

Special Committee on Cosmetic Pesticides





May 17, 2012

To the Honourable
Legislative Assembly of the
Province of British Columbia

Honourable Members:

I have the honour to present herewith the Report of the Special Committee on Cosmetic Pesticides.

The Report covers the work of the Committee in the third and fourth sessions of the 39th Parliament in regard to its inquiry into the feasibility of a province-wide ban on the cosmetic use of pesticides.

Respectfully submitted on behalf of the Committee,

Bill Bennett, MLA
Chair

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Composition of the Committee

Third Session (June 2 – October 3, 2011)

Dr. Margaret MacDiarmid, MLA	Chair	Vancouver-Fairview
Rob Fleming, MLA	Deputy Chair	Victoria–Swan Lake
Bill Bennett, MLA		Kootenay East
Scott Fraser, MLA		Alberni–Pacific Rim
Barry Penner, MLA		Chilliwack-Hope
Michael Sather, MLA		Maple Ridge–Pitt Meadows
John Slater, MLA		Boundary-Similkameen
Ben Stewart, MLA		Westside-Kelowna
John Yap, MLA		Richmond-Steveston

Fourth Session (October 3, 2011 to May 17, 2012)

Bill Bennett, MLA	Chair	Kootenay East
Rob Fleming, MLA	Deputy Chair	Victoria–Swan Lake
Murray Coell, MLA (from January 3, 2012)		Saanich North and the Islands
Scott Fraser, MLA		Alberni–Pacific Rim
Douglas Horne, MLA (from March 29, 2012)		Coquitlam–Burke Mountain
Barry Penner, MLA (to January 3, 2012)		Chilliwack-Hope
Michael Sather, MLA		Maple Ridge–Pitt Meadows
John Slater, MLA		Boundary-Similkameen
Ben Stewart, MLA		Westside-Kelowna
John Yap, MLA (to March 29, 2012)		Richmond-Steveston

Clerks to the Committee

Kate Ryan-Lloyd, Deputy Clerk and Clerk of Committees
Susan Sourial, Committee Clerk

Research Staff

Josie Schofield, Manager, Committee Research Services
Morgan Lay, Gordon Robinson, Jennifer Ives, Committee Researchers

Terms of Reference

On Opening Day of the fourth session, October 3, 2011, the Legislative Assembly reappointed the Special Committee on Cosmetic Pesticides, which was first struck on June 2, to examine, inquire into and make recommendations with respect to the elimination of the unnecessary use of pesticides in British Columbia and to conduct consultations on this issue with the public and key stakeholders, by any means the Special Committee considers appropriate.

Without limiting the generality of the foregoing to consider, the Special Committee shall specifically consider:

1. The scope of any ban on the sale and use of pesticides, including those used solely for cosmetic purposes; and,
2. Any appropriate exemptions and restrictions on the sale and use, which may apply.

The Special Committee shall provide recommendations to the Legislative Assembly with respect to the development and implementation of legislative provisions regarding the unnecessary use of pesticides.

The Special Committee so appointed shall have all the powers of a Select Standing Committee and is also empowered:

- a. to appoint of their number, one or more subcommittees and to refer to such subcommittees any of the matters referred to the Committee;
- b. to sit during a period in which the House is adjourned, during the recess after prorogation until the next following Session and during any sitting of the House;
- c. to adjourn from place to place as may be convenient; and
- d. to retain such personnel as required to assist the Committee;

and shall report to the House as soon as possible or following any adjournment, or at the next following Session, as the case may be; to deposit the original of its reports with the Clerk of the Legislative Assembly during a period of adjournment and upon resumption of the sittings of the House, the Chair shall present all reports to the Legislative Assembly.

Executive Summary

On June 2, 2011 and again on October 3, 2011 the Legislative Assembly of British Columbia approved a motion to appoint a Special Committee on Cosmetic Pesticides (the Committee). The Committee's mandate was to examine, inquire into, and make recommendations with respect to the development and implementation of legislative provisions regarding what the terms of reference characterize as "the unnecessary use of pesticides in British Columbia" and to conduct consultations on this issue with the public and key stakeholders.

The creation of the Committee followed the introduction of varied restrictions on the cosmetic use of pesticides in seven Canadian provinces, the passage of 40 municipal bylaws on cosmetic pesticide use in British Columbia, and a 2009-10 BC Ministry of Environment public consultation on the issue of a possible ban on pesticides used for cosmetic purposes.

The all-party Committee developed an inclusive strategy to learn about pesticides and pesticide use. It received briefings on the existing regulatory framework, heard presentations from 21 invited stakeholders, and hosted a two-month-long e-consultation that allowed British Columbians to submit written or video submissions or complete an e-questionnaire. Throughout this process, committee members focused on: understanding the scientific evaluation process that pesticides are subject to before being registered for sale in Canada; learning about the possible health and environmental effects of pesticides; and developing an understanding of how pesticides are sold, used, and regulated in British Columbia.

Over 8,600 groups and individuals participated in the e-consultation, the largest number of submissions a BC parliamentary committee has ever received. Of the 7,300 e-questionnaires submitted, almost 5,000 supported a ban on the sale and use of pesticides for cosmetic purposes. Presentations from stakeholders and written submissions received through the e-consultation process provided varied perspectives on four main themes: the safety of pesticides; the use of pesticides in residential and industrial settings; the federal Pest Management Regulatory Agency's (PMRA) process of testing and registering pesticides for sale in Canada; and existing pesticide legislation in British Columbia.

Over the course of its ten-month-long inquiry the majority of the Committee was struck by the information it received on the PMRA's extensive pesticide registration process. The process includes comprehensive and precaution-based evaluation of risk in situations where homeowners apply pesticides. Officials from the BC Ministry of Environment provided information on the *Integrated Pest Management Act* that governs pesticide sale and use in the province.

The Committee dedicated a significant amount of time to examining research from stakeholders and the public that proposes a link between pesticides and negative health outcomes. It also heard about the possible negative effects pesticides can have on the natural environment. Submitters encouraged the Committee to recommend a province-wide ban based on the view that the precautionary principle is not being applied. Those who argue a ban is unjustified emphasized the thoroughness of

the scientific processes the PMRA uses to determine that pesticides are safe for sale and use in Canada. They also stressed the important role pesticides play in improving the value and enjoyment of green spaces, in controlling invasive plants, and in supporting forestry and agriculture.

As part of its inquiry into the feasibility of a BC ban on the cosmetic use of pesticides, the Committee reviewed other jurisdictions' experiences with bans. While these bans generally share a common purpose — the protection of human health and/or the natural environment from perceived unnecessary exposure to pesticides — the approach varies from province to province. In examining what other jurisdictions have done, the Committee noted that to date no other province has used an all-party parliamentary committee to investigate the cosmetic use of pesticides. Also, this Committee's commitment to understanding pesticide regulation and the work and role of the PMRA appears to be unprecedented.

Throughout the committee inquiry the all-party Special Committee worked in a collaborative manner and strived to seek common ground. However, committee members have divided on party lines over the justification for a province-wide ban on the cosmetic use of pesticides. The Committee assessed all the evidence carefully, taking more time than originally planned, and the majority of members concluded that currently there is insufficient scientific evidence to warrant a province-wide ban on the cosmetic use of pesticides. Based on currently available studies, the majority cannot justify disagreeing with the findings of the PMRA's comprehensive pesticide testing and re-evaluations. The minority, however, concluded that there is sufficient scientific evidence available for a province-wide ban on the cosmetic use of pesticides.

In order to achieve the goals of reducing pesticide use throughout the province, and ensuring safe and proper use of approved products by unlicensed applicators, the Committee makes 17 recommendations that include restricting the sale and use of Commercial-class pesticides, improving enforcement of existing regulations, and strengthening training and public education related to pesticides use. The Committee recommends regulatory changes to: bolster retail rules, improve sales monitoring, and enhance the training of certified pesticide applicator and dispensers. The Committee also recommends strategies to increase public knowledge of safe pesticide use, to encourage golf courses to fully embrace the pillars of integrated pest management, and to develop a superior pesticide-return program.

The Committee believes these recommendations will protect British Columbians from unnecessary exposure to pesticides, will provide improved education, will lead to safer use by unlicensed applicators, and will encourage the overall reduction of pesticide use while providing individuals, businesses and industries with access to the tools necessary to enhance their personal green spaces, and control pests and invasive species.

Introduction

Pesticides play an important role in our economy and society. They aid in the protection of our food supply, the control of invasive species, the preservation of provincial forest assets, the maintenance of lawns and playing fields, and the control of pests in our gardens and homes.

The approximately 5,000 pesticides that may be legally used in Canada are registered and evaluated by Health Canada's Pest Management Regulatory Agency (PMRA). Pesticides approved for registration by the PMRA are classified as Domestic, Commercial, or Restricted based on their intended use. In 2003, British Columbian businesses and consumers purchased or used over 4,666,709 million kg of pesticide active ingredients, excluding most Domestic-class pesticides.¹ It is estimated that home and garden use of pesticides constitutes approximately 5% of the total annual pesticide sales in Canada.²

Pesticide use became a controversial issue with the publication of Rachel Carson's book, *Silent Spring* in 1962. Today there is a wide diversity of opinion about the impact of pesticide use on human health and the natural environment. Generally, governments in Canada promote reduced reliance on pesticides, while some health and environmental organizations advocate outright bans, believing that pesticides can have serious consequences for human health and the natural environment. These health and environmental concerns have led seven provinces to implement restrictions on the cosmetic use of pesticides, beyond those required by Health Canada. Bans are now in place in Québec, Ontario, New Brunswick, Prince Edward Island, Alberta, Nova Scotia, and Newfoundland and Labrador with different restrictions on which products and uses are banned. (See Appendix A: Timeline)

Currently in BC and other provinces across Canada there exists a patchwork of municipal bylaws implemented in response to statements by health and environmental advocates who have influenced public concerns about pesticide safety. In 1991, the Town of Hudson, Québec was the first jurisdiction in Canada to adopt a pesticide bylaw. In BC, Port Moody passed the first municipal ban in 2003; to date, 40 municipalities in the province have passed bylaws restricting the cosmetic use of pesticides. While these municipal bylaws reflect public support for restrictions on the cosmetic use of pesticides, they have created a piecemeal system of inconsistent and often ineffective rules regarding pesticide use.

In the August 25, 2009 Speech from the Throne, the provincial government committed to consult with British Columbians on, "new statutory protections to further safeguard our environment from cosmetic chemical pesticides." Following the Throne Speech, the Ministry of Environment posted a discussion paper on its website to gather public input on this topic. The consultation process yielded

¹ EKON Environmental Ltd. *Survey of Pesticide Use in British Columbia: 2003*. (Victoria: Environment Canada and BC Ministry of Environment, 2005), p. ii.

² Canada. Parliament. House of Commons. Standing Committee on Environment and Sustainable Development. *Report 1: Making the Right Choice for the Protection of Health and the Environment*. 36th Parliament, 2nd session, 1999-2000. (Ottawa: Queen's Printer, 2000), p. 20.

over 8,000 comments, signatures on petitions, and submissions expressing a variety of positions on the subject. After analyzing the data and opinions, the government concluded that the complexity of the issue and the indirect implications of a ban ruled out speedy implementation.

Between 2009 and 2011, three Public Bills in the hands of Private Members of the Legislative Assembly proposed a ban on the sale and cosmetic use of pesticides. In each case, the Bill did not proceed beyond first reading in the session it was introduced.

On May 4, 2011, Premier Christy Clark publically expressed an intention to proceed with legislation that would circumscribe the use of pesticides for cosmetic purposes. The Premier also indicated her intent to engage with all interested parties, including the public and the opposition, in a consultative and bi-partisan manner.

On June 2, 2011, a special committee of the Legislative Assembly was appointed and asked by the House to examine the elimination of the unnecessary use of pesticides in the province. The creation of the Special Committee on Cosmetic Pesticides represented the first time an all-party parliamentary committee has been used at the provincial level to conduct consultations on this topic. Most of the provinces that have already implemented bans chose the option of a ministry-led consultation, usually in the form of a discussion paper.

This report is divided into five sections. The first section describes the work of the Special Committee on Cosmetic Pesticides and the e-consultation process. The second section outlines the regulatory framework of the sale and use of pesticides in Canada. The third section presents the differing perspectives the Committee heard. The report then presents other jurisdictions' experiences with bans. The final section contains the committee members' conclusions and recommendations.

Work of the Committee

On June 2, 2011, the Legislative Assembly of British Columbia approved a motion creating the Special Committee on Cosmetic Pesticides (the Committee). The Committee's terms of reference were to examine, inquire into and make recommendations with respect to the development and implementation of legislative provisions regarding the unnecessary use of pesticides in British Columbia and to conduct consultations on this issue with the public and key stakeholders. Specifically the Committee was tasked with consideration of: the scope of any ban on the sale and use of pesticides, including those used solely for cosmetic purposes; and any appropriate exemptions and restrictions on the sale and use, which may apply.

On July 6, 2011, the Committee met in Victoria and elected the Chair, Dr. Margaret MacDiarmid, the Deputy Chair, Rob Fleming, and a subcommittee. Its terms of reference were also reviewed, including a discussion of the term "cosmetic".

On October 3, 2011, the Committee was re-appointed for the fourth session of the 39th Parliament. At the organization meeting on October 6, Bill Bennett was elected Chair and Rob Fleming, Deputy Chair. A business plan was adopted that involved consultations with regulators and key stakeholders. An e-consultation was also undertaken to gather public feedback on the objective, scope and implementation of a province-wide ban on the sale and use of pesticides used for cosmetic purposes.

Presentations

The Committee unanimously approved a list of witnesses to invite to make a presentation or to make a written submission. Over the course of its work, the Committee heard a total of 27 presentations. It received initial and follow-up briefings from the main regulators, Health Canada's Pest Management Regulatory Agency and the BC Ministry of Environment. The Ministry of Agriculture and the Ministry of Forests, Lands and Natural Resource Operations participated in the January 25, 2012 meeting. The Committee also heard presentations from 21 key stakeholders: a toxicologist, physicians, health and environmental organizations, local pesticide coalitions, the pesticide industry and business sectors concerned with the impact of a potential ban.

E-Consultation Process

The Committee's e-consultation process was launched on October 17, 2011. In the interest of receiving input from as many British Columbians as possible, the Committee decided to proceed with a web-based consultation involving an e-questionnaire and a call for written submissions and video submissions. To increase awareness of the consultation process and participation, the Committee ran advertisements in newspapers and on one social media site.

By the end of the process, December 16, 2011 the Committee had received 1,358 written submissions, 13 video submissions and 7,304 electronic survey responses. The vast majority of

submissions received were from individual residents of British Columbia, while approximately 550 submissions came from persons and organizations outside of BC. The overall total of 8,675 submissions set a new record for public consultation for a parliamentary committee in BC.

Written Submissions

Written submissions provided an unrestricted medium for respondents to express their opinions. The Committee received a range of submissions including everything from professionally written reports from national organizations to posters drawn by elementary school students. In total the Committee received 1,358 written submissions, 74 of which were made on behalf of organizations. Some environmental and health advocacy groups, as well as the golf industry, established links on their web sites or suggested people participate in the e-consultation. Over 800 of the written submissions received were signed form letters from individuals supporting the positions of these organizations.

Video Submissions

The Committee also received 13 video submissions, the highest number ever received by a BC parliamentary committee. Submitters included high school and university students.

E-questionnaire

The public also had the opportunity to participate by completing an e-questionnaire containing ten questions. The questions were designed to solicit the public's opinions on a possible ban on cosmetic pesticides, their preferred scope of a possible ban, and opinions on how best to implement any changes. The e-questionnaire was the most popular form of public input to the Committee. In total the Committee received 7,304 submissions using this tool. Of those, 193 submissions were from organizations and the remainder from individual citizens.

Of the 7,300 people who responded to the e-questionnaire, over 5,600 believed some uses of pesticides are solely cosmetic. Almost 5,000 supported a ban on the sale and use of pesticides for cosmetic purposes. Their reasons for supporting a ban, ranked in order of most to least common, were: pesticides are harmful to the environment; pesticides pose a risk to human health; there are safer alternatives on the market; to promote consumer safety; and to reduce the reliance on pesticides. The responses of the approximately 2,000 people opposing a ban indicated they believe that existing regulations are sufficient, that the need for a ban is not supported by scientific evidence; and that a ban will have a detrimental effect on business or industry. A final tally of the public's responses to all ten questions is provided in Appendix B.

A list of participants who presented to the Committee and submitted written, video or e-questionnaire submissions begins on page 67.

Meeting Schedule

Third Session

July 6, 2011	Organization Meeting	Vancouver
July 15, 2011	Subcommittee Meeting	Victoria
August 22, 2011	Briefing	Victoria
September 14, 2011	Subcommittee Meeting	Victoria

Fourth Session

October 6, 2011	Organization Meeting Briefing	Victoria
October 26, 2011	Presentations	Victoria
November 7, 2011	Presentations	Vancouver
November 8, 2011	Presentations	Vancouver
November 17, 2011	Presentations	Victoria
November 22, 2011	Deliberations	Victoria
January 10, 2012	Deliberations	Victoria
January 11, 2012	Deliberations	Victoria
January 17, 2012	Briefing (Video Conference)	Victoria
January 25, 2012	Briefings	Victoria
February 15, 2012	Deliberations	Victoria
February 20, 2012	Subcommittee Meeting	Victoria
February 23, 2012	Subcommittee Meeting	Victoria
February 29, 2012	Deliberations	Victoria
March 8, 2012	Subcommittee Meeting	Victoria
April 18, 2012	Subcommittee Meeting	Victoria
April 19, 2012	Subcommittee Meeting	Victoria
April 26, 2012	Deliberations Adoption of Report	Victoria
May 14, 2012	Subcommittee Meeting	Victoria

How Pesticides are Regulated Today

Overview

The sale and use of pesticides in Canada is regulated by all three levels of government. The federal government evaluates the most up-to-date scientific research and registers only those pesticides that are safe; provincial legislation outlines how pesticides can be applied and by whom; and municipal governments have been given the option to regulate whether pesticides are used on residential and municipal property.

Chart 1: Distribution of Legislative and Regulatory Responsibilities³

Federal	Provincial	Municipal
<ul style="list-style-type: none"> • New pesticide registration and re-evaluation. • Science-based health, environment and value assessments. • Compliance and enforcement. • Development of sustainability strategies. 	<ul style="list-style-type: none"> • Transportation, sale, use, storage and disposal. • Training, verification and licensing. • Further conditions on use, in accordance with federal standards. 	<ul style="list-style-type: none"> • Bylaws for further conditions on use of pesticides, where the authority exists and in accordance with federal standards.

Over the course of its inquiry the Committee learned about the complex regulatory framework governing the registration, sale and use of pesticides and concluded that there is a general lack of understanding among the public of how pesticides in the province are approved for use and regulated. Also, in British Columbia some local governments — in particular, small rural municipalities — do not have the resources to undertake a comprehensive review of the processes involved in registering pesticide products for use in Canada. In order to educate British Columbians about the regulatory responsibilities of each level of government, this section of the report endeavors to explain in some detail the federal regulator’s process for registering and re-evaluating pesticides in Canada and outlines the responsibilities of the provincial and municipal governments in the province.

³ Lindsay Hanson, “Pest Management Regulatory Agency, Federal Pesticide Regulation,” PowerPoint Presentation Special Committee on Cosmetic Pesticides, Victoria, BC, October 6, 2011.

Federal Regulation

“The federal role is to look at new pesticide registration and the re-evaluation process; ... compliance and enforcement; and the development of sustainable strategies with respect to food crop production and also for non-food uses of pesticides.” (Lindsay Hanson, Pest Management Regulatory Agency, Victoria meeting, October 6, 2011)

The *Pest Control Products Act* (PCPA) and regulations are the comprehensive framework legislating pesticides imported into, sold, or used in Canada. Pesticides in Canada are also regulated under a number of different laws including the *Canadian Environmental Protection Act*, the *Food and Drug Act*, and the *Species at Risk Act*.

The existing *Pest Control Products Act* received royal assent on December 12, 2002 and came into force on June 28, 2006. The legislative changes introduced in 2002 were the first major amendments since 1969. The revised law focused on increased transparency, strengthened health and environmental protection and provided more robust post-registration control of pesticides. To achieve these goals the *Act* provides additional protections for children and pregnant women and includes specific safety considerations for pest control products used residentially.

