and human health risks while the common reed presents significant ecological, infrastructure, and agricultural risk. Both species have the potential to expand their range if not dealt with in an aggressive manner. Use of a traditional pesticide (e.g. glyphosate) may prove the best eradication tool to reduce the risks outlined above for both species, yet the Bylaw does not currently permit this use on residential or City owned land.

² Kempenaar et.al., 2007. *Trade off between costs and environmental effects of weed control on pavements*. Crop Protection, Vol. 26, pp 430-435.

Another significant challenge posed by the Bylaw is the lack of provisions for the use of new generation, low-toxicity, domestic pesticides that have been licensed through the federal Pesticide Management Regulatory Agency (PMRA) and approved for sale in other provinces, yet not classified as exempted on the Provincial Integrated Pest Management Regulations, Schedule 2 - Excluded Pesticides list. Ministry of Environment staff have indicated no intention of amending Schedule 2 in the near future.

In the absence of any action towards provincial cosmetic regulation, staff continue to focus on the delivery of an efficient EPMP, including the new Bylaw. This spring staff will bring forward proposed amendments to the Bylaw that include an exemption for infestations to deal with the risk posed by invasive species (i.e. giant hogweed and common reed) and the inclusion of new generation domestic pesticides licensed through the PMRA on Schedule A for Council consideration.

Cost/Resource Implications

Shifting away from a traditional approach to pesticide management requires a strategic and comprehensive plan. The EPMP enacted by Council enabled a program with significant rigour and strong foundation to adjust to this new era of pesticide management. To date, the most significant Program challenge lies in the cost and resource implications to manage weeds on City lands in a cost-effective and risk reducing manner. The new suite of non-traditional pesticides requires more labour, more pesticide (i.e. volume and frequency of spray) and more mechanical treatment. This reality is coupled with the recent detection of two new high-risk invasive plant species (i.e. common reed and giant hogweed) in Richmond in 2010. Forethought for inclusion of control and/or eradication of these species is an important aspect of the EPMP. The table below outlines the existing cost implications for the 2011 EPMP.

EPMP Costs	
TFT Environmental Coordinator (1.0 TFT, salary and benefits)	= \$ 81,162 ¹
Education and Community Partnerships	= \$ 15,000 ¹
TFT Bylaw Enforcement (0.5 TFT, education, patrols and response)	= \$ 37,857 ¹
TOTAL COST	= \$134,019

¹ These three components totalling \$134,019 are currently in the 2011 budget

EPMP Improvements/Recommendations for 2011

Community and corporate awareness of the EPMP is wide spread. Over the past 12 months, staff have implemented all aspects of the Program with the majority of resources and effort expended on the *Education and Community Partnerships* and *Corporate Reduction* components. The following list of actions and improvements are recommended for the 2011 EPMP:

1. *Corporate Reduction* has incurred the greatest challenge for the EPMP. This new approach to pesticide management has required considerable technical expertise to review and adopt new sustainable landscaping best practices, review new pesticide products, design pilot projects, identify high-risk invasive species occurrences, develop invasive species removal plans, track volumes and effectiveness of pesticides, and track

costs and effectiveness of new weed control practices (e.g. manual control, mechanical control including *Greensteam* machine and re-design of landscaping plans). Sustainability Services and Parks Operations staff have determined that the development of an Integrated Pest Management Plan under *Corporate Reduction* for the 2011 EPMP is necessary. This tool will assist the City to undertake the above outlined tasks under a strategic, risk-based and cost-effective framework. Park Operations will continue to monitor staffing and operation needs as the 2011 Program proceeds and may come forward with a Report to Committee this spring to outline additional financial requests to operate the Program. The continuance of the TFT Environmental Coordinator is essential for this and all other EPMP roles for the 2011 Program as the skill sets required to undertake the tasks outlined above do not currently reside in Parks Operations.