The legislation includes new testing measures to account for pesticide exposure from all sources, including food and water; the introduction of an online public pesticide registry; the opening of a reading room where the public can examine confidential test data; and the establishment of formal public consultation practices. The *Act* also requires that all pest control products be re-evaluated on a 15-year cycle; increases the powers of inspection and fines to ensure compliance; and requires new incident and sales reporting.

The *Pest Control Products Act* is administered by Health Canada’s Pesticide Management Regulatory Agency (PMRA). The Agency was created in 1995 with the specific mandate to protect human health, safety and the environment by minimizing risks associated with pesticides. The Agency works with Agriculture and Agri-Food Canada, the Canadian Food Inspection Agency, Environment Canada, Fisheries and Oceans Canada and Natural Resource Canada, and with provincial ministries.

The PMRA’s main responsibilities include (1) pre-market testing and pesticide registration, (2) setting maximum residue limits for the *Food and Drugs Act*, (3) re-evaluating registered products, and (4) enforcing compliance. The Agency also develops policies on sustainable pest management and provides the public with information on safe pesticide use. Each of the PMRA’s main responsibilities is outlined below.

Pre-market Testing and Pesticide Registration

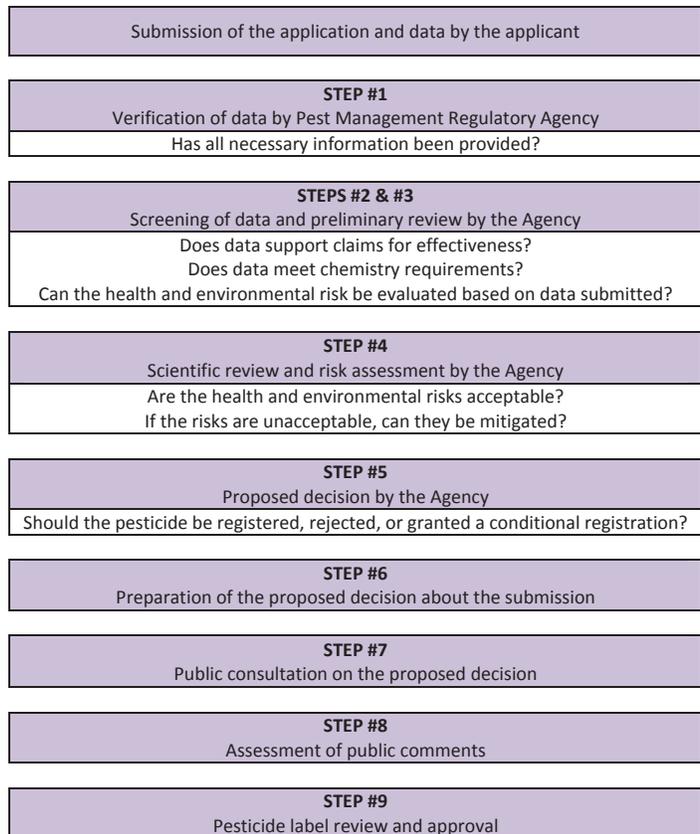
Before a pesticide product can be registered and sold in Canada, the PMRA must determine that it is acceptable in terms of safety, efficacy, and value. (See Chart 2: Steps for the Registration of a Pesticide, page 8) The registrant, typically the manufacturer, is required to submit over 200 toxicology tests and exposure studies that are used by the PMRA to complete health, environmental

and value assessments. The studies submitted are completed by the registrant's own laboratory, or by independent laboratories, all of whom must follow a set of test protocols developed by the Organization for Economic Development (OECD). These international Test Guidelines and Principles of Good Laboratory Practice (GLP) are designed to prevent manipulation and promote the quality and validity of test data. GLP includes standards with regards to the organization process and conditions under which non-clinical studies are planned, performed, monitored, recorded, and reported.

The PMRA pesticide evaluation processes are consistent with the approach taken by other international regulatory bodies such as the US Environmental Protection Agency (EPA) and use the same risk-assessment paradigm as the European Union. PMRA staff cross-reference the data, check and assess it to make sure it is scientifically sound. In conducting the risk assessment and making registration decisions, the PMRA considers how a pesticide product will be used, possible exposure scenarios, and the level of knowledge the applicator may have.

The PMRA management committee uses registrant-provided toxicological data and, when available, epidemiological literature, to evaluate the human health risks, the environmental risks and the risks arising from occupational and bystander exposure. The PMRA only registers pesticides that complete these health, environment, and value assessments and for which PMRA has "reasonable certainty that no harm to health, future generations and the environment will result from use or exposure when used according to label directions."⁵

Chart 2: Steps for the Registration of a Pesticide⁴



⁴ Canada. Office of the Auditor General of Canada. *March Status Report of the Commissioner on the Environment and Sustainable Development, Chapter 2 - Chemicals Management – Pesticide Safety and Accessibility*. Ottawa: Public Works & Government Services Canada, 2008), p. 6. Available online: http://www.oag-bvg.gc.ca/internet/English/parl_cesd_200803_02_e_30128.html

⁵ Canada. Parliament. House of Commons. *Pest Control Products Act*. Bill C-8, 37th Parliament, 2nd Session, 2002-2003. (Ottawa: Queens Printer of Canada, 2003) Section 2.

Health and Environment Risk Assessment

The pesticide risk assessment procedure identifies, analyzes, and evaluates the chances of harm or injury to people and to the environment from a given substance. Health and environmental risks are assessed by measuring and analyzing two factors: the inherent toxicity of a pesticide (**hazard**) and the probability of sufficient exposure to elicit an adverse effect (**exposure**). The PMRA's 350 staff scientists use data on the health and environmental hazard and the exposure to answer the question, "What is the risk that exposure to a pesticide will result in harm?"

Health evaluation

An extensive set of toxicology studies, epidemiological information and tests of occupational, bystander, and dietary exposure is used to determine the nature and extent of the human health risk posed by a pest control product. The health evaluation focuses on the interaction between two health-related criteria: hazard and human exposure.

To measure the **hazard** of a product the PMRA uses animal tests to examine the effects of a single dose, the effects of short-term exposure, and the effects of long-term and life-time exposure. Tests include analysis of reproductive effects of a pesticide over two generations, measurement of the cancer potential of a pesticide and examine how pesticides are absorbed through the body, how chemicals affect nervous tissue and how chemicals could affect immune function. Studies are also done to understand the possible mechanisms by which pesticides might have carcinogenic effects and to assess the potential effects of pesticide exposure in utero and during early life on the developing nervous system.

In order to accurately estimate the amount of pesticide Canadians may be exposed to through their diet and other activities, PMRA scientists review a number of studies on **exposure**. The assessments examine all sources and routes of potential exposure (oral, dermal and inhalation) and take into account various occupational, residential, and bystander pesticide-use scenarios. Exposure studies also specifically consider the differing behaviours and biology of sensitive populations including infants, toddlers, children, adolescents, and pregnant women. One scenario the PMRA accounts for in their analysis is infants or children playing on a treated lawn or playing field.

To judge the risk of a pesticide product the PMRA integrates information on the toxicity of a product with information gathered on likely exposure levels. Studies on pesticide toxicity are used to identify the product dose that causes no adverse effects on the most sensitive species used for testing. This dose is referred to as the "No Observed Adverse Effect Level," or NOAEL, and is used to calculate and predict the level of exposure at which there will likely be no harmful effects to humans — the "Reference Dose". The Reference Dose is calculated by applying uncertainty factors, typically of 100 to 1000 fold, to the NOAEL to take into account differences between species and differences between humans. The Reference Dose is always less than 1/100th of the level of pesticide that causes effects on the most sensitive species. Additional safety factors are applied to address sensitive sub-populations and uncertainties about the precision of toxicology and exposure data.

Once the Reference Dose is calculated, it is compared to the expected level of human exposure generated by the slate of exposure studies. Only pesticides where the reference dose is below the expected level of exposure are considered appropriate for registration.

Environmental evaluation

Much like the health assessment, the environmental risk of a pesticide is a function of two factors: the environmental chemistry and toxicology of a product (**hazard**) and what happens to a product once it enters the environment (**exposure**). The testing of both environmental hazard and exposure is challenging because it requires identification of possible toxic effects on a vast number of organisms, species, ecosystems and food chains. The testing must also consider both local effects of pesticides and the potential effects resulting from pesticide movement.

Environmental toxicology studies of a product reveal the **hazards** posed by a pesticide to non-target land and water organisms. A pesticide manufacturer must provide lab and field data on the acute, short- and long-term effects of their product on mammals, birds, invertebrates, insects, and plants, as well as results of acute and chronic oral and dietary tests and reproductive and genotoxicology tests. Acute and chronic-toxicity testing is also required on cold and warm water fish, aquatic invertebrates, aquatic plants and, when relevant, on marine fish and mollusks.

Study of the environmental fate (**exposure**) of a pesticide allows for an understanding of the chemical properties of a pesticide, its transformation processes and what happens to a pesticide once it enters the environment. Lab and field studies of environmental fate reveal how a pesticide acts in air, soil and water and how pesticides are processed by plants and animals. Testing is also done to understand the product's potential for bioaccumulation in organisms and how pesticides move through soils and water. Testing of environmental fate is not required when environmental toxicity tests indicate that the product presents minimal environmental concern.

Mandatory field tests in specific Canadian climate zones are completed in a range of standard test organisms to determine the effects of pesticides. Internationally recognized indicator species are used to measure the potential effects of pesticides on terrestrial and aquatic non-target flora and fauna.

Data on the environmental hazard of a pesticide is used to determine a No Observe Effect Concentration (NOEC). Similar to the case of human health effects, the NOEC is compared to expected environmental concentrations. Only pesticides where expected exposure levels are much below the No Observed Effect Concentration are considered for registration.

Value assessment

The value assessment of a pesticide ensures that only products that make a positive contribution to pest management are registered. The process includes three components: efficacy testing, analysis of the economic benefits and competitiveness of a product, and consideration of how the product affects the PMRA's goal of sustainable pesticide use.

Efficacy assessments help to protect users from deceptive claims while also examining whether a product improves crop yields or reduces pest damage. The efficacy evaluation includes field and laboratory testing to determine if the label claims and the application directions provide reliable pest control without damaging non-target organisms.

The economic and competitiveness component evaluates the possible economic impacts of adding a new product to the market. The testing predicts the impact a new pesticide would have on the competitiveness and trade of Canadian goods and compares the value of pest reduction with the cost of proposed risk mitigation strategies. More studies are conducted when aggressive risk management options are developed or when the commodity being protected is of high value.

Analysis of a product's sustainability focuses on its compatibility with the PMRA's goals of sustainable agriculture production and use of integrated pest management strategies. New pesticide products are compared to other products to determine how an additional product will affect risk reduction. New products are evaluated based on their possible impact on the management of pesticide resistance.

The value assessment contributes to lower overall risk levels and increased sustainability by working to eliminate high-use rates, by ensuring practical risk mitigation strategies, and by minimizing the negative impacts of pesticide products.

Registration decisions and risk management

The health, environment, and value assessments provide a factual and contextual basis for making registration decisions. Once the assessments are complete, the product's risk management options are identified and analyzed. Regulators consider the range of options available to reduce human and environmental exposures. Among possible strategies are restrictions on use, permit requirements, or specific application techniques and protective equipment requirements. The analysis of risk management options is a dynamic process that includes recalculation of risks under different proposed mitigation strategies. Risk mitigation strategies are constrained by legal and practical enforcement considerations.

Only when there is sufficient evidence to show that a product does not pose unacceptable health or environmental risks and has a value will it be registered and receive a pest control number. Following a risk assessment, pesticides in Canada are classified based on their intended use in one of three categories: Restricted, Commercial or Domestic. Pesticides are registered with specific and legally binding conditions on the label. Any use of a pesticide not according to the label is a legal offence.

Maximum Residue Limits

The PMRA uses information gathered during its health and environmental risk assessments to set maximum residue limits (MRLs) in accordance with the *Food and Drugs Act*. The limits set for each pesticide/crop combination are set at levels well below the amount that could pose a health concern.

If it is determined that an unacceptable risk exists, the pesticide product will not be permitted for sale or use in Canada.

Pesticide Re-evaluation

In addition to assessing and registering pesticides, the PMRA is also responsible for the re-evaluation of pesticide products. The *Pest Control Products Act* requires that all registered pesticide products be re-evaluated on a 15-year cycle. In 2001 the PMRA launched the “Pest Management Regulatory Agency Re-evaluation Program” to review 401 active ingredients registered before the 1995 creation of the PMRA; as of March 2011, 93% of pesticide products have undergone re-assessment in the last 15 years.

Generally pesticide re-evaluations are completed on a cyclical basis, but re-evaluation or special reviews of a pesticide product can be triggered before a pesticide is due for its 15 year re-evaluation. A re-evaluation is done, for example, if a major study shows an association between cancer risk and a registered product; if other OECD countries de-register a pest product due to health or environmental concerns; or if new scientific information is provided by provinces.

The PMRA can also undertake a special review if an individual provides sufficient scientific evidence demonstrating a need to re-asses a pesticide. The PMRA, for example, re-evaluated 2,4-D over an extended period and concluded that 2,4-D, when used according to label directions, did not pose an unacceptable risk to the environment or public health.

The re-assessment process allows the PMRA to consider pesticides through a modern lens using new scientific knowledge and risk assessment approaches. Like the pre-registration assessment, the re-evaluation examines the health and environmental risks and studies the product’s efficiency. When completing a pesticide re-evaluation PMRA staff examines reports of adverse effects, studies epidemiology and toxicology data on the pesticide product, and makes use of data and information available from other regulatory agencies. The Canadian re-evaluation process consults the reports released by other OECD countries and relies heavily on the US EPA’s re-evaluation decisions.

Before beginning a pesticide re-evaluation the registrant is contacted and new toxicological and exposure data is requested. In some cases the registrant chooses not to proceed with re-registration and the pesticide is removed from the market.

Once a re-evaluation is complete the PMRA releases a proposed re-evaluation decision that outlines the scientific studies that have been completed and proposes one or more of the following outcomes: leave the registration unchanged; amend the pesticide label to increase safety; change the maximum residue limits; place conditions on the use of the product while new data is made available; or eliminate or phase-out use. The public and stakeholders have an opportunity to provide feedback on the proposed re-evaluation decision for between 60 to 90 days. The PMRA considers any submissions received before issuing a final re-evaluation decision.

If a product re-evaluation results in a pesticide de-registration, the PMRA works with the registrant and stakeholders to develop a phase-out plan. Often the transition plan establishes a last date of retail sale and, a year later, a deadline for use.

Compliance and Enforcement

The Pest Management Regulatory Agency's fourth area of responsibility is monitoring, compliance and enforcement of the *Pest Control Products Act*. Post-registration monitoring is essential to ensuring the continued safety and value of registered pesticides.

There are three elements of post-registration monitoring: enforcement of compliance with the *Act*; routine inspections, monitoring and food residue and health surveys; and the maintenance of a modern database on the potential effects on human health and the environment.

Enforcement and compliance activities are conducted by the PMRA, its regional offices and provincial ministries. Each year the compliance directorate completes about 30 to 40 market surveillance and inspection programs. These are done by choosing a specific crop area, for example blueberry growers, and completing inspections, interviews and sample analysis from a sampling of blueberry farms to ensure that pesticides are being used according to label directions. The compliance arm of the PMRA also undertakes education programs to teach homeowners using pesticides how to read pesticide labels and how to grow a healthy lawn.

Regional offices have a mandate to conduct inspections and investigations and undertake activities like specific marketplace initiatives, analyzing how a product is being used and educating public on regulatory requirements. Enforcement measures are taken when non-compliance is detected. The *Act* provides the authority to issue fines or penalties when pesticide applicators disregard the label instructions.

The PMRA works with provincial ministries and other federal departments to promote and assure compliance with the PCPA. The Federal-Provincial-Territorial Committee on Pesticide Management and Pesticides includes regulatory officials from each province and the federal government who come together to discuss pesticide issues and potential problems with products or with pesticide use. Compliance staff is informed of any issues raised at these meetings.

Secondly, the PMRA works with Health Canada's Health Protection Branch and with the Canadian Food Inspection Agency to complete targeted research and monitoring activities to ensure the continued safety of food products grown and imported into Canada.

The third responsibility is the monitoring of pesticide incident reports. The *Pest Control Products Act* requires that any incident, whether human or environmental, be reported by the product registrant to the PMRA. The Agency compiles data on these incidents to identify and act on any trends that develop.

Provincial Regulation

Once Health Canada approves a pesticide for sale and use in Canada, the ten provinces can regulate the sale, use, storage, transportation and disposal of registered pesticides products so long as the provincial regulations are consistent with the federal legislation.

Since 2003, seven Canadian provinces have introduced legislation or changes to regulation limiting the sale and use of some pesticide products. Québec was the first to phase in a ban on the cosmetic use of pesticides beginning in 2003; and since then Ontario, Alberta, Nova Scotia, New Brunswick, Prince Edward Island, and Newfoundland and Labrador have followed suit. In spring 2012 Manitoba plans to release a discussion paper exploring how a ban may work. The provinces' experiences with bans are discussed in more detail on pages 38-46.

British Columbia

“The province regulates how the products are used, when and where pesticide use is appropriate and how that will be carried out.” (Daphne Dolhaine, Ministry of Environment, Victoria meeting, August 22, 2011)

In British Columbia the sale and use of pesticides are regulated by the *Integrated Pest Management Act* and Regulation. The *Act* came into effect on December 31, 2004 and is administered by the Ministry of Environment. The *Act's* two main functions are to regulate the sale, use and handling of pesticides and to promote an integrated pest management (IPM) approach to pest management.

The sale, use and handling of pesticides

BC's *Integrated Pest Management Act* requires that all pesticides be used according to their federally determined labels, and that no person shall use, transport, store, dispose of or sell a pesticide in a way likely to cause adverse effects to human health and the environment. The *Act* and Regulation use a pesticide classification system and a matrix of licences, certification, permits, and pest management plans to outline the various conditions for the sale and use of pesticides. For example, the Regulation prescribes three categories of licences: pesticide vendor; pesticide user service; and pesticide user non-service.

The *Act* does not require homeowners to use IPM when applying pesticides in and around private residences and gardens. However, pesticides used on public land, private forest land, multi-resident dwellings, and pesticides applied as a service must be applied under the supervision of a certified pesticide applicator and as part of an integrated pest management program. Pesticide application by landowners to private land is not regulated beyond the federal requirement that label directions be obeyed.

The IPMA requires that pesticide vendors in British Columbia keep records of certain pesticide sales, and that retailers have certified pesticide dispensers on staff to inform pesticide purchasers of the label directions and to provide advice about pesticide management. Pesticide dispenser certifications are

available for domestic or commercial dispensers and are issued upon completion of a provincially-managed exam.

The *Act* and Regulation classify pesticides in five categories and use these classes to distinguish the licences, certification, permits, and pesticide-use notifications necessary for use of each pesticide. The five provincial classes and their requirements are:

- permit-restricted pesticides require a provincially-issued permit and a pesticide applicator certificate for purchase and application,
- restricted pesticides require a pesticide applicator certificate to be purchased or used,
- commercial pesticides are suitable only for industrial, commercial or agricultural uses but do not require an applicator certificate to purchase,
- domestic pesticides are intended for purchase and use by non-professionals and are designed for use in or around private residences and gardens, and
- excluded pesticides do not require a licence, certificate or permit for sale and use.

“Permit-restricted” and “excluded” products are identified in Schedule 1 and 2, respectively, of the IPMA. “Excluded” pesticides are products like laundry additives, pool chemicals and garden acetic acid and are included based on the manner they are currently used. The remaining three designations are definitions set out in the federal *Pest Control Products Act*. Domestic-class pesticides often contain the same active ingredients as Commercial-class pesticides, but in more diluted forms.

Pesticides classified as permit-restricted or restricted must be applied by certified pesticide applicators. British Columbians can become certified pesticide applicators by studying material provided by the Ministry of Environment and by completing an exam. 16 possible certifications exist, including specific certifications for agriculture, forestry and landscaping. Re-certification can occur by re-writing the exam or by completing 20 hours of training over 5 years.

Integrated pest management approach

The passage of the IPMA made BC the first jurisdiction in North America to require the use of integrated pest management (IPM) on all public land and by certified pesticide applicators. According to the *Act* only pesticides included in Schedule 2 may be applied to public land without an applicator certificate or a licence. Use of all other pesticides is prohibited on public spaces such as schools, municipal, and playing fields open to the public, except where IPM plans are in place and pesticides are applied by certified applicators.

IPM is a decision-making process that works to suppress pest populations in effective, economical, and environmentally sound ways. It is a process for planning and managing location-specific prevention and intervention strategies against pest problems. IPM includes six elements:

- Planning to prevent pests;
- Correctly identifying pests and their damage;

- Monitoring populations of pests, damage levels, and environmental impact;
- Making control decisions by weighing damage, costs, and impacts on other plants and pests;
- Using pest management strategies that combine manual, behavioural, biological, chemical, and cultural practices to reduce pest populations; and
- Evaluating the effects of pest management decisions.

IPM takes into account the goals and preferences of each particular pest management context. Well-designed programs emphasize making changes to plant management to prevent pest problems.

According to the IPMA and Regulation, pesticides used on public land (e.g. schools, playgrounds, parks), private land used for forestry, transportation corridors, public utilities and pipelines, and pesticides used as part of pest control services must be applied as part of an IPM approach and under the direct supervision of a certified pesticide applicator. Pesticides can only be used when the IPM program determines their use critical to control a pest or when no alternative pest management strategies exist. The *Act* also requires that notification signs be posted when pesticides are used on public land or multi-residence properties.

The *Act* requires that large-scale pesticide application operate according to a Pest Management Plan (PMP). The development of PMPs must include public consultation with organizations and individuals potentially impacted by the PMP. The plans approved by the Ministry of Environment are subject to notification requirements such as posting of signs and direct notification. Applicators are required to submit an annual summary of pesticide use to the Ministry.

Ministry-designated inspectors have the authority to audit and enforce provisions of the *Act*. The Ministry of Environment's compliance framework uses escalating responses to pesticide regulation infractions including tickets and suspensions or revocation of authorizations. The Ministry issues a non-compliance letter for the first infraction and generally issues a ticket on the second failure to comply with regulations. If the ticket is disputed the infraction could lead to a court case.

Municipal Regulation

“Generally speaking, local governments are able to regulate the when, where and why of pesticide application.” (Rhona Martin, Union of BC Municipalities, Vancouver meeting, December 8, 2011)

In British Columbia municipal authority to create pesticide bylaws comes from Section 9 of the *Community Charter* that establishes concurrent regulatory authority in five spheres where municipalities and the province share a regulatory interest. Two of these spheres affect the regulation of pesticides: protection of the natural environment, and public health.

The specific regulatory powers of municipal governments are laid out in Regulation 144/2004 *Spheres of Concurrent Jurisdiction – Environment and Wildlife Regulation*; the 2004 Consultation Agreement

between the Ministry of Water, Land, and Air Protection, Ministry of Community, Aboriginal and Women's Services and the Union of BC Municipalities; and the 2004 Consultation Agreement on Public Health.

These documents establish that municipalities, but not regional districts, may enact bylaws that restrict pesticide use on outdoor trees, shrubs, flowers and ornamental plants and turf on private residential and municipal lands. The regulations indicate that municipalities may not enact legislation that affects pesticide application for the management of pests that transmit human diseases or that restricts pesticide application on land used for agriculture, forestry, transportation, and public utilities or pipelines not vested in the municipality. Municipal bylaws are not applicable to residential areas of farms or to structural pesticide application. Pesticide use bylaws may not be created if they contradict, or are less stringent than, provincial or federal health legislation.

As of May 2012, 40 municipalities in British Columbia have enacted bylaws to restrict pesticide use on outdoor trees, shrubs, and flowers on residential or municipal land. (See Appendix C: Local Pesticide Bylaws in Force in BC) Of the 40 bylaws, 27 ban the use of all pesticides with exception of the "Excluded pesticides" listed in Schedule 2 of the *Integrated Pest Management Act* regulation. Thirteen municipalities have developed their own pesticide exemptions. Eighteen municipalities include a permit process wherein residents can apply to the municipality to obtain a permission to use pesticides. The existing patchwork of bylaws applies to nearly 60 percent of British Columbians.

Differing Perspectives on a BC Ban

Over the course of its inquiry the Committee heard a diversity of opinions on a possible ban on the cosmetic use of pesticides. Submissions and arguments for and against a ban focused on four themes:

- the safety of pesticides, particularly their health and environmental effects;
- the use of pesticides in residential and industrial settings;
- the effectiveness of the federal regulatory system; and
- the adequacy of existing provincial pesticide legislation.

This section of the report will present the differing perspectives the Committee heard on each of these themes.

Safety of Pesticides

Much of the input to the Committee focused on the safety of pesticide use. The Committee heard presentations from a variety of organizations and received submissions from numerous individuals arguing that pesticides are not safe, but are harmful to human health and the natural environment. Written submissions from the pesticides industry and briefings from the PMRA countered these claims arguing that pesticides available in Canada are subject to a rigorous scientific testing process and are safe if used according to the label directions. The Committee also received submissions stressing the health, economic, and environmental benefits of a healthy lawn. Summaries of these diverse perspectives on the safety of pesticides are presented below.

Health Effects of Pesticides

Pesticides are harmful to human health, especially children's health

Presenters and submitters to the Committee cited a long list of scientific studies that claim to demonstrate associations between pesticide use and higher levels of cancers and developmental disorders. Advocates pointed to recent research findings in the field of epidemiology that identify a number of health concerns associated with pesticide exposure, including an increased risk of a number of cancers, particularly childhood cancers; an association with autism; and with reproductive effects.

This theme of harmful health effects was the focus of the presentations of Dr. Bruce Lanphear (SFU Faculty of Health Sciences) and Dr. Cathy Vakil (Canadian Association of Physicians for the Environment) who both argued that the scientific evidence suggests there is no safe level of exposure to pesticides for children or pregnant women.

Some national health organizations based in Ontario voiced similar concerns about the potential health effects, claiming that children are more vulnerable to exposure to pesticide-treated lawns and playgrounds due to their developing immune systems. These organizations included the Canadian

Paediatric Society, the Canadian Partnership for Children's Health and Environment, the Centre for Environmental Health Equity, Prevent Cancer Now, and Physicians for Global Survival.

E-consultation participants expressed their concerns like this:

“There is a large body of medical evidence demonstrating pesticide-associated health risks, affecting everyone from the fetus to seniors. ... Potential health risks of cosmetic pesticides outweigh any benefits.” (Adrian Behennah, Victoria, Written submission 8239)

“There is a growing body of scientific evidence that links cancer to the use of pesticides, including childhood cancers. Given that there are a number of alternatives to using pesticides, banning the use of cosmetic pesticides would be an important first step in terms of public safety and health.” (Jeannine Istvanffy, Vancouver, E-questionnaire 8102)

Some submitters criticized the PMRA pesticide registration assessment for failing to adequately consider and act on epidemiological studies and data. Dr. Bruce Lanphear, for example, emphasized in his November 7, 2011 presentation to the Committee that “disease and disability associated with environmental chemicals are preventable,” and that, based on the evidence currently available, action can be taken to prevent these health challenges.

Many of the submissions that highlighted the possible negative effects of pesticides recommended the provincial government enact a ban on the cosmetic use of pesticides. The Canadian Breast Cancer Foundation, the Canadian Cancer Society – BC and Yukon Division and 20 other health and environmental organizations submitted a joint statement calling for a province-wide ban on lawn and garden pesticides in BC. The November 2011 statement submitted by the 22 organizations called for new legislation that:

- *Prohibits the use, sale, and retail display of chemical pesticides for lawns, gardens, and non-agricultural landscaping;*
- *Allows exemptions only to protect public health;*
- *Provides for public education about the ban and alternatives to chemical pesticides;*
- *Includes effective mechanisms for enforcement;*
- *Is passed and implemented within the current government's mandate.*

Pesticide products for sale in Canada are safe

However, the claims of health advocates that pesticides are not safe were not accepted by many individuals, groups and businesses. The Committee heard from a number of pesticide manufacturers and individuals who expressed confidence that pesticides available for use in Canada are safe because they are subject to comprehensive testing processes by the PMRA. For example, for the Manager of Pesticide Regulations for SC Johnson and Son Ltd., “public concerns regarding the safety of these products often result from an inadequate understanding of the rigorous registration process that is currently in place.” (Written submission 8424)

Representatives from pesticide manufacturers and individual submitters emphasized that Canada has a rigorous and internationally recognized pesticide regulatory system and that pesticides can be safely used. Here is a sample of what they said:

“The [PMRA] is recognized worldwide as a leader in the area of pesticide regulation. Canada has the most modern Federal pesticide regulatory systems in the world.” (Bayer Environmental Science – Canada, Written submission 8441)

“The Pest Management Regulatory Agency under Health Canada is the expert authority in pesticide chemistry, the sale of pesticide, and their efficacious use. This agency, in my opinion, is probably the strictest of any regulatory body in the world.” (Harv Chapple, Westbank, Written submission 1410)

Hearing criticisms that the PMRA does not adequately consider epidemiological tests that demonstrate a link between pesticides and adverse health effects, the Committee inquired about the role of epidemiological information in the PMRA’s pesticide assessment and re-evaluation processes. At the January 17, 2012 meeting PMRA officials explained that their Agency’s scientists are aware of epidemiological reports and public literature and that in completing pesticide re-evaluations PMRA scientists look specifically for epidemiological reports for products that are registered in Canada. Unless a pesticide has been registered for a long time in another country, epidemiology reports and data are generally not available for consideration until after the initial registration of a pesticide.

The PMRA informed the Committee that epidemiological studies uncover correlations between pesticide exposure and harmful health impacts but do not reveal direct causal relationships between pesticide use and negative health outcomes. In follow up information provided to the Committee the Agency explained that “confounding factors make it very difficult to use epidemiology studies to either establish or definitively rule out links between pesticides exposures and effects.” For example, “other chemical or physical environment effects are usually encountered at the same time as pesticide exposures,” affect the result. Before registering a pesticide or making registration changes the Agency examines correlations revealed in epidemiological studies in conjunction with toxicological data to determine whether the proposed correlation is biologically possible.

Environmental Impacts of Pesticides

Pesticide use is harmful to the natural environment

Many submitters were concerned about the environmental impacts of pesticides as well as their effects on human health. Environmental organizations involved with protecting wild spaces, wetlands, the marine environment and wildlife in the province. Organizations believe the use of pesticides is harmful to the natural environment and therefore encouraged the Committee to recommend a province-wide ban on the cosmetic use of pesticides. Representatives of organic agriculture articulated a similar theme, and a few beekeepers suggested the use of pesticides was a contributing factor in the decline of honey bee and other pollinator populations.

Environmentalists in support of a ban on the cosmetic use of pesticides focused on the fact that pesticide use can result in significant harm to species and ecosystems, and that pesticides or their derivatives may persist in the environment and cause unintended damage. They cited research in the field of environmental studies that has revealed pesticide residues in air, soil and water. These potentially harmful residues often come from the air-borne dispersal of pesticides, particularly from the spraying of large areas of agricultural and forest lands and from soil contamination and rainfall runoff.

Another concern of environmentalists is that the toxic effects of pesticides can extend beyond the target pest. These submitters explained that the toxic effects of pesticides affect non-target species either through direct exposure to pest control products, or through animals feeding on pesticide-exposed organisms. They postulate that pesticide exposure can lead to higher concentrations of toxins occurring higher up the food chain.

The Georgia Strait Alliance, a provincial organization with the mandate to protect and restore the marine environment and promote the sustainability of the Strait of Georgia, expressed concern that pesticide runoff enters waterways and jeopardizes the health of aquatic ecosystems and commercially important fish stocks – a concern echoed by the Denman Island Forage Fish Group. In a written submission the Association of Wetland Stewards for Clayoquot and Barkley Sounds pointed out that while most pesticide product labels include instructions not to use near water, wildlife toxicology studies indicate that pesticides reach streams and wetlands where they can kill fish, cause deformities in amphibian species and upset the ecosystem.

Many local governments in BC also perceive pesticide use as a threat to the natural environment and regard a provincial ban as another tool that they could use prevent water and soil contamination. As well, they are receptive to the argument that there is a perceived risk to health and public safety, particularly for children and pets exposed to pesticides on residential lawns and at public parks.

At the November 8, 2011 Vancouver meeting, the Chair of the UBCM Environment Committee reported that in response to their residents' growing concerns about environmental and health risks, around 37 local governments had enacted bylaws restricting pesticide use by November 2011. UBCM members also passed resolutions at their annual conventions in 2008 and 2010 calling for the enactment of "provincial legislation that will ban the sale and use of cosmetic pesticides province-wide." The Committee also received submissions from 13 local governments, including the City of Richmond and the City of Victoria, expressing support for a provincial ban on the cosmetic use of pesticides. Submissions from three other municipalities, though, expressed reservations about a ban.

Pesticide use produces healthy lawns and gardens

However, the Committee heard another perspective on the environmental impacts of pesticides. Submissions from pesticide manufacturers and industrial users stressed the important environmental benefits that result from maintaining healthy lawns and gardens.

At a Vancouver meeting, CropLife Canada, a trade association representing manufacturers, developers and distributors of pesticide products, described its products as “safe, effective tools for public and private spaces” and as “valuable tools that contribute to improved health and a better environment.” Bayer Environmental Science – Canada explained in its written submission that healthy lawns play a number of important environmental roles: lawns sequester carbon and turn it into oxygen through a process of photosynthesis; healthy turf helps to trap, hold and cleanse water that may be entering the ground; and turf provides a cooling effect through evapotranspiration.

The Integrated Environmental Plant Management Association of Western Canada (IEPMA) noted in its November 8, 2011 presentation that in addition to reducing noise pollution attractive landscapes “are pleasing to the eye and make us feel good.” The Committee also heard that residential property values are linked to the general appearance of properties, including lawns and gardens.

Use of Pesticides

Another stream of input focused on the use of pesticides. Some submissions debated the necessity of Domestic-class pesticide use in residential settings while others focused on the value of Commercial-class pesticides for various BC industries.

Residential Settings

Presenters and participants in the e-consultation had differing perspectives on the need to use Domestic-class pesticides for lawn and garden care. Some submitters argued that Domestic-class pesticides are unnecessary for lawn and garden care since, in their view, alternatives are available. Others stressed how important pesticides are for the control of invasive plants and pests.

Alternatives to Domestic-class pesticides are available for lawns and gardens

The Committee heard from health and environmental groups, individuals and organic gardeners that the use of pesticides on residential property is unnecessary. Two presentations were representative of this perspective. The Certified Organic Associations of BC argued that synthetic pesticides could be replaced, both in residential and industrial settings, by a combination of cultural practices and “biopesticides.” Another presenter, Douglas Justice explained to the Committee how the UBC Botanical Garden successfully transitioned from the use of chemical pesticides to the use of better cultural practices and approved organic products.

Written submissions from two lawn care businesses also emphasized how they have been successful in maintaining healthy lawns and landscapes without the use of chemical pesticides. For the owner and operator of Nechako Natural Lawn Care, “healthy lawns and gardens require a balance of nutrients and pesticide-free treatments.... One can achieve a great lawn without the use of cosmetic pesticides.” (Written submission 3375) The owner of Edibella Organic Landscapes stated, “there is a dynamic emerging market for organic landscape businesses across BC” and encouraged the Committee to recommend a ban similar to those in Ontario and Nova Scotia. (Written submission 4875)

Domestic-class pesticides are essential tools to maintain urban residential landscapes

The Committee also heard from representatives from the nursery and landscaping industry and from lawn and garden care businesses who argued that pest control products are effective and useful tools for protecting people and property against insects, weeds, and disease. Some also argued that there are not adequate alternative low-toxicity products available to homeowners and that alternate lawn and garden pest control practices are more expensive.

The nursery industry, which accounts for almost 5 percent of provincial farm receipts in British Columbia, grows a wide variety of plants, and many diseases and harmful insects can affect these plants.⁶ The BC Landscape and Nursery Association (BCLNA) represents over 700 nursery growers, landscapers and garden retailers in the province. In its presentation to the Committee the BCLNA stressed that in order to care for green spaces, protect plant health, and combat the spread of invasive species, landscapers and nursery owners must continue to have access to all pest control methods. From the industry's perspective, applying pesticides to keep urban forests and green spaces healthy is not cosmetic use. The BCLNA also expressed concern about the misuse of pesticides by uneducated homeowners and support for the retail pharmacy model for the sale of pest control products.

Submissions from lawn and garden care businesses noted that individuals who hire companies to apply pesticides on lawns and gardens do so for a variety of reasons including medical conditions such as allergies, to protect property investment, or because they get joy from having a well-kept green space. The operators of one business called on the Committee to not consider the use of pesticides on lawns and gardens as "cosmetic," and requested a, "clear and decisive recommendation from this committee that pesticides have value and their use in the urban landscape will continue." (Paul and Mance Visentin, The Kootenay Lawn Doctor Inc., Written submission 5802)

Some submissions to the Committee noted that a possible ban on the cosmetic use of pesticides could cause unnecessary hardship and possible bankruptcy to businesses and noted that municipal bylaws have already negatively affected their businesses. Concerns were also raised that additional restrictions could further stigmatize the use of chemicals in all sectors; create public hysteria surrounding pesticide use; and promote cross-border shopping.

Another submission from CropHealth, a Kelowna-based consulting company, noted that the horticulture industry is under scrutiny over the use of pesticides, especially in urban areas because, in this company's view, it often fails to use these products responsibly and safely. The CropHealth submission recommended specific changes to the current legislation and remarked on the need to encourage more training in the use of IPM practices and non-pesticide methods that may be effective in commercial programs.

⁶ BC Agriculture in the Classroom Foundation. *Grow BC, a Teacher's Handbook on BC's Agriculture, Fish and Food Business*. (Gabriola: Pacific Edge Publishing, 1998), p.120-121.

Use of pesticides is necessary to prevent the spread of invasive plants

Another perspective presented to the Committee centered on the importance of pesticides for the management of invasive species. In its October 26, 2011 presentation to the Committee, the Invasive Plant Council of BC argued that integrated pest management strategies to tackle non-native species that arrive without any natural predators must include pesticides as a treatment option. Without a strategy that includes the option of pesticide use, non-native species can grow aggressively, spread from urban and residential properties to agricultural and range settings, cause considerable economic and environmental damage, and have social and health impacts.

As invasive plants do not respect property boundaries, the Invasive Plant Council of BC, as well as four regional councils, urged the Committee to consider all uses of pesticide to address invasive plants as non-cosmetic. They also encouraged the Committee not to recommend restrictions based on land tenure. Residential properties in rural communities can require different pesticide management techniques than those used for small backyards in urban areas.

Industrial Settings

The Committee heard from four business sectors, each emphasizing the value and necessity of pesticides, making a case for an exemption from a possible province-wide ban, and arguing that a ban of the cosmetic use of pesticides could harm their sectors.

Pesticide use is necessary for the survival of a number of natural resource and business sectors in British Columbia

Agriculture

The Committee heard a presentation from the BC Agriculture Council (BCAC), which represents the third largest resource sector in the province. The BCAC Chair acknowledged that it is not directly under the purview of the Council to comment on the cosmetic use of pesticides in residential areas. However, the Council felt it was critical that the Committee take into full consideration the impacts any changes it recommends could have on the agriculture industry. Any proposal to limit or ban the use of pesticides for cosmetic purposes must fully consider the potential limitations it imposes on the industry's ability to control weeds, pests and plant diseases. A weed or pest problem spreading from a residential property, for example, to an apple orchard, could have serious economic consequences. The BC Fruit Growers' Association echoed the BCAC sentiment, stating that, "it is vital that any legislation does not impair the ability of citizens, businesses or commodity groups from protecting their ornamental and commercial plantings from newly introduced invasive species." (Hugh Philip, Written Submission 4095)

Forestry

The Committee received a written submission from the Council of Forest Industries, which describes itself as "the voice of the BC interior forest industry". From the Council's perspective, pesticides are

regulated sufficiently, and not only subject to extensive testing but also to further scrutiny when application permits are issued. The submission also described how pesticides are used in various locations: in nurseries, seed orchards, mill yards and in the forests to maintain road right-of ways, to limit the spread of invasive weeds, to control insect outbreaks, to assist in the establishment of new forests, and to protect existing forests and rangeland. The Council expressed concerns that a ban on the cosmetic use of pesticides “represents the first step of a much larger initiative aimed at banning pesticide use altogether. If successful, such action would have devastating consequences for not only the forest sector, but the province as a whole.” (Archie MacDonald, Written submission 8278)

Industrial users

The Committee heard presentations from three organizations representing industrial users of pesticides. They shared the perspective that pesticides play an important role in their work and should not be banned. The Integrated Vegetation Management Association (IVMA) of British Columbia represents the industrial users of herbicides in BC: forestry, highways and railways, electrical utilities, oil and gas utilities, noxious weed control, contractors and suppliers, nurseries and agriculture. It argued that application of herbicides is the only effective method to maintain industrial sites weed-free and safe. Mechanical treatments like hand-pulling and steaming do not eliminate deciduous vegetation or control the spread of some invasive weeds. Therefore the IVMA urged the Committee to give full consideration to the ramifications new regulations related to pesticide use could have on the vegetation management industry and in particular expressed concern that the undefined term “cosmetic use” leads to the stigmatization of herbicides and is subjective.