2. As previously reported, Bylaw compliance is difficult to measure, however informal surveys and general feedback from community events indicate broad awareness and understanding of the new Bylaw. The 2011 EPMP will build upon the previous *Education and Community Partnership* activities with greater emphasis on building partnerships (i.e. Metro Vancouver, BCLNA, local community organizations and Ministry of Agriculture & Lands) and developing a proactive prevention measure for City practices (e.g. landscaping design guidelines, Integrated Pest Management Plan, invasive plant management best practices through federal grants, etc.).
3. Under *Senior Government Regulation*, the 2011 Program will include more effort to lobby the provincial and federal governments to better regulate pesticide sales and product approvals. Staff will continue to communicate with provincial staff, however the fall cabinet shuffle and lack of provincial direction for a cosmetic pesticide regulation place greater demand on the continuance of the EPMP at the municipal level.
4. Under the *Municipal Regulation* component of the EPMP an amendment to the PUC Bylaw No. 8514 is recommended in 2011. The proposed Bylaw amendments include:
 - An infestation clause under exclusions to deal with recent invasive plant species that have been confirmed in the City (i.e. common reed and giant hogweed). Both plants, and potentially many others, pose a significant risk to City infrastructure, biodiversity and agriculture. Giant hogweed poses significant human health risks.
 - The addition of new-generation pesticides (e.g. Fiesta) to the Bylaw. Due to the lack of Provincial updates or amendments to the IMP Regulations, there are new, low-toxicity pesticides that are licensed for use in British Columbia but not yet included on the Schedule A: Excluded Pesticides permissible by the PUC Bylaw.
5. The 2011 Program *Cost/Resource Implications* will be slightly lower than the 2010 budget due to the reduction in cost related to Bylaw development. The EPMP budget of \$134,019 is already allocated in the 2011 budget.

As reported above, Parks Operations will be coming forward with a Report to Committee this spring outlining additional financial requests to effectively operate the *Corporate Reduction* component of the 2011 EPMP.

The role of the TFT Environmental Coordinator is mandatory for the successful implementation of the EPMP. The technical expertise, liaison role with other levels of government, education & partnership coordination, PUC Bylaw support and overall program facilitation are essential activities led by the TFT Environmental Coordinator for this Program. As the Program matures, the expertise gained in implementation from the EPMP can be “transferred” to facilitate implementation of other sustainability programs and initiatives, such as energy conservation outreach and education, to ensure optimum allocation of resources and staff expertise.

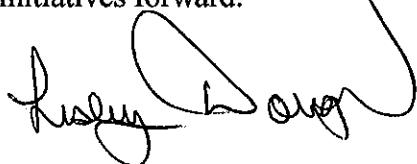
Financial Impact

The 2011 budget for Environmental Sustainability is currently \$134,019, which includes funding for: a TFT Environmental Coordinator salary and benefits; Education and Outreach; and Bylaw Enforcement salary and benefits. These costs are already allocated in the 2011 base-level budget for the EPMP program. Staff will continue to monitor the Bylaw enforcement needs in 2011 for any potential reductions in the 2012 budget.

Conclusion

It is recommended that the funding for the EPMP, as outlined, continue through 2011 and staff report back to Council concurrent with the budget process for 2012 on future funding, progress made and overall policy effectiveness of the EPMP.

Continuation of the EPMP into 2012 is essential to ensure compliance with the PUC Bylaw and the success of Council’s response to strong community interest in minimizing potential risks of pesticides to public health in the City of Richmond. At the same time, this Program takes a proactive approach to lobby both provincial and federal levels of government where greater accountability and jurisdiction reside for the development of cosmetic pesticide regulation. Until the provincial or federal government takes action on pesticide regulation, the City is positioned with an EPMP that takes a leadership role in *Corporate Reduction, Education and Community Partnership* and *Senior Government Regulation*. As the EPMP matures, staff resources and experiences gained in community outreach can be reallocated to move other sustainability initiatives forward.