The Integrated Environmental Plant Management Association of Western Canada, which represents professional certified pesticide applicators, and the BC Business Council, representing 260 large/medium-sized enterprises, supported the use of pesticides under the existing guidelines of Health Canada’s Pest Management Regulatory Agency and BC’s *Integrated Pest Management Act* and regulations. They do not support further restrictions and believe that pesticides are necessary and safe tools for homeowners and companies.

In the event that the Committee decides to recommend additional restrictions, the BC Business Council proposed that: all the costs and benefits be weighed; consideration be given to whether the term “cosmetic” is appropriate for legislation; exemptions be made for non-cosmetic industrial pesticide uses; and a coherent set of province-wide rules be implemented with somewhat different treatment for rural and urban settings.

Golf industry

The golf industry was an active participant in the e-consultation. National umbrella organizations representing different sectors of the golf industry including golf course owners, golf course managers and superintendents and over 90 BC golf courses and golf organizations made submissions to the Committee. The Committee heard that pesticides are a necessity and that any further restriction on their use will have a negative impact on the golf courses as viable businesses and tourism destinations.

The National Allied Golf Association – BC Chapter (NAGA-BC), for example informed the Committee that the BC industry is opposed to further restrictive legislation dealing with pesticides partly because it does not distinguish between cosmetic and non-cosmetic uses. NAGA-BC also explained that as a conscientious environmental steward, the industry continues to look for more effective methods of maintaining greens while reducing chemical controls, because it makes economic sense and is good for the environment. The Committee also received a written submission from the Canadian Golf Superintendents Association (CGSA) that encouraged the Committee to consider that golf facilities are not engaged in cosmetic pesticide use and stressed that greens, fairways, and rough are necessary to the game and to the business of golf.

These organizations and others informed that Committee that without the use of fungicides, playing surfaces would be destroyed by snow mold. This would not only burden courses with the cost of replacing affected turf but also dramatically shorten the playing season. The Committee heard that if courses were not allowed to use pesticides, deteriorating conditions would drive many of their customers to Alberta and the US.

The CGSA made a number of recommendations for any legislative package including that legislative changes not restrict product availability and be phased in over a minimum period of three years; and that legislation should restrict municipalities from passing legislation related to pesticide use and deem any existing bylaws to be of no force and effect.

Federal Pesticide Regulation

A third major theme in the submissions made to the Committee was discussions of whether the existing federal pesticide registration processes are adequate. Submitters contended that the federal Pest Management Regulatory Agency fails to protect Canadians for four reasons: because the testing processes are incomplete, because the precautionary principle is not adequately applied, because pesticide labelling is flawed, and because the Agency is a captive of pesticide manufacturers. PMRA officials responded to these criticisms by explaining testing, labelling and data requirements in some detail. Each critique and the PMRA response are presented below. (See pages 6-13 for a comprehensive explanation of the PMRA's pesticide registration processes)

Precautionary Principle

The precautionary principle is a precept based on the idea that, “if the costs of current activities are uncertain but are potentially high and irreversible then society should take action before the uncertainty is resolved.”⁷ Precise understandings of the principle vary between jurisdictions but a generally accepted definition is Principle 15 of the United Nations Environment Programme 1992 Rio Declaration on Environment and Development. The Rio Declaration definition reads: “where

⁷ "precautionary principle." *A Dictionary of Environment and Conservation*. Chris Park. (Oxford: Oxford University Press, 2007), *Oxford Reference Online*.

there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”⁸

Some written and video submissions and responses to e-questionnaires encouraged the Committee to recommend a more strict application of the precautionary principle by banning the cosmetic use of pesticides. Presentations from the PMRA and written submissions remarked that the current federal regulatory framework includes the precautionary principle and already applies precaution.

More stringent application of the precautionary principle is necessary

Some proponents of a BC ban on the cosmetic use of pesticides argued that the current pesticide legislation and registration processes fail to protect British Columbians and the environment from the negative effects of pesticides. Individuals and groups, including the Certified Organic Associations of BC and the Surrey/White Rock Pesticide-Free Coalition, urged the Committee to recommend the application of the precautionary principle which, from their perspective, requires a province-wide ban on the cosmetic use of pesticides. Individual British Columbians expressed their support for a more aggressive application of the precautionary principle in the following ways:

“In keeping with the precautionary principle and being better off safe than sorry, the need for provincial legislation to ban cosmetic pesticides is overdue.” (Margaret Jones-Bricker, Prince George, Written submission 1701)

“The precautionary principle should apply first and foremost.” (Donald C. Stewart, Victoria, E-questionnaire 3076)

As well, at the November 8, 2011 meeting in Vancouver, Chris Tollefson of the Environmental Law Centre at the University of Victoria contended that the precautionary principle has been increasingly incorporated into international statute law and is on its way to becoming a principle of domestic common law. At the same meeting Lisa Gue of the David Suzuki Foundation stated that “provincial policy should be firmly rooted in the precautionary principle, and this should be clearly articulated as the guiding principle in the policy rationale.”

The precautionary principle is already included in federal pesticide legislation and in the work of the PMRA

However, the PMRA informed the Committee that its pesticide regulatory processes already sufficiently incorporate the precautionary principle and precautionary approaches and that suggestions that the principle is not applied are misunderstandings. In response to Members’ questions about the application of the precautionary principle, the PMRA reiterated that the Agency’s “primary objective is to prevent unacceptable risks to people and the environment in the use of pest control products.” (Victoria, January 17, 2012) At the same Victoria meeting, the PMRA

⁸ United Nations General Assembly, *Report of the UN Conference on Environment and Development, Annex 1: Rio Declaration on Environment and Development*. Adopted June 14, 1992, A/CONF.151/26 (Vol. 1) (1992). Available at: <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>

explained that the precautionary principle is referenced in the *Pest Control Products Act*, adding that it is a process that basically winds its way through their evaluation process by way of the scientific evaluation that is carried out.

The Committee learned that the PMRA only registers a pesticide if, on the basis of extensive scientific data, it has been determined that there is “reasonable certainty that no harm to human health, future generations, or the environment will result from exposure to or use of the product, taking into account its conditions or proposed conditions for registration.”⁹ Judgment of acceptable risk is based on a comprehensive set of toxicology and exposure data and the use of precautionary measures including the application of uncertainty factors and conservative and precautionary test assumptions. In written responses to the Committee the PMRA stated that the standard of acceptability to register a pesticide, “provides a significantly higher level of protection from risk of harm than does the approach of acting only to address threats of ‘serious or irreversible damage,’ as required by the precautionary principle.”

Text in Section 20 of the Act, titled “Cancellation or amendment”, includes the precautionary principle as defined in the Rio Declaration. The PMRA considers the implementation of precautionary measures if, over the course of a pesticide re-evaluation or special review, the Agency has scientific evidence but not full scientific certainty that a pesticide may pose a threat of serious or irreversible harm. The application of the precautionary principle is then guided by a federal document called *A Framework for the Application of Precaution in Science-based Decision Making about Risk*. Once the special review or re-evaluation is complete and the comprehensive scientific information is available, the PMRA then issues a re-registration decision based on the application of the same risk-management process used for pre-market evaluations.

The pesticide industry supported the work of the PMRA. In its written submission, Dow AgroSciences Canada Inc. described the precautionary principle as “a core component of the pesticide evaluation criteria for consideration during the evaluation and re-evaluation process.” (Written submission 9186)

Pesticide Testing

A second critique articulated by some submissions to the Committee contended that the PMRA testing process is incomplete. The PMRA counters these claims by emphasizing the comprehensive pre-market evaluation process that all pesticides available for sale in Canada are subject to.

PMRA pesticide testing processes are deficient and pesticide products available for sale and use in Canada are not safe

The Committee received submissions from individuals and organizations arguing that because of perceived weaknesses in the PMRA testing processes Canadians are not adequately protected from the

⁹ Canada. Parliament. House of Commons. *Pest Control Products Act*. Bill C-8, 37th Parliament, 2nd Session, 2002-2003. (Ottawa: Queens Printer of Canada, 2003) Section 2.

harmful effects of pesticides. Submitters argued that the current pesticide review process fails to examine comprehensively the toxicological effects of pesticide formulants, and that testing of cumulative and synergistic effects of pesticides is not satisfactory.

Opinions were expressed that pesticide formulants and additives are not adequately tested or regulated. Formulants such as solvents, carriers, or pH control agents may be added to pesticides. Some submissions to the Committee criticized what they saw as a lack of comprehensive formulant testing and critiqued the PMRA's practice of only listing formulants that are known or suspected toxins on product labels.

Other submissions challenged the PMRA's ability to measure the synergistic and cumulative effects of pesticides, arguing that without the ability to measure these effects, Canadians remain at risk. For example a professional agrologist, Dr. Brian Holl, questioned whether the PMRA has the capacity to measure cumulative or synergistic effects. As well, the BC Council of the Canadian Federation of University Women's submission suggested the PMRA should, but does not, require tests that measure bioaccumulation, biomagnification, and the chemical and biological interactions of pesticides.

Participants in the e-consultation expressed their views on PMRA testing in the following ways:

“There are huge gaps in knowledge and ongoing research utilised by PMRA in its assessments. ... Contaminants in active ingredients and additives have to be thoroughly examined independently on an ongoing basis.” (Hugh Tyson, Salmon Arm, E-questionnaire 2909)

“The cumulative effects of chemicals in the environment are never looked at; instead substances like pesticides are studied independently.” (Mary Theresa Kelly, Vancouver, E-questionnaire 2237)

PMRA testing processes are comprehensive and pesticides registered in Canada are safe for use according to the product label

Officials from the PMRA emphasized in briefings to the Committee (October 6, 2011 and January 17, 2012) that the current pesticide registration processes are comprehensive. They also refuted other criticisms levelled against the Agency's work.

On the question of the analysis of pesticide formulants and additives, the lead PMRA official reassured the Committee that, “the Agency is aware of all the components in a pest control product” and that it is a registration requirement that all components be listed as part of a pesticide registration application. At the January 17, 2012 committee meeting, and in written answers provided to the Committee, the PMRA explained that it also requires that a specific set of toxicology studies be conducted on formulated end-products. If, during the pre-market assessment toxicology evaluation, staff determines that the formulant is potentially causing concern the PMRA takes this into account in the risk assessment. (See pages 7-11 for more details on risk assessment completed by the PMRA)

The Committee also learned that generally formulants are not listed on a pesticide label because the PMRA considers this information confidential business information (except for formulants determined to be of significant concern, allergens, and formulation preservatives). PMRA officials stressed that not listing a formulant on a pesticide label does not mean that the Agency is not aware of their presence in a pesticide. They also explained that, “the formulants used in commercial end-use products are often chemicals that are in commerce for other products” and would be covered under the *Canadian Environmental Protection Act*.

Committee members requested additional information from the PMRA on its work to measure the cumulative and synergistic effects of pesticides. The PMRA explained that it examines cumulative exposure and studies the total levels of human exposure that might result from a number of sources including water, food, and skin exposure. One PMRA official noted that results of the Health Canada-administered Canadian Health Measures Survey show that levels of accumulation of 2,4-D in Canadians were “essentially negligible.” On the broader topic of mixtures, the PMRA stated that there is still methodology being developed to look at the broader story of how mixtures interact with the environment. The Agency acknowledged that measuring the effects of interactions between pesticides and environmental factors or other chemicals is a challenging endeavor because of the unlimited number of combinations of chemical mixtures that are created when a pesticide enters the environment.

With respect to the issue of synergistic effects of pesticides, the PMRA stated in follow-up information that many in the international scientific community believe that the likelihood of toxic interactions from exposures to multiple pesticides with dissimilar modes of action is low. This was confirmed at the Committee meeting in Vancouver on November 8, 2011 when Dr. Keith Solomon, a Professor Emeritus the University of Guelph School of Environmental Sciences and Director of the University of Guelph-based Centre for Toxicology, explained to the Committee that the risk of synergistic effects of Domestic pesticides are minimal because synergism requires levels of exposure to at least one chemical to be high enough to cause adverse effects. Synergism also requires that the exposures be within a very short time frame of each other. Dr. Solomon told the committee that “the amounts of exposure due to pesticides are so small that they are below any threshold of biological activity, therefore there is no risk of synergism.”

Pesticide Labels

Submissions received by the Committee also remarked on weaknesses in the PMRA’s pesticide labelling processes. In response the PMRA emphasized for the Committee that pesticide labels accurately reflect the comprehensive pesticide testing that has been completed and clearly indicate how a product can be safely used.

Pesticide labels pose challenges for consumers

The Committee also heard that pesticide labels are not easy to understand, that their content is based on inaccurate information, and that the current regulatory system fails to effectively monitor how

pesticides are used — despite the fact that pesticide labels are legal documents and that not applying pesticides according to the label directions is illegal.

Some submitters and one presenter, Mae Burrows representing Toxic Free Canada and First Call BC, stated repeatedly that the information and instructions on labels are difficult to understand and fail to protect British Columbians from the effects of pesticides. Concerns were expressed that individuals with low literacy or non-English-speaking pesticide users may not understand the labels, and it was suggested that labels should include visual tools to communicate instructions more effectively.

Several submissions, including the Canadian Cancer Society's presentation, noted that there is little data on Domestic-class pesticide-use patterns. Furthermore, they contended that despite this apparent lack of evidence, the PMRA bases its pesticide registration decisions on the assumption that label instructions are followed 100 percent of the time.

Other British Columbians also shared their concerns that label directions are not followed 100 percent of the time. Ann Pearson, a former professional gardener from Vancouver, reported that she has, "seen people use pesticides without reading the label or wearing protective clothing, consulting with their neighbours, or considering the environment in any way." (E-questionnaire 6175) One consumer alleged that "people don't tend to follow instructions on the label and end up poisoning themselves, their families, and their pets." (Lynn Kruszewski, Vancouver, E-questionnaire 7528)

At the November 7, 2011 Vancouver meeting, West Coast Environmental Law (WCEL) maintained that the PMRA is making an incorrect assumption when it assumes that pesticide users will always follow the requirements on the labels. According to Section 2(2) of the *Pest Control Products Act* pesticide assessments must take, "into account [a pesticide's] conditions or proposed conditions of registration." WCEL argued that without the ability to judge compliance rates, the PMRA's assumption that label directions are followed 100 percent of the time is faulty and places Canadians at risk from the effects of pesticide use.

Pesticide labels accurately reflect how to safely use the product

The issue of pesticide labels was raised at both meetings with the federal regulator. Members inquired about the information contained on pesticide labels and about efforts to monitor household use of pesticides. At the January 17, 2012 meeting, the lead PMRA official explained that label directions indicate "how the product is expected to be used in the marketplace." The PMRA seeks to minimize incidence of non-compliance by imposing clear label direction requirements and by implementing compliance programs. The Committee learned that, contrary to the statements made by many critics, the registration of Domestic-class pesticides takes into account the fact that homeowners may not use pesticides as directed 100 percent of the time. For example, the Agency's exposure testing assumes that homeowners could have higher levels of skin exposure because of splashing or inadequate protective clothing. The PMRA officials also noted that in order to remove the onus on the homeowner, "a label for a Domestic product does not include any specific requirements for personal protective equipment." Furthermore, a majority of Domestic-class products are available in ready-to-use or diluted formats.

The Committee also learned that the PMRA compliance office has undertaken a number of initiatives to monitor pesticide use and educate homeowners, including educational programs on the use of Domestic pesticides and on how to read the label directions. The importance of reading the pesticide label is also emphasized on all “Pest Note” publications, online, and on the front panel of all approved pesticide products. Since 2007, the PMRA has also worked with the US Environmental Protection Agency and Canadian focus groups to develop and test possible plain language for pesticide labels.

While the PMRA explained that typically it does not complete targeted compliance programs for pesticide use in and around the home, the compliance directorate and regional offices complete industry-focused inspections and investigate any claims of pesticide misuse. In 2010-2011 the PMRA undertook 17 different inspection programs in BC. These included sampling programs on greenhouse cucumbers and other vegetables, marketplace inspection programs on agricultural dealers and programs to inspect U-Pick operations, arborists, and industrial vegetation management.

Finally, the *Pest Control Products Act* includes a legal requirement that any health or environmental incident reported to a pesticide registrant must also be reported to the PMRA. The Agency compiles, monitors and analyses this data and if trends are identified, the Agency takes action to rectify the situation.

Industry-PMRA Relationship

The final source of concern identified by presenters and submitters to the Committee was the PMRA’s relationship with the pesticide industry. Some submitters maintain that the PMRA is captive of the pesticide manufacturing industry while the PMRA argues that its registration decisions are based on the work of skilled, regulated, and independent scientists.

PMRA is captive of the pesticide manufacturing industry

The PMRA’s practice of using toxicology data submitted by pesticide manufacturers was a source of concern among some participants in the e-consultation. Members of the public argued that since toxicology data submitted for pesticide registration often comes from applicants’ internal or contracted laboratories, there is the possibility that the data could be manipulated to guarantee pesticide registration. One e-questionnaire respondent, for example, alleged that “all pesticides currently approved by Health Canada’s Pest Management Regulatory Agency are suspect due to the PMRA’s too-cozy relationship with industry.” (Kelly Franklin, Nanaimo, E-questionnaire 1357)

Data used for PMRA decision-making meets international standards

The Committee learned from the PMRA that generally the studies submitted by industry are of very high quality. In written materials provided to the Committee, the PMRA explained that its comprehensive data requirements and study protocols are harmonized with the United States and other OECD countries. Over 200 toxicology studies are required to register a pesticide product and the data from these tests meets international requirements and protocols laid out by the OECD, the

EPA and the *Pest Control Products Act*. Laboratories completing the toxicology studies are required to follow OECD-established Good Laboratory Practices and are subject to independent audits to confirm their conformity with laboratory protocols. For laboratories in Canada these audits are completed by the Standards Council of Canada on a two-year cycle.

PMRA officials reiterated that over 300 PMRA scientists and evaluators examine, cross-reference, and assess the submitted data to make sure that it is scientifically sound and consistent. Should questions about the data arise, the PMRA rejects deficient studies or requests additional data.

Provincial Pesticide Regulation

During the course of its inquiry the Committee also heard concerns about the adequacy of the provincial *Integrated Pest Management Act* (IPMA). Submitters identified five areas of weakness in existing BC legislation: sales regulations, training of certified pesticide applicators, monitoring and enforcement, the application of IPM, and Schedule 2. The Ministries of Environment, Agriculture, and Forests, Lands and Natural Resource Operations responded to these critiques by explaining the *Act* and regulations in detail and by describing the varied compliance measures undertaken in support of the *Act*.

Sales Regulations

The sale of pesticides is not effectively regulated

The Committee received submissions describing shortcomings in the IPMA retail regulations. Some submitters described personal experiences where they had purchased pesticides without interaction with a certified dispenser, as is required by the Act. Others also noted that often the pesticide dispensers cannot provide adequate pest-control and pesticide information. It was also brought to the attention of the Committee that Commercial-class pesticides can be purchased and applied by homeowners without a certification or licence.

Exhaustive regulations and certification requirement for retailers are enforced but there is room for improvement

In response to questions from committee members, the Ministry of Environment provided information on the regulations that retailers are required to follow. Retailers must follow certain storage and display requirements and all commercial and domestic vendors are required to have trained dispensers that provide pest management advice and inform consumers on how to correctly use pesticides. To receive a dispenser certificate an individual must pass either the commercial or the domestic dispenser exam. One Ministry of Environment official indicated that pesticide dispensers in BC receive training beyond the national standard but conceded that it is possible for “dispensers to pass a certification without a really good grasp of the subject matter.” (Victoria meeting, January 25, 2012) At a Committee meeting in Victoria, the Canadian Consumer Specialty Products Association noted that its member companies often provide additional point-of-sale information materials and offer expertise to answer consumer questions.

The Ministry of Environment explained that pesticide retailers are audited regularly and that retailer compliance audits were completed in five of the last seven years. In the 2011/2012 fiscal year the Ministry intends to complete 300 vendor reviews in the coastal region. Audits focus on a number of requirements including certification, licences, storage or on the dispenser's required interaction with consumers. Compliance is assured through phone calls, record checks, and random spot checks and through focused verification projects that target a specific sector or requirement. Between 2005 and 2011, 47 pesticide vendors were issued letters of non-compliance. Ministry officials indicated that they are aware of deficiencies in the monitoring of retailers and dispensers and are working to correct these.

Training of Certified Pesticide Applicators

Training of certified pesticide applicators is incomplete

Over the course of the e-consultation concerns were expressed by the public about the thoroughness of the training and certification processes required to apply pesticides in BC. E-questionnaires and written submissions commented that the pesticide applicator training process is much too simple.

The Committee learned that the process to become a certified pesticide applicator includes no hands-on training and that employers are relied upon to provide applicators with on-the-ground training. Participants in the e-consultation suggested that extensive training is necessary to be qualified to apply pesticides, that a course on pesticide application should be required to become a certified applicator, that a company should be obligated to have more than one certified applicator on staff, and that an on-line certification similar to a boating licence should be required before homeowners are allowed to purchase pesticides.

Here is a sample of the submissions the Committee received:

"The current pesticide applicator training is much too simple to be effective as it is all open book. I feel that only people who undergo extensive training and education should be able to apply pesticides and only under certain conditions." (Brock Tingey, Nanaimo, E-questionnaire 4608)

"I believe the current applicator licence is entirely too easy to obtain. Continuing education should also be part of maintaining a licence." (Eric Reynard, Salmon Arm, E-questionnaire 5508)

Certified pesticide applicators in BC meet national training standards

At the January 25, 2012 meeting in Victoria the Committee was informed by the Ministry of Environment that successful completion of a BC certification exam is required to become a certified pesticide applicator. There are 16 specific applicator categories including aerial spraying, landscaping and fumigation. Testing in BC meets national standards and an updated provincial core training manual has been adopted as a national training tool. The Ministry explained that the applicator certification process provides individuals with a good basis for further on-the-job learning but conceded that the quality of hands-on training depends on the employer. The manual and test include information on pesticide groups and formulations, on IPM, on pesticide legislation, and on

how to read a pesticide label. The Ministry of Agriculture provides farmers with information on pesticide use and IPM and encourages additional education on the farm or with farm associations.

Certified pesticide applicator training manuals are available only in English while exams for the agricultural category are offered in English, Punjabi, Vietnamese, and Cantonese. Candidates must be able to read English well enough to answer questions based on an English label. Re-certification is granted either by re-writing the test or by completing at least 20 hours of training over 5 years.

The Ministry of Environment indicated that, “an apprenticeship-type program could be implemented as part of the requirement,” but did not recommend that the government run such a program. Instead, industry could set up a, “program that guaranteed some on-the-ground training and experience”. Ministry officials also suggested that, should certification be required for more or all agricultural pesticide applicators, translating and updating of manuals could be possible.

Monitoring and Enforcement

Monitoring and enforcement of the IPMA is inadequate

The Committee received written submissions and e-questionnaire responses expressing concern that pesticide use is under-monitored and that pesticide misuse goes unpunished in British Columbia. It was argued that without adequate monitoring, particular areas and watersheds could be subject to multiple, overlapping pesticide applications.

Participants also expressed concern that the province does not monitor or track the volume of Domestic-class pesticide sold. The model law presented to the Committee by the University of Victoria Environmental Law Centre recommends that vendors be required to collect personal information for the purchase of Schedule 2 pesticides and mixed-use pesticides. The David Suzuki Foundation also noted in their Vancouver presentation that any new legislation should require retailers retain a record of all pesticide sales.

Submissions to the Committee also highlighted the misuse of pesticides in the province. British Columbians expressed concern that current pesticide regulations are not enforced in a consistent manner. Here is sample of what was said on the issue:

“I have witnessed many instances of inappropriate handling and storage of chemicals and have yet to witness any form of inspection let alone fines.” (Jason Herz, Sechelt, E-questionnaire 2783)

“If the BC government isn’t going to provide enough people to monitor the use properly, then anything done should be considered lip service only.” (Thomas Henschel, Victoria, E-questionnaire 2857)

The Ministry of Environment works with partners to ensure compliance

In response to citizens’ concerns about the monitoring of pesticide use in the province, the Ministry of Environment emphasized that Health Canada is responsible for testing the human health and

safety and environmental impacts of pesticides. While the Ministry of Environment works collaboratively with partners and other agencies to look at a variety of health and environmental information, it clarified at the January 25, 2012 meeting in Victoria that with regards to the, “overall effect of a combination of pesticides on any particular organism, there is no agency responsible for or conducting that type of work.” The Ministry of Environment does, however, complete water quality and other testing in response to spills or as part of compliance activities.

Responding to concerns about the lack of Domestic-class pesticide-use data, the Ministry of Environment explained that vendors of Commercial- and Restricted-class pesticides are required to submit an annual summary of pesticide sales. Ministry officials noted that it has never been the practice to collect data on Domestic pesticide sales. They also mentioned that it would be possible, with the necessary resources, to update the current paper-based system and begin collecting Domestic-class pesticides sales information.

The Ministry of Environment’s objective is to ensure compliance with its regulations. This is achieved through a variety of tools including warning letters, tickets, orders, administrative sanctions, and prosecutions to enforce compliance. When determining the enforcement measures to use in the event of non-compliance, ministry staff examines the environmental, human health, or safety impacts resulting from non-compliance. Follow-up information from the Ministry of Environment explained that tickets can be issued to a maximum fine of \$575, while persons and corporations can, if convicted of a first offence, be fined as much \$400,000 or imprisoned for up to six months.

Integrated Pest Management

IPM is not designed to reduce pesticide use

The Committee also heard from presenters that the implementation of IPM in BC is unlikely to generate a significant reduction in cosmetic pesticide use. In their Vancouver presentations, West Coast Environmental Law and Toxic Free Canada – First Call BC explained that while the *Act* provides a clearly laid out framework for IPM, it does not require pesticide users to prioritize non-chemical alternatives and fails to prevent pesticide abuse. Pesticide Free BC and the Surrey/White Rock Pesticide Free Coalition claimed that the chemical landscape industry uses the IPM approach to justify pesticides as part of normal lawn and garden care.

Proponents of a BC ban were also clear that while IPM can be an effective tool for reducing pesticide use in the right context, applying IPM to cosmetic use is not an appropriate alternative to a province-wide ban on the cosmetic use of pesticides. They suggested that legislating the application of IPM for the cosmetic use of pesticides would require considerable enforcement resources and vast amounts of data on residential pest levels, and on current and past strategies used to control pests.

IPM is one of the most effective ways to reduce overall pesticide use

IPM is a processes designed to prevent and address pest problems using a considered, rather than reactive, pest control approach. In its initial briefing to the Committee on August 22, 2011 the

Ministry of Environment noted that British Columbia is seen as a leader by other jurisdictions in that its legislation requires the use of IPM. Using IPM means that pest control is more environmentally sustainable. Detailed information about the application of IPM in BC is outlined on page 15.

Organizations including Premier Tech Home and Garden, “firmly support the province’s emphasis on integrated pest management,” (Written submission 8441) and have taken role in promoting it by developing point-of-sale materials to use in retail outlets and training programs for retail staff to assist them in making recommendations to the consumer. Numerous written submissions and e-questionnaires from individual British Columbians also expressed support for IPM. Here are examples of how organizations and individuals expressed their support for IPM:

“I firmly believe that an IPM approach works tremendously and even the “layman” can use basic techniques of the IPM philosophy with minimal information/education.” (Rich Fournier, Oliver, E-questionnaire 3073)

“Integrated Pest Management [is] a proven methodology to safely and responsibly manage turfgrass pests and diseases. IPM, when practiced in its proper context, is not a license to apply pesticides indiscriminately. There is simply no better vehicle in which to determine when and where pesticides should or should not be used on turfgrass.” (Paul Gillen, Sports Turf Association, Written Submission 8436)

Schedule 2

Schedule 2 needs updating

The Committee also heard about the need to update Schedule 2 of the IPMA. Schedule 2 includes a list of pesticide products exempt from the IPMA and therefore free to be applied according to label directions by homeowners and certified pesticide applicators without additional licensing.

Some British Columbians commented that pesticides need to be removed from the list because of their health and environmental effects, while others requested that the list be updated to include new low-risk pesticide products. In a written submission, Neudorff North America noted that Schedule 2 is greatly outdated and impacts many municipal bylaws that use the schedule as a list of pesticides exempted from bylaw provisions. Two municipalities, Richmond and Coquitlam, recommended that an updated list include new, innovative and safer pesticide products. The Committee also received recommendations that the list be updated every six months.

In Victoria on January 25, 2012, the Ministry explained that Schedule 2 was last updated in 2005 and that the Ministry intends to update the schedule to reflect changes in the marketplace. Ministry officials were clear that Schedule 2 is not intended to be a list of low-toxicity products and that inclusion of some products, such as swimming pool chemicals, is due to the manner that they are currently used.

Bans in Other Jurisdictions

As part of its inquiry into the feasibility of a BC ban on the cosmetic use of pesticides, the Committee reviewed other jurisdictions' experiences with bans. Since 2003, seven Canadian provinces have introduced legislation or regulatory changes on the sale and use of pesticides for cosmetic purposes. These bans generally share a common purpose — the protection of human health and/or the natural environment from perceived unnecessary exposure to pesticides — but the approach varies from province to province. (See Appendix D: Comparison of Existing Provincial Bans)

This section of the report provides an overview of the existing provincial pesticide bans, including their exemptions. It then presents information on the impacts of these bans, as well as the effects of bans in other jurisdictions.

Overview of Provincial Bans

Québec introduced the *Pesticides Management Code* in April 2003 and became the first Canadian province to enact a ban on cosmetic use. The legislation was phased in over three years and bans the use and sale of products containing 20 active ingredients (including 2,4-D) for lawns and turf. The ban further restricts pesticide use in places frequented by children. A list based on requirements in the US *School Environment Protection Act* allows only biopesticides and 14 other identified products to be used on outdoor and indoor areas with children. The *Code* includes a list of about 900 allowable pesticides that must to be sold over the counter.

The Québec pesticide code co-exists with 120 municipal bylaws. The ban was subject to a NAFTA challenge. In Spring 2011 the matter was settled by the Québec government issuing a public statement acknowledging that “products containing 2,4-D do not pose an unacceptable risk to human health or the environment, provided that the instructions on their label are followed.”¹⁰ The settlement agreement did not affect the provincial ban.

Ontario passed the *Cosmetic Pesticides Ban Act* in 2008 and the legislation took effect in 2009 with some remaining provisions phased in over two years. Ontario banned the sale of Domestic-class pesticide products for ‘cosmetic uses’ on outdoor residential and landscape areas including patios, vegetable and ornamental gardens, parks, and school yards. Currently in Ontario the use of 96 active ingredients and 172 products containing these chemicals is banned. Only biopesticides and lower-risk active ingredients identified in a schedule can be used in landscaping. Mixed-use products that contain active ingredients banned for cosmetic use on lawns and gardens but permitted for purposes such as agriculture are sold behind the counter. As new products become available they are evaluated by the Ontario Pesticides Advisory Committee and classified appropriately. Ontario’s provincial ban

¹⁰ *Settlement Agreement* between Dow AgroSciences LLC. and Her Majesty the Queen in Right of Canada. May 25, 2011. http://www.international.gc.ca/trade-agreements-accords-commerciaux/assets/pdfs/DowAgroSciences_Settlement-eng.pdf

supersedes municipal bylaws therefore Ontario municipalities are not able to implement more stringent restrictions.

Alberta's ban was introduced in November 2008 and came into effect on January 1, 2010. It aims to reduce the amount of chemical run-off in waterways by prohibiting the sale and use of fertilizer-herbicide mixtures for landscaping on private land. Alberta's ban preceded the federal PMRA re-evaluation decision in February 2010 to de-register fertilizer-pesticide combination products. The last date of sale of these products within Canada is December 31, 2012.

New Brunswick updated its 1974 *Pesticides Control Act* in December 2009 and banned the sale and use of pesticide products containing 2-4,D for lawns. The ban also includes certain pesticide packaging or formulations such as pesticide-fertilizer mixtures, products using spray cartridges designed to be applied with a spray hose, and concentrated products requiring dilution or mixing. More than 200 lawn pesticides and 35 commercial products are banned. Products containing 2-4,D as the active ingredient are the only ones banned without exemption.

In New Brunswick, lawn care companies must be registered in a Ministry of Environment-approved IPM program in order to purchase and apply commercial lawn pesticides. Individual applicators working for lawn care companies must have valid pesticide applicator certificates. Additional regulations mean that pesticides can only be applied to up to 50 percent of a lawn, once per season, except in the case of insect infestations when a ministry permit is required for additional treatments.

Prince Edward Island amended its legislation on April 1, 2010 to match New Brunswick's law.

Nova Scotia has Canada's newest provincial ban on cosmetic pesticides. The *Non-essential Pesticide Control Act* prohibits the sale and use of non-essential pesticides for use on lawns in 2011 and on ornamental plants in 2012. The ban applies to residential, commercial, government and institutional properties, but exempts golf courses and vegetable gardens. The province maintains a list of acceptable low-risk pesticides, based on Ontario's list and the Canadian General Standard Board's list of allowable substances in Organic Production Systems. Pesticide products containing active ingredients not on this list of acceptable products are banned. As in Ontario, mixed-use products are only available behind the counter.

Nova Scotia has never allowed local governments to enact bylaws on pesticides, except for the Halifax Regional Municipality pesticide bylaw.

Newfoundland and Labrador's regulatory changes on the use of pesticides on lawns came into effect on May 1, 2012. Under the new regulations products containing five specific active ingredients — carbaryl, 2,4-D, mecoprop, dicamba, and MCPA — are not to be sold for use or used on lawns. A number of exemptions are included in the new regulation.

Manitoba's Conservation and Water Stewardship Minister announced in early 2012 his government's intention to release a discussion paper on how a provincial ban on cosmetic pesticides

might work. The paper is due to be released in spring 2012 and the government has indicated it will seek input before introducing legislation in late 2012 or early 2013.

Exemptions

Industry

All seven provincial bans include exemptions for agriculture and forestry. The unintended consequences these industries face after bans came into effect are discussed later in this section on pages 43-44.

Golf

Each of the six provincial bans includes exemptions for pesticide use on golf courses.

In **Québec**, golf courses are exempt from the provincial ban but must submit pesticide reduction plans every three years. The plan must include details on the total quantity of pesticides applied annually in the previous three years, pesticide reduction objectives for the next three years and information on non-pesticide practices used to observe, monitor and treat pest issues. The plan must be signed by an agronomist who is a member of the Ordre des agronomes du Québec.

The **Ontario** ban includes an exemption for golf courses (including tees, fairways, greens and rough), provided certain conditions are met. To use banned pesticides on playing surfaces, golf courses must be accredited by the IPM Council of Canada. These courses are also required to report their pesticide use levels publicly and to the Minister of Natural Resources. Unaccredited golf courses can only use biopesticides and lower risk pesticides to maintain their courses.

In **Alberta**, golf courses on public land must be licensed and employ at least one certified pesticide applicator.

In **New Brunswick**, golf course personnel purchasing commercial lawn care pesticide products, including 2,4-D, must show proof of a valid pesticide-applicator certificate and proof of affiliation with an acceptable IPM program. Golf courses must therefore be accredited by a Department of Environment–approved IPM program. Unaccredited golf courses may hire the services of a company that holds a Provincial Pesticide Use Permit.

In **Prince Edward Island** commercial pesticides, including those with 2,4-D, can be used on golf courses under an IPM program. Golf course personnel purchasing commercial lawn care products are required to show proof of a pesticide applicator licence.

Nova Scotia's legislation exempts golf courses but requires that pesticide applicators be certified.

In **Newfoundland and Labrador** golf courses are exempt from new regulations on the use of products containing five specific active ingredients.

Invasive species and public health

Three provinces — Québec, Ontario and Nova Scotia — include exemptions that allow for the use of pesticides on residential landscapes to address plants and pests that threaten human health and to manage invasive plants and noxious weeds. The bans in Alberta, New Brunswick, and Prince Edward Island do not require exemptions because Domestic-class products remain available for use by homeowners.

In **Québec** glyphosate is available for domestic use; however, the *Code* does not include provisions for unexpected pest problems such as invasive plants. The government intends to amend regulations to allow for exceptions to address human health and invasive species.

The **Ontario** legislation includes an exemption for the promotion of public health and safety and therefore allows banned pesticides to be used to control invasive species, poisonous plants and insects, and to control animals and fungi that affect buildings. Pesticides containing glyphosate and glufosinate can be used to control plants poisonous to the touch. The Ontario ban also includes exemptions to use pesticides on trees, when deemed necessary by a tree care specialist.

Ministerial exemption is required to use a banned pesticide to control an invasive species that may be detrimental to the health of a person, the environment or the economy; to protect a species native to Ontario; or to protect a rare ecosystem. The individual who will apply the pesticide product must apply to the Ministry of Natural Resources and receive a written decision. When banned pesticides are applied, they must be used in accordance with IPM principles.

Nova Scotia recognized that there are some circumstances that may require the use of a pesticide that is not on the allowable list. Regulations were created to allow pesticides, including glyphosate, to be used to control pests that threaten public health, plants that are poisonous to the touch or are invasive species, and pests that may cause structural damage.

Experiences with Provincial Bans

While Québec's ban on the cosmetic use of pesticides was phased in between 2003 and 2006, the other five provincial pesticide bans have only been implemented in the last four years. Therefore data and specific studies on the effectiveness of the legislation and on the impacts bans have had on health, environment and provincial economies are not readily available. This section presents preliminary research and anecdotal information on the experiences of other provinces with bans on the cosmetic use of pesticides. It begins by examining the data available on the environmental effects of bans and then presents information on how provincial bans have affected pesticide use and sales and different sectors of the economy. Also covered is the question of how provincial ministry resources are affected when new bans come into place.

Environmental Effects

Limited information is available on whether provincial bans have had any effect on ecosystem health. One study on the impact on water quality was brought to the attention of the Committee. In November 2010 the Ontario Ministry of the Environment issued a report entitled *Changes in Urban Stream Water Pesticide Concentrations One Year after a Cosmetic Pesticide Ban*. This ministry worked with five urban Ontario conservation authorities to monitor pesticide concentrations in ten urban streams before and after the Ontario pesticide ban took effect. Over the course of the study 168 samples were taken and analyzed for 105 pesticides and pesticide degradations. Results from the study indicate the continued presence of at least two pesticides in all streams. It was found that the “mean number of pesticides detected per sample in 2009 was marginally less than observed prior to the ban.”¹¹

The Ontario study indicated that the concentrations of 2-4,D, dicamba and MCPP in urban stream water were significantly lower after the ban, while concentrations of glyphosate did not change significantly. Although this study offers a snapshot of before and after a ban came into effect, the results are unable to link the reduction in pesticides directly to the implementation of a ban.

At a briefing by the BC Environment Ministry on August 22, 2011, the Committee learned that a drop in chemical levels was also detected in waterways in Alberta after the implementation of its ban. However, Alberta officials reported to their BC counterparts that previous pesticide levels were not causing any discernible damage.

Impact on Pesticide Use and Sales

Officials serving on the BC Integrated Pest Management Committee consulted with their counterparts in other provinces and provided the Committee with preliminary information on how provincial pesticide bans have affected pesticide use and sales. This information was submitted in a written response, prepared by the Ministry of Environment and the Ministry of Forests, Lands and Natural Resource Operations, dated February 10, 2012.