Lesley Douglas, B.Sc., R.P.Bio.
Manager, Environmental Sustainability
(604-247-4672)

Attachment 1	Attachment 1- Table 1 - Option 4 Summary from April 16, 2009 - Report to Committee	REDMS #3012463
Attachment 2	Attachment 2- Table 2 - Overview of Richmond's EPMP Actions in 2010	REDMS #3128553
Attachment 3	Attachment 3 - Table 3 - Outline of Trends in Parks Operations Pesticide Use (Non-Exempted and Exempted)	REDMS #3058422

Table 1 - Option 4 Summary, from April 16, 2009 - Report to Committee

		Option 4: Policy, Enhanced Management Program and Restrictive Bylaw
Aim		Targets all types of pesticide use (commercial, agricultural, residential) based on level of risk and benefit
Service Delivery Levels	Corporate Reduction	<ul style="list-style-type: none"> • Cease use of non-exempted pesticides immediately
	Education & Community Partnerships	<ul style="list-style-type: none"> • Expanded education program that includes initiatives to inform on the restrictive bylaw • Work with industry on accreditation • Explore problem prevention measures (e.g. landscaping guidelines) • Encourage Metro Vancouver to take strong regional role in community education • Significant consultation for draft bylaw recommended • Ongoing liaising/consulting with community
	Senior Government Regulation	<ul style="list-style-type: none"> • Actively lobby provincial government to better regulate sales (e.g. ban "Weed and Feed") • Consideration given to lobbying federal government to better regulate product approvals • Explore partnership opportunities (e.g. joint distribution of information on regulations, alternative practices)
	Municipal Regulation	<ul style="list-style-type: none"> • Enforce a Bylaw that restricts the cosmetic use of pesticides on residential and City owned property¹
Cost/Resource Implications		\$210,000 annual operating impact plus \$15,000 for bylaw consultation; 2.7 FTE (1.2 FTE Parks labour; 1 FTE education/advocacy; .5 FTE bylaw enforcement)

¹ Exemptions can be specified, and could include lawn bowling greens, the pitch and putt course, or other scenarios in which eliminating pesticide use may lead to substantial loss or damage of amenities.

Table 2: Overview of Richmond’s Enhanced Pesticide Management Program (EPMP) Actions in 2010

Corporate Reduction	
<i>Cease use of non-exempted pesticides immediately</i>	<ul style="list-style-type: none"> • Parks and Recreation Department considerably decreased use of non-exempted pesticides prior to EPMP enactment. • Traditional pesticides and combined fertilizer/ herbicide products substituted by exempted (i.e. permitted) pesticides (Attachment 3) • Increased mechanical, manual and cultural weed control methods. • Acquisition and retrofit of equipment allowing non-traditional approach to weed management (e.g. <i>Greensteam</i>™ machines and corn gluten meal applicator) • Establishment of pilot programs to determine the effectiveness of these new weed control products and methods • Continuous research and evaluation of new science, products, practices and technologies related to cosmetic pest management.
Education and Community Partnership	
<i>Expanded education program that includes initiatives to inform on the Pesticide Use Control Bylaw</i>	<ul style="list-style-type: none"> • 44,000 PUC Bylaw Information inserts sent with utility bills (Feb. 2010). • 65,000 PUC Bylaw Information inserts sent with property tax bills (May 2010). • 5,000 PUC Bylaw Information inserts distributed to City facilities, retailers, and to the general public during events. • 16 Natural Gardening & Lawn Care workshops. • Two Chinese language pesticide free workshops. • 19 Food Garden and Tree Care workshops. • Extensive media coverage including two colour advertisements for the PUC Bylaw, two advertisements in the City Leisure Guide (i.e. Summer & Fall). • Bylaw and EPMP promotion on City website, local newspaper coverage upon Bylaw adoption, promotion at City and Community events (e.g. Earth Day, Steveston Farmers Market, Grow Up), and promotion in Chinese language media. • City website updated with comprehensive resources on the Bylaw, and workshops and technical information on pesticide alternatives. • Established EPMP phone line.
<i>Work with Industry on Accreditation</i>	<ul style="list-style-type: none"> • The PlantHealthBC organization, suggested as a potential partner for industry accreditation, has since dissolved. • To ensure training opportunities for licensed landscaping practitioners, the City offered a pesticide free weed management-training workshop in partnership with the British Columbia Landscape and Nursery Association. City staff continue to network with other municipalities and organizations to maximize effective strategies for effective implementation of the EPMP. • 143 Bylaw information inserts, survey and training opportunity invitation letters sent to all licensed landscapers operating in Richmond.
<i>Explore problem prevention measures (e.g. landscaping guidelines)</i>	<ul style="list-style-type: none"> • With the advent of many new non-traditional pesticides on the market for residential use, considerable staff time has utilized for research, product efficacy and product awareness. This information is shared with residents, the landscaping community and City staff. • In addition to this research, City staff are working with invasive plant specialists, integrated pest management practitioners and horticultural specialists, to ensure the City is optimizing problem prevention practices.