New Brunswick officials shared data submitted by lawn care companies that showed a drop in pesticide use by the landscape industry since 2009, when the ban came into effect. Between 2009 and 2010, one year after the ban was introduced, pesticide use by landscape pesticide applicators was reduced by 50%; herbicide use dropped 37%; and insecticide use dropped by 66%. Since the data show that over time all pesticide use has been declining, it cannot be confirmed that the decrease is attributable exclusively to the new requirements. New Brunswick does not collect sales data for Domestic-class pesticides so the impact of the ban on personal use by residents is not known.

¹¹ Aaron Todd, Ontario Ministry of Environment, “Pesticide Concentrations in Ontario’s Urban Streams One Year after the Cosmetic Pesticides Ban.” PowerPoint presentation to IPM Symposium, Toronto, Ont., January 10, 2010.

The Committee also received information about annual pesticide sale and use data for Edmonton and Calgary, which Alberta Environment and Water has been collecting from vendors, applicators and municipalities since 2003. The 2010 summary for the City of Edmonton reflects the absence of fertilizer-herbicide combination products since the ban on January 1, 2010, and a residential decrease in the amount of 2,4-D-based turf herbicides used. The summary also shows a residential increase in the amount of non-selective domestic herbicide used, with a shifting trend in 2010 towards acetic acid-based products, and increased use of insecticides and corn gluten products. This data from the City of Edmonton “suggest that the absence of conventional pesticides may lead to significant increase in overall pesticide use.”

Results of two surveys, one conducted with Ontario homeowners and the other of professional landscapers, show that both groups have concerns two years after the ban on cosmetic use was implemented. The surveys were commissioned by CropLife Canada, an association representing the manufacturers, developers and distributors of pesticides. According to a trade periodical, 63 percent of landscapers surveyed said they are against Ontario’s pesticide ban; almost half of the landscapers said their sales are lower in 2008; and 71 percent of lawn care companies said their customers were less satisfied in 2010 than in 2008. “Respondents to the landscaper survey also said they had been asked by clients to use products that are now banned and they’ve had customers apply banned products themselves.”¹²

Economic Impacts

Supply of pesticides

On the question of whether the proliferation of pesticide bans creates a hostile marketplace for new products, BC ministry officials reported that they have no evidence to indicate that any manufacturer has specifically refused to bring a product to the Canadian market because of provincial bans on the cosmetic use of pesticides. Officials did note, however, that several products available in the USA (both Commercial- and Domestic-class) are not brought to Canada because of the smaller market in Canada. Ministry officials assume that bans on cosmetic uses will exacerbate this for Domestic-class products.

Agriculture

BC Ministry of Agriculture officials reported to the Committee that their colleagues in other provinces with bans have indicated the following effects: Québec farmers are applying more pesticides on orchards close to residential areas and complain more about the lack of availability of Domestic-class pesticides; and pests such as apple maggot, apple scab and codling moth are being reported as greater problems near residential areas in Québec.

Ministry staff in provinces with bans also noted that fewer pest control products are being developed for the ornamental and turf sectors as there is no domestic market. Ontario hobby farmers and

¹² “Two Years After Pesticide Ban, Surveys Show Public and Professional Frustration,” *Horticultural Review*, September 15, 2011, p. 20.

backyard gardeners are just becoming aware the ban affects them and are writing letters to politicians seeking to be exempted from the ban. A reduced number of pest control products are available to use on backyard gardens and trees.

In the ministry response, it was noted that the potential impact of a ban may be different in British Columbia than in other provinces as BC is considered the most urbanized province in the nation with 85% of the population urban, 15% rural and 1.5% farmers. Eighty percent of people living in the Agricultural Land Reserve are non-farmers and a ban on the cosmetic uses of pesticides could impact their ability to manage pests that threaten agriculture.

Forestry

On January 25, 2012, the official representing the BC Ministry of Forests, Lands and Natural Resource Operations informed the Committee that the forestry sector in Ontario has also been affected by the ban in place there. She noted that in Ontario the term ‘forestry’ has not been clearly defined and that as a result it is unclear how the ban and its forestry exemptions apply to urban forests. Additional challenges for the forest industry have resulted from public relations and communication issues. Due to messaging around the lack of safety or lack of perceived safety of cosmetic pesticides, the public is concerned about the forestry sector using pesticides with the active ingredients that are banned for cosmetic uses. As a result important forest programs are meeting resistance in Ontario. The Committee was urged to consider the terminology it uses when communicating with the public in order to avoid similar challenges in BC.

Implementation and Enforcement

Implementation

The Committee learned that implementation of new restrictions on the cosmetic use of pesticides has proceeded smoothly in some provinces – namely, New Brunswick and Prince Edward Island, Nova Scotia and Québec – while it has posed challenges for Ontario.

New Brunswick and Prince Edward Island have banned only concentrates, hose-end products and 2,4-D so the residents have a suite of products still available to them to manage a variety of pests. These provinces have not reported a need for a permitting system as other products are still available.

The Nova Scotia Department of Environment reports that most vendors and residents accept that many Domestic-class products are no longer available for sale. Pesticide applicators accept the new requirements so few issues have arisen since the ban came into effect in 2011.

Similarly, Québec, the first province to ban the use of certain lawn pesticides in 2001, reported few issues with respect to the need for exemptions. This province is currently in the process of changing their regime to expand beyond lawns to include other landscaped areas.

BC ministry officials also provided feedback received from Environment, Agriculture and Natural Resources counterparts in Ontario. Agriculture representatives indicated that they are receiving more calls about pest management. Natural Resources staff has had to dedicate more resources to address issues arising from the ban including issues about about land uses (exactly where and when the ban applies, what land type or activity counts as forestry, what counts as agriculture) and agricultural uses. Other issues are whether, and which, pests may be treated under the ban, and communication about the safety of pesticides.

Compliance of vendors

BC officials informed the Committee that generally other provinces report that most of the regulated community wants to follow the new rules, they just need the new requirements to be explained to them. Nova Scotia officials indicated that, after one year, of putting in place a ban, they dedicate the same or fewer resources to compliance of vendors of Domestic-class products and landscape pesticide uses. They believe that this is due, in part, to placing resources into communications and compliance efforts very early on. The significantly larger province of Ontario hired over 20 summer students for two consecutive years to promote and verify the new requirements for vendors. Ontario Ministry of Environment staff suggested that the increase in complaints related to the ban was not substantial, with anecdotal information suggesting greater confusion about the safety of products.

Effects of Municipal Bans

At the January 25, 2012 meeting and in follow-up information, Ministry of Agriculture officials explained that municipal bans in BC are impeding efforts to deal with the nursery pest, European Chafer. Specifically, the City of Vancouver and City of Burnaby bylaws prohibit the application of insecticides for the control of European Chafer. Other pest management tactics are being used that are helping to suppress this pest; however, they are not preventing its spread towards agricultural crops. The European Chafer has spread from the epicenter in New Westminster to Coquitlam, East Vancouver, Kerrisdale, Richmond and North Delta.

Similarly, some of the province's regional weed committees have reported that municipal bylaws are hindering the ability to manage invasive plants. Also, public and municipal perceptions of safety, and confusion regarding pesticide bylaws and exemptions for noxious weeds, delay and prevent quick responses to invasive species.

The Committee also learned, via the news media, that another unintended consequence of municipal bans is the decline in the quality of turf on playing fields. One news story reported that that in March 2012 the North Okanagan Regional District decided to invest in resurfacing a baseball diamond in Coldstream, BC after the turf became overrun by weeds following the enactment of a local pesticide ban.¹³ Another newspaper article reported that the problem of weeds and invasive plants prompted one suburban Chicago municipality to modify its turf management policies to once again allow

¹³ "Diamond will be repaired," *Vernon Morning Star*, 11 March 2012, p. 10.

groundskeepers to use pesticides.¹⁴ A recent editorial in *Maclean's Magazine* suggested that the challenges of maintaining natural turf sports field without pesticides have resulted in the move to artificial turf fields in Ontario.¹⁵

¹⁴ "Park District of Highland Park lifts pesticide ban for 3 parks," *Sun-Times*, August 19, 2011.

¹⁵ "An odd way to encourage a more natural environment," *Maclean's Magazine*, March 12, 2012, pp. 4-5.

Conclusions and Recommendations

Introduction

Tasked with examining the scope of a possible ban on the sale and cosmetic use of pesticides and with identifying any exemptions or restrictions to a possible ban, the Committee undertook a comprehensive inquiry into the regulation and use of pesticides in British Columbia. We were briefed by officials from the federal and provincial regulatory bodies, heard presentations from invited stakeholders, and reviewed an unprecedented number of written, video and e-questionnaire submissions. It is clear from the volume and quality of submissions that the issue of cosmetic pesticide use is an important and emotional issue for British Columbians.

All the input we received has been carefully considered during committee deliberations, which have been conducted in a collegial and honest manner. Based on what we have learned during the process, committee members on both sides of the House are convinced that further restrictions on the use and sale of pesticides in British Columbia are necessary. However, we have been unable to reach a consensus on the need for a provincial ban on pesticide use for cosmetic purposes — a division of opinion that reflects the ongoing debate and tension in society at large. The majority of committee members favour further restrictions on the sale and use of pesticides in British Columbia rather than an outright ban on cosmetic use, the option preferred by the minority.

Before reaching this conclusion, the majority of committee members carefully considered the evidence presented by health and environmental advocates. In particular, we assessed the claims made about the impacts of pesticide exposure on human health and weighed the links proposed by epidemiological data against the lack of proven causal relationships between pesticides and negative health outcomes. We are impressed with the passion and sincerity with which the arguments in favour of a ban were made. However, we are not convinced that currently available scientific research provides a basis for disagreeing with the science-based evaluations made by the PMRA.

Committee members representing the majority are satisfied with how the PMRA registers and re-evaluates pesticides and are confident with the scientific integrity of the federal processes. From our perspective, the scientific evidence does not, at this time, warrant preventing British Columbians from buying and using approved Domestic-class pesticides for lawn and garden care. In other words, we are not prepared to say to consumers, “You can no longer go into any store, under any circumstances, and buy 2,4-D,” and not only that, “Nobody can apply it to your private property, regardless of their credentials and training.” At the same time we do believe there is a need for additional restrictions on the sale and use of lawn and garden pesticides and for additional education and application of IPM principles in the residential context.

Ban on Pesticide Use

A majority of committee members think there is a need to educate the public on existing regulations that govern public use of pesticides. For this reason, we reiterate the point made earlier in the report (page 14) that use of all pesticides (except products in Schedule 2) is prohibited on public spaces such as schools, municipal and playing fields open to the public, except where integrated pest management plans are in place and when pesticides are applied by certified applicators.

The majority of committee members also believe that there is a strong case for much tighter regulation of the sale and use of pesticides intended for use in commercial operations such as agriculture, forestry, and industry. It has come to our attention that individuals who wish to use Commercial-class pesticides on their own private land – for example, homeowners or farmers, hobby farmers, private rangeland managers – are not currently required to be certified to purchase or apply pesticides.

To address this problem, the majority on the Committee concluded that the Commercial-class pesticides should be purchased and applied only by certified pesticide applicators. A certification requirement addresses the problem of pesticide misuse or overuse and poses less of an administrative and financial burden on farmers than a new licensing requirement. We are cognizant that some farmers will need time to become certified, and that a new tier of certification may be required to ease the transition. For this reason, we encourage government to complete a thorough consultation process with the agriculture industry.

We anticipate that, once implemented, the certification requirement will lead to a reduction in pesticide use. We think it is unlikely many residential pesticide users would want to go through the process of getting certified to buy a commercial pesticide in cases where the provincial law or municipal bylaw does not allow its use.

Therefore the Committee recommends to the Legislative Assembly that the provincial government:

Ban

1. Ban the sale of Commercial-class pesticides as soon as possible, except for use by certified applicators. Begin immediate consultations with the agriculture industry on how best to prohibit the sale of Commercial-class pesticides to anyone but a certified applicator.

Point of Sale

During the inquiry and through their own personal experiences, committee members learned that some of the pesticide retail regulations in place are not followed on a consistent basis. To protect the public and to reduce the use of pesticides, our recommendations aim to enhance communication about responsible pesticide use. In our view, pesticide products need to be locked away or stored behind the counter so that a consumer must interact with a certified dispenser before the sale occurs.

These regulatory changes will make sure that pesticide dispensing is done properly so that homeowners are not able to purchase a pesticide product without speaking with a certified pesticide dispenser, receiving information on alternative pest management strategies, and learning how to safely apply the product.

The Committee also learned that the Province does not currently collect sales information on Domestic-class pesticides. By putting in place requirements that vendors collect and report all Domestic pesticide sales the Province will be able to better monitor overall sales levels and could use this information to decide whether future restrictions on sale and use are necessary.

Therefore the Committee recommends to the Legislative Assembly that the provincial government:

Point of Sale

2. Amend IPMA regulation(s) regarding how pesticides can be sold to require vendors to restrict consumer access to most Domestic-class pesticides so customers must interact with a certified dispenser before purchasing a pesticide.
3. Require a certified dispenser to ensure that there is a strong justification for pesticide use before a pesticide is sold, based on IPM principles, including the following:
 - a. the best way to control pests and weeds;
 - b. the right way to use a pesticide so that it does the job;
 - c. the legal uses of the pesticide; and
 - d. the importance of reading and following the directions on the label.
4. Require a vendor to keep a record of each sale of a Domestic-class pesticide, in line with the existing requirement for a vendor of a Commercial-class pesticide; and that government use the records of sales information to track Domestic-class pesticide sales.
5. Provide vendors with a reasonable phase-in implementation period.

Compliance and Enforcement

Based on e-consultation submissions and personal experiences the Committee believes compliance and enforcement of existing rules must be strengthened. We recognize that this will require additional resources for the Ministry of Environment. It is important that inspections be increased to ensure that certified pesticide dispensers are selling the products according to regulations and that consumers are receiving the appropriate information. This will involve the Ministry informing retailers that, “we are going to beef up compliance,” and that if a certified dispenser is not available to talk to purchasers, the businesses will be fined.

Therefore the Committee recommends to the Legislative Assembly that the provincial government:

Compliance and Enforcement

6. Increase inspections of retail outlets to ensure that pesticide products are accessible only by interaction with certified dispensers and that the consumer is receiving appropriate information and instruction.
7. Increase penalties for those vendors not meeting the responsibility that accompanies their right to sell the product.

Education

During the course of the inquiry, it became clear to committee members that many people do not understand the federal process for registering pesticides and are not aware that when pesticides are used safely environmental and health risks are reduced to an acceptable level and plant health is maintained. The Committee is convinced that additional education about the benefits of pesticides and about the safe use of chemical pesticide products would be beneficial.

In our view, the cost of delivery of public education should be a responsibility shared by the government, manufacturers and vendors. Companies that produce pesticides have a role to play in ensuring that consumers have access to information on their products and are informed of alternative treatment options and IPM principles. We suggest that the government work with manufacturers and retail partners and with non-commercial educational organizations to develop diverse public education opportunities. Educational programs and resources could be coordinated by provincial IPM specialists who would provide information on IPM best practices for the development of education and training curricula. Providing the public with up-to-date educational resources developed by specialists in IPM will provide British Columbians with a suite of educational tools and will lead to better, more informed pesticide use in the province.

The Committee suggests the creation of a list of preferred products and treatment options that are most sensitive to the environment. This list and additional IPM resources should be readily available on a webpage designed to help homeowners make smart pest management decisions. Committee members also recommend the development of a one-day course for homeowners. The course will provide an introduction of IPM principles and will allow those who complete the program to bypass the requirement to interact with the certified pesticide dispenser by presenting the dispenser with proof of course completion.

During its inquiry the Committee also learned about the certification processes for pesticide dispensers and pesticide applicators. Members of the public identified weaknesses in the existing training curriculum and program design, and industry representatives and Ministry of Environment officials acknowledged there is potential to improve education and training in the province. The Committee believes that requirements to sell or apply pesticides need to be more stringent in order to ensure that pesticides are being applied safely and that applicators and dispensers are considering IPM principles.

More education for certified pesticide dispensers will mean that dispensers are aware of methods of dealing with weeds and pests and will be equipped to recommend a solution that is best suited to each specific pest case. By focusing additional education on the principles of IPM, dispensers will be equipped to recommend cultural pest management practices and products that will reduce overall pesticide use. It is important to get the information to consumers so that they can make informed choices about how best to care for their lawns and gardens.

The Committee believes that improved training for certified pesticide applicators is also necessary. By requiring a hands-on training course as part of the applicator certification program the Committee hopes to improve knowledge of IPM and pesticide use on or near residential areas. This additional certification requirement will also mean that employees are appropriately trained before they begin a job and that the quality of training is not as dependent on the employer.

Therefore the Committee recommends to the Legislative Assembly that the provincial government:

Education

8. Improve public education on the use of Domestic-class products, with a focus on the right product at the right time, in accordance with IPM principles and to the extent possible, in ways that are consistent with BC organic standards and organic management practices.
9. Employ IPM specialist(s) to work with retailers and other stakeholders to educate the public on ways to eliminate pesticide use and increase alternative pest management methods. The specialist could be responsible for developing and/or coordinating and approving educational information developed through partnerships.
10. Make public education a combined responsibility of manufacturers, retailers, and government with manufacturers, retailers, and applicator businesses paying most of the cost; and provide resources to support non-commercial organizations dedicated to public education. Components of the outreach or promotion could be contracted out, similar in nature to the Recycling Council of BC, with an IPM specialist approving educational information and delivery methods.
11. Develop a separate list of preferred products that meet a set of criteria for sale/use on lawns, gardens and turf to assist certified dispensers and consumers when selecting pesticides.
12. Develop, in conjunction with retailers and manufacturers, a one-day course for consumers following which a graduate would be issued a card allowing a fast-track purchase of registered Domestic-class pesticides.
13. Establish a website for the householder using pesticides in and around private homes and gardens that explains the principles of IPM, alternative methods of treatment, and methods of lawn care that reduce the growth of weeds.
14. Amend the IPM Regulation regarding how pesticides can be used by landscapers for lawn and landscape pest management, to require IPM accreditation for landscaping licensees. A third party accreditation body, like Plant Health BC, could be required to audit its members for compliance with record keeping requirements of IPM Regulation and for good IPM practices.

15. Enhance retailer training by directing the retail industry to set up, at its own cost, a more comprehensive training and certification regime so that sales people in the retail setting are qualified to ensure consumer choices are in line with IPM principles; and develop a training course for pesticide applicators as a pre-requisite to test writing, with the course content to include the application of IPM principles in residential settings.

Golf Industry

The Committee received a large volume of input on the economic importance of golf courses and on the use of pesticides on golf courses. We would like to encourage further environmental stewardship and the implementation of IPM on all BC golf courses.

Therefore the Committee recommends to the Legislative Assembly that the provincial government:

Golf

16. Ask the golf industry to develop a province-wide certification process, or to modify an existing one, that will ensure a high standard of pesticide use by all golf courses in BC, including the use of IPM principles.

Safe Disposal of Unwanted Pesticides

In addition to providing British Columbians with new and more comprehensive educational materials and learning opportunities, the Committee also believes that the safe disposal of pesticide products should be made as easy as possible to protect the natural environment and public health. We understand that there are options available for the disposal of most unwanted Domestic-class pesticides. For example Product Care Paint Plus Depots exist in every regional district. However, there are currently no permanent locations in BC where Commercial- or Restricted-class pesticides can be taken for disposal. We encourage the expansion and increased accessibility of safe disposal options for all classes of pesticide products.

Therefore the Committee recommends to the Legislative Assembly that the provincial government:

Safe Disposal of Unwanted Pesticides

17. Expand and enhance the provincial unwanted pesticide management program to facilitate the return of unwanted Domestic-, Commercial- or Restricted-class pesticide products.

Final Conclusion

Over the course of its inquiry the Committee studied the existing federal-provincial regulatory framework, heard varied opinions from over 8,600 e-consultation participants, and examined bans in other jurisdictions. The Committee concluded that despite the intensity of arguments in favour of a ban on the cosmetic use of pesticides and a general misunderstanding of the risks associated with chemicals, there is insufficient scientific evidence to support a province-wide ban on pesticides for cosmetic use. The majority of the Committee supports using science-based evidence and will not restrict access to products that are approved for safe use in Canada. In its commitment to “protect the public and reduce the use of pesticides according to the IPM principles,” the Committee has focused its recommendations on strengthening regulations on pesticide sales, monitoring and education. The unnecessary use of pesticides can be reduced by providing British Columbians and businesses with the education, tools and support necessary to make informed pest management decisions.

Summary of Recommendations

The Committee recommends to the Legislative Assembly that the provincial government:

Ban

1. Ban the sale of Commercial-class pesticides as soon as possible, except for use by certified applicators. Begin immediate consultations with the agriculture industry on how best to prohibit the sale of Commercial-class pesticides to anyone but a certified applicator.

Point of Sale

2. Amend IPMA regulation(s) regarding how pesticides can be sold to require vendors to restrict consumer access to most Domestic-class pesticides so customers must interact with a certified dispenser before purchasing a pesticide.
3. Require a certified dispenser to ensure that there is a strong justification for pesticide use before a pesticide is sold, based on IPM principles, including the following:
 - a. the best way to control pests and weeds;
 - b. the right way to use a pesticide so that it does the job;
 - c. the legal uses of the pesticide; and
 - d. the importance of reading and following the directions on the label.
4. Require a vendor to keep a record of each sale of a Domestic-class pesticide, in line with the requirement for a vendor of a Commercial-class pesticide; and that government use the records of sales information to track Domestic-class pesticide sales.
5. Provide vendors with a reasonable phase-in implementation period.

Compliance and Enforcement

6. Increase inspections of retail outlets to ensure that pesticide products are accessible only by interaction with certified dispensers and that the consumer is receiving appropriate information and instruction.
7. Increase penalties for those vendors not meeting the responsibility that accompanies their right to sell the product.

Education

8. Improve public education on the use of Domestic-class products, with a focus on the right product at the right time, in accordance with IPM principles and to the extent possible, in ways that are consistent with BC organic standards, organic management practices.
9. Employ IPM specialist(s) to work with retailers and other stakeholders to educate the public on ways to eliminate pesticide use and increase alternative pest management methods. The specialist could be responsible for developing and/or coordinating and approving educational information developed through partnerships.
10. Make public education a combined responsibility of manufacturers, retailers, and government with manufacturers, retailers, and applicator businesses paying most of the cost; and provide resources to support non-commercial organizations dedicated to public education. Components

of the outreach or promotion could be contracted out, similar in nature to the Recycling Council of BC, with an IPM specialist approving educational information and delivery methods.

11. Develop a separate list of preferred products that meet a set of criteria for sale/use on lawns, gardens and turf to assist certified dispensers and consumers when selecting pesticides.
12. Develop, in conjunction with retailers and manufacturers, a one-day course for consumers following which a graduate would be issued a card allowing a fast-track purchase of registered Domestic-class pesticides.
13. Establish a website for the householder using pesticides in and around private homes and gardens that explains the principles of IPM, alternative methods of treatment, and methods of lawn care that reduce the growth of weeds.
14. Amend the IPM Regulation regarding how pesticides can be used by landscapers for lawn and landscape pest management, to require IPM accreditation for landscaping licensees. A third party accreditation body, like Plant Health BC, could be required to audit its members for compliance with record keeping requirements of IPM Regulation and for good IPM practices.
15. Enhance retailer training by directing the retail industry to set up, at its own cost, a more comprehensive training and certification regime so that sales people in the retail setting are qualified to ensure consumer choices are in line with IPM principles; and develop a training course for pesticide applicators as a pre-requisite to test writing, with the course content to include the application of IPM principles in residential settings.

Golf

16. Ask the golf industry to develop a province-wide certification process, or to modify an existing one, that will ensure a high standard of pesticide use by all golf courses in BC, including the use of IPM principles.

Safe Disposal of Unwanted Pesticides

17. Expand and enhance the provincial unwanted pesticide management program to facilitate the return of unwanted Domestic-, Commercial- or Restricted-class pesticide products.

Appendix A: Timeline

1969 – Parliament of Canada passes the *Pest Control Products Act* (PCPA)

1987 – Law Reform Commission of Canada recommends 23 improvements to the PCPA

1991 – Town of Hudson, Québec passes pesticide bylaw: Hudson bylaw 270 is the first example of a local government restricting the use of pesticides. In 1992 two lawn pesticide companies unsuccessfully challenged the validity of the bylaw. They continued their challenges through higher courts, also unsuccessfully. In a 2001 ruling, the Supreme Court of Canada upheld bylaw 270 and ruled that municipalities in most provinces have the right to regulate and restrict pesticide use.

1995 – Health Canada replaces Agriculture Canada as the agency responsible for pesticide regulation: This includes the creation of the Pest Management Regulatory Agency within Health Canada.

1996 – The United States reforms its pesticide regulations

1997 – Canadian pesticide manufacturers are required to cover the registration costs of their products

2000 – House of Commons Environment and Sustainable Development Committee Report: The Standing Committee notes that the PCPA had not been systematically revised since its creation in 1969, and makes a series of recommendations to modernize the *Act*.

2002 – Parliament of Canada enacts new *Pest Control Products Act*: Changes in the new *Act* include re-evaluations of older products and requiring tests to account for vulnerable sub-populations such as children. These changes take effect in 2006.

2003 – Québec pesticide ban: the Québec *Pesticide Management Code* is introduced in 2003 and fully phased in by 2006. This first provincial ban includes 20 active ingredients and applies to a wide range of areas.

2003 – Port Moody adopts pesticide bylaw: First bylaw passed by a BC municipality.

2008 – Ontario pesticide ban: The *Cosmetic Pesticide Ban Act* is passed in 2008 and implemented in 2009. Ontario's ban includes 96 active ingredients. Ontario's legislation is considered by many to be the strongest in Canada, but is also criticized by opponents as unscientific.

2009 – New Brunswick pesticide ban: Under the existing *Pest Control Act*, New Brunswick bans the use and sale of pesticide products containing 2,4-D, as well as fertilizer-herbicide products and those requiring mixing or dilution.

- 2009 – NAFTA arbitration agreement:** Dow AgroSciences and the Government of Canada reach an agreement concerning Dow's NAFTA, Chapter 11 complaint concerning the use and sales prohibition of 2,4-D under Québec's *Pesticides Management Code*. The agreement reached includes the Government of Québec making a public statement that products containing 2,4-D do not pose an unacceptable risk to human health or the environment when used properly. However, Québec chooses to continue its ban.
- 2010 – PEI pesticide ban:** PEI synchronizes its rules with New Brunswick.
- 2010 – Alberta pesticide ban:** Alberta bans fertilizer-herbicide combination products (often called 'weed-and-feed'). This ban is based on the conclusion that weed-and-feed product use results in overuse of 2,4-D and threatens the health of waterways. The PMRA will deregister 'weed-and-feed' products at the end of 2012.
- 2011 – Nova Scotia pesticide ban:** The *Non-essential Pesticides Control Act* comes into effect in April 2011 with regard to lawns and will expand in 2012 to include ornamental plants. This ban maintains a list of allowable pesticides; all others are prohibited for cosmetic purposes.
- 2011 – BC Special Committee on Cosmetic Pesticides:** The Special Committee is struck on June 2 to look into the feasibility of eliminating the unnecessary use of pesticides in the province.
- 2012 – Newfoundland and Labrador:** Updates to the *Pesticide Control Regulations, 2012* under the *Environmental Protection Act* institute a ban on the sale and use of products containing five active ingredients on lawns. The new regulations come into effect on May 1, 2012.
- 2012 – Federal de-regulation of fertilizer-pesticide combination products for lawn and turf:** In February 2010 the PMRA issued a Re-evaluation Note concluding that fertilizer-pesticide combination products for lawn and turf do not support the goals of best practices for pest management on turf. The last date of sale these products was set for December 31, 2012.

Appendix B: E-questionnaire Results

- 1) Do you believe some uses of pesticides are solely cosmetic?
 - Yes [5601]
 - No [1553]

- 2) Do you support a ban on the sale and use of pesticides used solely for cosmetic purposes?
 - Yes [4982]
 - No [2268]

- 3) Why do you support a ban on the sale and use of pesticides, including those used solely for cosmetic purposes?
 - Pesticides are harmful to the environment [4720]
 - Pesticides pose a risk to human health [4709]
 - There are safer alternatives on the market [3640]
 - To promote consumer safety [3315]
 - To reduce the reliance on pesticides [3771]
 - Other [796]

- 4) Why do you oppose a ban on the sale and use of pesticides, including those used solely for cosmetic purposes?
 - Existing regulations are sufficient [1520]
 - The need for a ban is not supported by scientific evidence [1019]
 - A ban will have a detrimental effect on business or industry [1336]
 - Other [261]

- 5) Which of the following outdoor areas should be included in a possible ban on the sale and use of pesticides, including those used for cosmetic purposes?
 - Lawns [4898]
 - Private gardens [4495]
 - Public landscaped areas [4874]
 - Playing fields [4953]
 - Areas adjacent to schools and childcare facilities [5216]
 - Other [1050]
 - I oppose a ban [1917]

- 6) When deciding which pesticides to ban or restrict, what criteria should be used?
 - Specific active ingredients [4937]
 - Specific pesticide products based on their use [3705]

- Specific pesticide products based on their concentration or package size [2907]
- Other [735]
- I oppose a ban [1811]

7) Which of the following business sectors should be exempt from a possible ban on the sale and use of pesticides, including those used for cosmetic purposes?

- Agriculture industry [3424]
- Forestry industry [3241]
- Landscape horticultural industry [1953]
- Golf industry [2594]
- Pest control services [3064]
- Professional lawn care services [1897]
- Other [1059]

8) How could a ban on the cosmetic use of pesticides be best implemented?

- Changes to current pesticide legislation and/or regulation [4981]
- Voluntary measures (eg. charter on safe pesticide use) [1758]
- Educational campaigns [4411]
- Other [1022]

9) In which cases do you consider the use of pesticides unnecessary?

- When used by key industries (eg. agriculture, forestry) [1920]
- When used to support human health (eg. bed bug eradication) [923]
- When used solely for cosmetic purposes on residential lawns and private gardens [5335]
- When used solely for cosmetic purposes on playing fields, playgrounds, and other public landscaped areas [4964]
- Other [1032]

10) Which statement best describes your view?

- Informed individuals should be able to buy and use pesticides of their choice. [1248]
- Pesticides should be applied only by trained individuals. [1403]
- Pesticides solely used for cosmetic purposes should be banned. [4458]

Appendix C: Local Pesticide Bylaws in Force in BC

Local Government	Introduced	Adopted	Enacted/In Force
Burnaby	June 9, 2008	June 16, 2008	April 1, 2009
Comox	July 19, 2006	Sept. 20, 2006	Jan. 1, 2008
Courtenay	June 11, 2007	July 3, 2007	Jan. 1, 2008
Coquitlam	February 20, 2012	April 23, 2012	-
Cumberland	Oct. 16, 2006	Nov. 6, 2006	Nov. 6, 2006
Delta	July 27, 2009	Nov, 16 2009	Nov, 16 2009
Esquimalt	May 20, 2008	July 14, 2008	July 14, 2009
Fernie	Feb 22, 2010	March 8 2010	Jan 1 2011
Gibsons	March 15, 2005	April 19, 2005	April 19, 2005
Golden	August 11, 2009	October 5, 2010	April 1, 2011
Harrison Hot Springs	August 16, 2010	September 13, 2010	September 13, 2010
District of Invermere	Feb. 28, 2008	Feb. 24, 2009	May 1, 2009
Kamloops	July 14, 2009	July 28, 2009	March 15, 2010
Kelowna	July 25, 2006	Dec. 12, 2006	Jan. 1, 2009
Kimberly	Dec 14, 2009	Feb 8 2010	Feb 8 2010
District of Maple Ridge	July 25, 2006	Dec. 12, 2006	March 1, 2007
Nanaimo	April 26, 2010	April 4, 2011	April 4, 2011
Nelson	Jan. 22, 2007	July 23, 2007	July 23, 2007
New Westminster	March 2, 2009	March 23, 2009	March 1, 2010
Oak Bay	November 22, 2010	January 24, 2011	April 1, 2011
City of Pitt Meadows	July 5, 2011	September 6, 2011	March 1, 2012
Port Alberni	April 27, 2009	May 11, 2009	Jan. 1, 2010
City of Port Coquitlam	May 24, 2011	June 13, 2011	June 13, 2011
Port Moody	Nov. 25, 2003	Dec. 2, 2003	Jan. 1, 2006
Qualicum Beach	June 14, 2010	November 4, 2010	July 1, 2011
Revelstoke	April 12, 2011	October 4, 2011	October 4, 2011
Richmond	Sept. 11, 2009	Oct 13, 2009	Oct 13, 2009
District of Saanich	Dec. 14, 2009	January 25, 2010	May 1, 2010
Salmon Arm	Oct 14, 2008	Oct 27, 2008	March 1, 2009
District of Sechelt	Sept. 19, 2007	Feb. 20, 2008	Feb. 20, 2008
City of Surrey	May 3, 2010	May 4, 2010	May 4, 2010
District of Tofino	Sept 10, 2009	Sept 22, 2009	Sept 22, 2009
Vancouver	---	July 12, 2005	Oct. 2, 2007
City of North Vancouver	Nov 2, 2009	Nov 16, 2009	Jan. 1, 2010
District of North Vancouver	Sept. 24, 2007	July 7, 2008	Jan. 1, 2009
District of West Vancouver	Jan. 24, 2005	Feb. 14, 2005	Jan. 1, 2006
Victoria	Nov. 22, 2007	Jan. 31, 2008	Jan. 11, 2009
Whistler	Nov. 19, 2007	July 2008	Dec. 31, 2008
White Rock	May 11, 2009	Oct 5, 2009	Oct 5, 2009
City of Terrace	March 14, 2011	April 11, 2011	April 11, 2012

Source: British Columbia Ministry of Environment

Appendix D: Comparison of Existing Provincial Bans

	Announced/ Implemented	Objective	Nature of prohibition	Scope	Criteria to determine banned pesticides	Golf course	Noxious plants/ invasive plants
Alberta	Nov 2008/ Jan 2010	To protect and preserve rivers and lakes by reducing the amount of chemical run-off.	Prohibit sale and use of pesticide-fertilizer mixtures for landscaping on private land.	Lawns	Focus is on formulation; not focused on active ingredient	Golf courses on public land must be licensed. Golf courses must employ at least one certified applicator.	Not an issue, all products still available.
New Brunswick	June 2009/Fall 2009	To reduce reliance on pesticides. Will contribute to a sustainable environment.	Prohibit sale and use of 2,4- D, concentrated domestic lawn care products, pesticide-fertilizer mixtures, hose-end products and granular products. Landscape companies must be IPM accredited.	Lawns	Criteria based on potential for misuse and overuse. 2,4-D included based on public concern. Vendor can apply criteria to determine what can and cannot be sold.	IPM accreditation required. 2,4-D can be used by accredited courses.	Not an issue, domestic products available for residential use.
Newfoundland and Labrador	July 2011/ May 2012	Listened to concerns; analyzed the research; looked at other jurisdictions.	Prohibit the sale of five active ingredients for lawn care. Only low-risk pesticides may be used in public spaces. Prohibit the application of carbaryl, 2,4-D, mecoprop, dicamba, and MCPA.	Lawns	List based on the most commonly used lawn pesticides. List of five active ingredients.	Golf courses must be licensed, applicators must be certified.	Unknown
Nova Scotia	May 2010/ April 1, 2011 (lawns) and April 1, 2012 (ornamentals)	To help protect the health of Nova Scotians.	Prohibit the sale of non- essential pesticides for use on lawns (2011) and ornamentals (2012). Pesticides considered to pose a reduced risk may be used.	Lawns in 2011 and ornamentals, 2012	Criteria based on Ontario classification. Include only a List of allowable products.	Applicators must be certified.	Glyphosate available from certain vendors.

	Announced/ Implemented	Objective	Nature of prohibition	Scope	Criteria to determine banned pesticides	Golf course	Noxious plants/ invasive plants
Ontario	April 2008/ April 2009	To help protect the health and environment by reducing the use of toxic substances in air, land and water	Prohibit the sale of domestic pesticides with only cosmetic uses. Prohibit the use of cosmetic pesticides on private land. Pesticides considered to pose a reduced risk may be used. Dispensers must inform purchasers about prohibited uses. Few restrictions for indoor use on private land. Exceptions for poisonous plants and to maintain health of trees.	Applied to all outdoor residential and landscaped areas (lawns, patios, driveways, gardens, parks, and school yards.)	Criteria developed based on hazard and perception of risk. Criteria includes pesticide toxicity, "natural" or synthetic and use described on label. New pesticides are reviewed and classified by the Ontario Pesticides Advisory Council.	Accreditation required to use pesticides. Golf courses must prepare and make public an annual report on how they minimize pesticide use.	Glyphosate and glufosinate available for some uses. Banned pesticides can be applied by licenced applicator once required assessment and approval from government are obtained.
Prince Edward Island	December 2009/ April 1, 2010	To promote consumer safety by reducing the potential for misuse or overuse of pesticides.	Prohibit sale of 2,4-D, concentrated domestic lawn care products, pesticide-fertilizer mixtures, hose-end products and granular products. Landscape companies must be IPM accredited.	Lawns	Criteria based on potential for misuse and overuse. 2,4-D included in response to public concern. Vendor can apply criteria to determine what can or cannot be sold.	Applicator must be certified and must use 2,4-D as part as an IPM program.	Glyphosate available from certain vendors.
Quebec	Phase in from 2003 to 2006.	To limit the harmful effects of pesticides on human health — especially children — and the environment	Prohibit the sale of pesticide-fertilizer mixtures and 20 active ingredients for lawn-care. Prohibit the use of lawn-care pesticides on private land. Prohibit the indoor use of certain aerosols and most pesticides in schools and daycares.	Lawns and turf	New ranking system currently being developed based on hazard criteria.	Pesticide reduction plan signed by agronomist is required to order pesticides.	Glyphosate is available. Intention to amend regulation to allow for mechanism for exceptions.

Appendix E: Glossary

Acceptable risk: The health or environmental risks of a pest control product are acceptable if there is reasonable certainty that no harm to human health, future generations or the environment will result from exposure to or use of the product, taking into account its conditions or proposed conditions of registration.

Active ingredient: The component within a pesticide to which the intended effects can be attributed.

Acute toxicity: Ability of a substance to cause adverse effects within a short time of dosing or exposure.

Adverse effect: A change in the biochemistry, morphology, physiology, growth, development, or lifespan of an organism which results in impairment of functional capacity, impairment of capacity to compensate for additional stress, or increase in susceptibility to other environmental influences.

Aggregate exposure: Combined exposure to a single given chemical by multiple pathways, e.g. ingestion, inhalation, and contact with the skin or eyes.

Aggregate risk: Total risk from all sources of a pesticide exposure.

Bioaccumulation: A process in which substances collect in all, or part of, a living organism.

Biomagnification: The process by which the tissue concentration of bioaccumulated chemical residues increases as materials pass up the food chain through two or more trophic levels.

Certified pesticide applicator: An individual who is certified by the BC Pesticide Control Branch through examination to use or supervise use of pesticides in a specific category.

Certified pesticide dispenser: An individual who is certified by the BC Pesticide Control Branch through examination to sell pesticides.

Commercial-class pesticide: Federally assigned class of pesticide. Assigned when a pest control product is to be distributed for use in commercial activities that are specified on the label.

Cumulative exposure: The summation of exposures of an organism to a chemical or chemicals over a period of time.

Development toxicity: Adverse effects produced by exposure of developing organisms to toxicants during development.

Domestic-class pesticide: Federally assigned class of pesticide. Assigned when a pest control product is to be distributed primarily to the general public for personal use in or around their homes.

Exposure: Contact with a substance by ingestion, inhalation, or contact with the skin or eyes.

Epidemiology: The study of the incidence and spread of disease within populations, with the aim of establishing causality.

Formulant: Pesticide ingredient that serves a purpose other than the actual control of the targeted pest. For example emulsifiers to prevent the settling of liquids in the container or carriers to deliver the active ingredient uniformly.

Genotoxicology: The branch of toxicology that deals with the genetic effects of toxic substances, especially the production of mutation by chemical means.

Hazard: The inherent toxicity of a chemical.