<p><i>Encourage Metro Vancouver to take strong regional role in community education</i></p>	<ul style="list-style-type: none"> To date, Metro Vancouver has indicated that there is no coordinated community education effort for pesticide management. City staff continue to advocate for a coordinated regional approach to this issue.
<p><i>Significant consultation for draft Bylaw recommended</i></p>	<ul style="list-style-type: none"> Completed and reported in staff report dated September 11, 2009, entitled "Pesticide Use Control Bylaw."
<p><i>Ongoing liaison/consulting with community</i></p>	<ul style="list-style-type: none"> Feedback from the community has been solicited through a number of informal sources including: a voluntary survey (65 responses) indicating 79% awareness of PUC Bylaw; a telephone survey for licensed landscapers (18 responses) indicating 50% interest in natural lawn care training; booths at public events; e-mails; phone calls, and letters to staff. City staff has visited eight pesticide retailers. By September 2010, all retailers were receptive to the information provided on the EPMP and agreed to post information on the Bylaw at point of sale. Through City staff visits, three retailers have voluntarily removed non-exempted pesticides from their shelves.
<p>Senior Government Regulation</p>	
<p><i>Actively lobby provincial government to better regulate sales.</i></p>	<ul style="list-style-type: none"> Letter to the Province sent by Mayor and Council, to support the introduction of province wide legislation prohibiting the cosmetic use of pesticides. City Staff provided a response to the Province's Cosmetic Use of Pesticides in British Columbia Consultation paper in support of a provincial cosmetic pesticide regulation.
<p><i>Consideration given to lobbying federal government to better regulate product approvals</i></p>	<ul style="list-style-type: none"> City staff are presently researching options to efficiently promote stronger approval processes to the Pest Management Regulatory Agency.
<p><i>Explore partnership opportunities</i></p>	<ul style="list-style-type: none"> City staff are collaborating with the Richmond School District (RSD) for consideration to adopt an EPMP on RSD lands. Most local pesticides retailers are providing information on the Bylaw and the City EPMP Workshops in their stores. As previously mentioned the City is partnering with the BC Landscape and Nursery Association (BCLNA) to provide training opportunities for licensed landscaping practitioners in the City. TerraLink Horticulture has supplied the first 1000 L of corn gluten meal herbicide, at no cost to the City, to assess its effectiveness for weed control on City Sports fields.
<p>Municipal Regulation</p>	
<p><i>Enforce a Bylaw that restricts the cosmetic use of pesticides on residential and City owned property</i></p>	<ul style="list-style-type: none"> Adoption of Pesticide Use Control (PUC) Bylaw No. 8514 (October 2009) Assisted Community Bylaws with technical expertise, education and regulatory context regarding pesticide use. Information queries regarding the new Bylaw directed to TFT Environmental Coordinator funded through the EPMP.

Table 3 - Outline of Trends in Parks Operations Pesticide Use (Non-Exempted and Exempted)

Parks Landscapes	Type of Pesticides	Amount Used		
		2008	2009	2010
Hardscapes	<i>glyphosate (L)</i>	75*	-	-
	acetic acid (L)	176**	2160**	3620**
Sport fields	<i>fertilizer/herbicide combined products (Kg)</i>	300	-	-
	corn gluten meal (L)	-	-	3000
Planted beds, medians	<i>glyphosate (L)</i>	5	5	-
	<i>Casoron, 250 kg</i>	250	75	-
			<i>increased manual removal</i>	
Trees	mineral oil (L)	10	10	10
	lime sulphur (L)	10	10	10
	insecticidal soap (L)	20	15	1
	aerosol containers (wasp control)	41	30	42

*(@\$18/L)

**(@\$10/L)

Note: Pesticides that are *italicized* are restricted (i.e. not permitted by PUC Bylaw No.8514) and pesticides that are **bolded** are permitted (i.e. on Schedule A of PUC Bylaw No. 8514)