Integrated Pest Management (IPM): A process for managing pest populations that includes: planning and managing ecosystems to prevent organisms from becoming pests; identifying pest problems and potential pest problems; monitoring populations of pests and beneficial organisms, damage caused by pests and environmental conditions; using injury thresholds in making treatment decisions; suppressing pest populations to acceptable levels using strategies based on considerations of: biological, physical, cultural, mechanical, behavioural and chemical controls in appropriate combinations as well as environmental and human health protection.

Invasive plants: Non-native plant species that have been introduced, either intentionally or accidentally, into the environment from other areas. Without their natural pathogens and predators, they are capable of moving aggressively into an area, and monopolizing resources such as light, nutrients, water, and space to the detriment of other species.

Invasive species: Plants, animals, aquatic life and micro-organisms that outcompete native species when introduced outside of their natural environment; alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Maximum Residue Limit (MRL): The amount of a pesticide which has been determined may safely remain in, or on, a food crop without hazard to the consumer.

Neurotoxicity: The ability of a substance to cause adverse effects on the nervous system.

NOEL (no observed adverse effect level): The highest dose of a pesticide that does not produce detectable adverse effects.

Noxious weed: A weed defined by law as being particularly undesirable, troublesome, or difficult to control. Control is mandatory under the provincial *Weed Control Act*.

Pest: An animal, a plant, fungus, virus, weed, or bacterial organism that is injurious, noxious or troublesome.

Pesticide or pest control product: Any substance or mixture of substances used to control, destroy, attract, or repel a pest, or to lessen or prevent its harmful or troublesome effects. Pesticide can include insecticides, fungicides, algicides and herbicides.

Precautionary principle: Defined in the *Pest Control Products Act* as: “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent adverse health impact or environmental degradation.”

Product label: The product label that is approved as part of the registration process contains the conditions of registration that, along with the PCP Act and Regulations, govern the use of the product. In effect, the label is a legislative document. Use of a product in a manner that is inconsistent with the directions or limitations on the label is prohibited. Any control product offered for sale in Canada must bear the approved label.

Public land: Defined in the Integrated Pest Management Act Regulation as Crown land that is not private land, bodies of water and land owned or leased for its own purposes by a local authority, a university or institution, a board or francophone education authority, a regional hospital board of district or a government corporation.

Reference dose: Term used to estimate maximum daily exposure to a substance by the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious effects during a lifetime.

Registrant: Organization or individual that holds the certificate of registration and is thereby responsible for the product. A registrant can be a chemical company, federal or provincial agency, importer or any person wishing to market a pest control product in Canada. The registrant's name and address must appear on the product label.

Restricted-class pesticides: Federally assigned class of pesticide. Assigned when a pest control product, out of concern for its health or environmental risks, has additional information to be shown on the label concerning essential conditions of display, distribution or limitations on use.

Risk: The likelihood that a subject will be harmed, or experience an adverse outcome, if exposed to a particular hazard. Risk is a function of the intrinsic hazard of a substance and the likelihood of exposure.

Synergistic exposure: A toxicological interaction in which the combined biological effect of two or more substances is greater than the sum of their individual effects.

Toxicity: The ability of a substance to cause injury or adverse effect.

Toxicokinetics: Quantification and determination of the time course of absorption, distribution, biotransformation and excretion of chemicals by the body.

Toxicology: The study of poisonous materials and their effects upon living organisms.

Uncertainty factors: Factors used to account for inter- and intra-species differences in relation to toxic effects, and uncertainties associated with the data.

List of Participants

Presentations

- BC Agriculture Council, Reg Ens, Garnet Etsell, 26-Oct-11 (Victoria)
- BC Landscape and Nursery Association, Hedy Dyck, Jeff Foley, Blair Veitch, 26-Oct-11 (Victoria)
- British Columbia Business Council, Greg D'Avignon, Ken Peacock, Jennifer Robertson, 07-Nov-11 (Vancouver)
- Canadian Association of Physicians for the Environment, Dr. Cathy Vakil, 07-Nov-11 (Vancouver)
- Canadian Cancer Society, British Columbia and Yukon, Barbara Kaminsky, Kathryn Seely, 08-Nov-11 (Vancouver)
- Canadian Consumer Specialty Products Association, Shannon Coombs, 17-Nov-11 (Victoria)
- Certified Organic Associations of BC, Randy Pearson, 26-Oct-11 (Victoria)
- CropLife Canada, Pierre Petelle, 07-Nov-11 (Vancouver)
- David Suzuki Foundation, Lisa Gue, 08-Nov-11 (Vancouver)
- Health Canada, Pest Management Regulatory Agency, Lindsay Hanson, 06-Oct-11 (Victoria); Dr. Peter Delorme, Jason Flint, Lindsay Hanson, Dr. Connie Moase, 17-Jan-12 (Video Conference, Victoria)
- Integrated Environmental Plant Management Association of Western Canada, Jacquie Doherty, Paul Visentin, 08-Nov-11 (Vancouver)
- Integrated Vegetation Management Association of BC, Peter Mohammed, Gwen Shrimpton, Dave Spata, 08-Nov-11 (Vancouver)
- Invasive Plant Council of BC, Gail Wallin, 26-Oct-11 (Victoria)
- Douglas Justice, 07-Nov-11 (Vancouver)
- Dr. Bruce Lanphear, 07-Nov-11 (Vancouver)
- Ministry of Agriculture, Grant Thompson, Madeline Waring, Linda Wilson, 25-Jan-12 (Victoria)
- Ministry of Environment, Daphne Dolhaine, Jim Hofweber, Jim Standen, 22-Aug-11 and 25-Jan-12 (Victoria)
- Ministry of Forest, Lands and Natural Resource Operations, Jennifer Burleigh, 25-Jan-12 (Victoria)
- National Allied Golf Association - British Columbia, Douglas Ferne, Kris Jonasson, Jerry Rousseau, 26-Oct-11 (Victoria)
- Pesticide Free BC, Judy Wigmore, 17-Nov-11 (Victoria)
- Dr. Keith Solomon, 08-Nov-11 (Vancouver)
- Toxic Free Canada; First Call: BC Child and Youth Advocacy Coalition, Mae Burrows, 08-Nov-11 (Vancouver)
- Union of British Columbia Municipalities, Rhona Martin, Jared Wright, 08-Nov-11 (Vancouver)
- UVic Environmental Law Centre, Chris Tollefson, 08-Nov-11 (Vancouver)
- West Coast Environmental Law, Andrew Gage, 07-Nov-11 (Vancouver)

Written Submissions

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Jim and Shirley Culp	Johnston	Blair Dwyer	Diane Felske	Greg Garbula
Denise Cunningham	Sylvain Desbiens	Kevin Dyck	Andrea Ferguson	Karen Gardener
Jordan Curle	Doug Deschner	Phyllis Dyck	Bonnie Ferguson	Lavonne Garnett
M. Currie	Doug Deschner	Terry Dyck	Clint Field	Corey Gauthier
Len Cuthbert	Anik Descoteaux	Doug Dymond	Terri Field	Pascal Gauthier
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Greg Dagg	Margaret Devantier	East Kootenay Invasive Plant Council,	Erin Filtness	Will Gendemann
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Mel Davis	Camille Drexl	Susan Eyre	Rita Fromholt	Carolyn Gotay
Ken Davreux	Darrin Drumm	Ron Fairburn	Eliza Fry	Deirdre Goudriaan
	Dale Dubberley	Beth Falch-Nielsen	Michael Fullerton	John Goudsward
	Martin Dube	Dag Falck	Scott Fullerton	Alina Goulding
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	Ty Dudley	Bonita Jo Magee	Kenji Fuse	
	Olga Duduletz	Megan Farquhar	Pat Fyfe	
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Mikal Grant	Cathy Heard	on 2,4-D Research	Darrell Kaisner	Richard Kool
Grassroots Choice	David Heard	Data, James Gray	Kristine Kakuno	Kootenay Food
Lawn Care Ltd.,	Robert Heard	Invasive Plant Council	Leathea Kamdar	Strategy Society,
Morris and Jacquie	Maryam Heba	of Metro	Elizabeth Kaminski	Diana Lunde
Doherty	Carole Hebden	Vancouver, Tim	Howard Karby	Gary Koss
Jean Graves	Craig Heighway	Miron	June Karja	Richard Kouwenhoven
Christina Gray	Caroline Heim	Christina Ireland	Christopher Kasza	Rosanna Krahn
Peter Graystone	Mark Hein	Peter Irving	Marcus Kaulback	Sandra Kriese
Allysa Gredling	Grete and Kurt Helin	Party Irwin	Sandie Kavanagh	Denyce Krupa
Julia Greenlaw	Barbara Heller	Marlene Isola	Vicki Kavanagh	Adela Krupich
Elizabeth Greer	Arlene Hengel	Doreen Iverson	Alanda Keele	Inga Kruse
Natalie Gregg	Deanne Henry	Jennifer Izatt	Shirley Kehler	Amy Kucheran
Ellyn Gresham	Heather Heth	Aaron Jackson	Vanessa Kelly	Andrew Kuchta
Vanessa Griffiths	Robert Hettler	Jennifer Jackson	Tania Kenny	Cindy Kullman
Ray Grigg	Jade Hignett	Michelle Jackson	Damon Kessell	Connie Kuramoto
Eric L. Gunderson	Aaron Hill	Nadeane Jackson	Devin Kettle	Roni Kury
Murray Gunson	Blaine Hinkson	Ashkann Jad	Daniel Keyes	Natasha Kuzyk
Harold Gutovich	Bess Hirsch	Deni James	Ariane Khachatourians	Morag Kydd
Simon Haiduk	Edna Hobbs	Stellar James	Farrah Khan	Neil Ladell
John Hall	Nadja Hocking	Mark Jasayko	Lisa Kilgour	Karin Ann Laderoute
Dana Hamblin	Ursula Hoefer	Gord and Ethel	Christy Kiloh	Amy Ladner
Willow Hamblin	Fiona Hoey	Jenkins	Jane Kilthei	Andy Lafontaine
Gordon Hamilton	Mary Hogan	Dionne Jennings	Greg Kimura	Jamie Laga
Richard Hamilton	Tony Hogan	Fiona Job	Laurie Kindiak	David Laidlaw
Cheryl Hampson	Brian Holl	Lisa Johansen	Charlotte King-Harris	Nancy Lalonde
Megan Hanacek	Erin Holland	Doug Johnson	Eve King-Harris	Sarah Lalonde
Amber Hancock	John Holland	Ivan Johnson	Cheryl Kinkaid	Christopher Lam
Lauri Hanko	Chelsea Holley	Jennifer Johnson	Martin Kirk	Ms. D. Lam
Kirsten Hansen	Sharon Holton	Grace Johnston	Kirkbride School,	Heather Lamb
Diana Hardacker	Heather Honey	Louise Johnston	Grade 6 Class,	Leah Lambert
Herschel Hardin	Matthew Hopper	Helen Jones	Kristi Bartlett	Judy Lamb-
Tatiana Harker	A. Hornstein	Les Jones	Cara Kirkey	Richardson
Taylor Harmer	Denise Houle	Nadine Jones	Kim Kitchen	Myles Lamont
Lily Harned	David Howes	Sandra Jones	Thad Klassen	Dermot Lane
Anthony Harnett	Nikki Hughes	Selena Jones	Teresa Klein	Jennifer Langley
Jo Harrison	Ron Hull	Stephen Jones	Jackie Knauer	Sylvia Langmann
John Harrison	Brenna Hulley	Margaret Jones-	Julie Knobloch	Diane Langmead
Phil Harrison	Ross Hunt	Bricker	Nina Knott	Mario Lanthier
Thomas Harwood	Shawn Hunt	Helen Jongbloed	Kevin Koch	Juan Laos
Nicole Hatfield	John Hunter	Susan Jonsson	Robert Kochanuk	Teri Large
Kevin Hattori	Eileen Huster	Geoff Jordan	Erik Kok	Dallas Larsen
Florence Hawker	Christopher Hutton	Tisha Joy	Kylee Kok	Kyla Larson

Tracy Larson	John Lipski	Veronica Mannix	Moira Mcmillan	John Morgan
Sebastien Latour	Lorne Litowitz	Shelley Manson	Scott McMillan	Scott Morgan
Whitney Laughlin	Lawrie Livingstone	Brianna Marcum	Bonnie McMurray	Shannon Morgenstern
Philipp Lauk	Brennan Lloyd	Stephanie Maricevic	Lindsay McNally	Cynthia Morinville
Andrew Laurenson	Todd Loewen	Sunjit Mark	Gail Mcnamara	Lori Moroney
Ben Laurie	Bob Logie	Carl Markwart	Michael McNeil	Brad Morris
Mike Lavalley	Andrea Long	Braden Marr	Brenda McQuade	Drew Morris
Owen Lavelle	Tom Long	Patricia Marsh	Sam McRae	Valerie Morris
Mike Lavery	Pauline Longmore	Samantha Marshall	Dorrit McVeigh	Nadene Morton
Janet Lawson	Domenic Losito	Scott Martens	Beverly Meadows	Delia Mosi
Lance Lay	Nicky Loubser	Amber Martin	Sarah Meagher	Anne Moss
Debbie Lazar	Cathy Lowe	Claudette Martin	Nora Mejia	Mount Paul Golf
Pauline Le Bel	Aaron Lubell	Dave Mason	Patty Meredith	Course, Danny
Phresha Le Vandalee	Lyn Lutz	Dexter Mason	Samantha Mertler	Latin
Quy Le	Raina Lutz	Lee Mason	Lorna Mertz	Sonja Mulabdic
Jason Leach	Monica Luu	Dawn Massey	Yavar Meshgini	Louise Mulberry
Mary Lebrun	Cynthia Lyman	Catherina Mather	Amber Michaud	Katherine Muller
Bernard Lecerf	Edmund Ma	Ole Mau	Diane Michell	Cameron Murchison
Peter Leckie	Arlene MacAdams	Alison May	Sanela Mickovic	Ronda Murdock
Leda Organic Farm,	William MacAdams	Dean May	Kaylee Mikolas	Justine Murdy
Gary Swann	Dan MacDonald	Val Maze	Kathleen Millar	Crystal Murphy
Nathan Leduc	Graham MacDonald	Rhona McAdam	Barbara Miller	Kathy Murphy
George Lee	Jessie MacDonald	Don McBain	David Miller	David Murray
Jolaine Lee	Ruth MacEachern	Michael McBride	Jonny Miller	Joanne Murrell
Nancy Lee	Paul MacGillivray	Lisa McCargar	Norman Miller	Colleen Myers
Vivianna Lee	Alistair MacGregor	Alexander McClelland	Rena Miller	Megan Myers
Kelly Lees	Gordon Mackie	Aaron McConachie	Michael Millman	Joel Wood and
Gordon Leffler	Tammy MacKinley	Thomas McConkey	Reuel Minard	Nachum Gabler
Franz Lefort	Margaret Mackintosh	Sandy McCormick	Ministry of	Tomoko Nakamura
Dennis Leibel	H. Mackoff	Heather McCubbin	Agriculture,	Nanaimo Golf Club,
Tia Leschke	Lisa MacLean	Cam McCullough	Madeline Waring	Garth Sjolie
Madeleine Lesnie	Heather MacMillan	Ian McDonald	Jelena Misevski	Nechako Natural
Annierose Lessard-	Sita MacMillan	Karen Mcdonald	Frank Mitchell	Lawn Care, Alan
Kirwin	Daav MacNab	Dominique McGrady	Renee Mitchell	Dudley
Craig Lester	Cynthia Macneil	Leanne Mcgrath	Tania Modicamore	Hayley Nedland
Paul Leung	Cam Macquarrie	Lalanya McGraw	Maeve Mongey	Kami Neeme
Norma Leveille	Fred Madwid	Anne McKague	Brigitte Monvoisin	Helge Neilsen
Florrie Levine	Zoe Mager	Bonnie Mckay	Gail Moody	Neudorff North
Scott Lewis	Gail Mainster	Dale McKay	Chelsey Moore	America, Lauren
Tanya Lewis	Jody Mair	Sharon McKinnon	Fred Moore	Strachan
Michelle Li	Patricia Major	Frank McKitrick	Mike Moore	Tracey Neuwirth
Jessica Lightburn	Jerilynn Maki	Marilyn McKitrick	Richard Moore	Dawn Newton
Sarah Lightning	Katya Maloff	Joanne McManus	Shannon Moore	Phoebe Ng
Wendy Lim	Brett Mammel	David McMillan	Steve Moore	Alberto Niccoli
Juhan Lindau	Linda Manky	Jason McMillan	Mark Moraes	Erin Nicholson
David Linde	Richard Mann	Kathryn Mcmillan	Jude Moreland	Leo Nicolaas

Helge Nielsen	Adrienne Parlee	Premier Tech Home	Resorts of the	Brian Rouble
Phil Nielsen	Haleh Pashaei	& Garden, David	Canadian Rockies	Dawn Roumieu
Jason Nilles	Helmut Pastrick	Watson	Inc., Paul Bates	Julie Row
Andrea Nobbs-	Douglas Paton	Kelly Price	Retail Council of	Sonja Ruebsaat
Thiessen	Susan Payne	Teri Prince	Canada, Allen	Joanna Runciman
Esther North	Peace Portal Golf	Tom Prior	Langdon	Charles Russell
Kendra Norwood	Course, Rob Falk	John Pritchard	Ken Reyklin	Robert Russell
Rhonda Nowak	Steve Peardon	Matthew Pritchard	Jenny Reynen	Susan Russell
Betsy Nuse	Matthew Pearson	Angela Prive	Kathy Rezansoff	Liam Rust
Jodi Nystrom	Janet Pedersen	Kelly Proctor	Larry Rezansoff	Denise Rutherford
Sinead O'Brien	L. Peeler	Lee Procyk	Karen Rhodes	Kelly Rutherford
Eric O'Bryan	Jason Peil	Kevin Proteau	Sharon Ribarics	Genevieve Rydell
Walter Ockley	Rod Penman	PRT Growing Services	Larry Rice	Sagebrush Golf and
Ray Odland	Colleen Penrowley	Ltd., David Swain	Alexandra Richards	Sporting Club,
Reiko Ogawa	Megan Perkins	Tristan Puchalski	David Richards	Norley Calder
Brian Ogden	Harvey Permack	Lyle Pullan	Kristin Richards	Mitts Sakai
Okanagan Xeriscape	Dolores Perreault	Don and Shelley	Lorelei Richards	Joanne Sale
Association, Gwen	Richard Pesik	Purdy	Richbar Golf and	Karen Salley
Steele	Pauline Peters	Brian Purvis	Gardens, Roy	Margaret Salmon
Jean Oke	Richard Peters	Lorien Quattrocchi	Josephy	Mary Jane Salter
Daniel Olorenshaw	Ron Peters	Quilchena Golf and	Richmond Country	Jennifer Sankey
Eliza Olson	Helen Peterson	Country Club,	Club, Peter Stephen	I. Sarama
Stan Olson	Mark Pezarro	Jason Hooper	Katharina Riedener	Natasha Saravanja
Terry Olson	Chris Phillips	Vanessa Raber	Aaron Ritchie	Peg Sargeant
John Onderdonk	Harrison Phillips	Carmen Radojkovic	Cliff Roberts	Shanon Sarrasin
Colleen O'Neil	Lee Phillipson	Kathryn Ragan	Isaac Roberts	Gregory Sauer
Kathy O'Neill	Elaine Phipps	Nasreen Rahemtulla	John Roberts	Lee Sauer
Angele Ortega	Emma Pickering	Edward Ralfe	Alissanne Robertson	Ray Sauer
Sol Oshry	Dolores H. Pinchin	George Ramage	Natalie Robertson	Steve Savage
Osoyoos Indian Band	Jennifer Pinette	Karla Rand	Christine Robinson	SC Johnson, Amy
Development	John Pitcher	Richard Rand	Kayle Robson	Meloche
Corporation, Brian	Lucas Pitts	Linda Randall	Jennifer Rodriguez	Taoya Schaefer
Titus	Tracie Pitts	Aaron Ransome	Wendy Rodriguez	Guy Scharf
Out on a Limb	Ken Pivnick	Joanne Ranson	Ewald Roesler	Bobbi Schell
(consulting firm),	Tara Plas	Elisa Rathje	Craig Rogers	Melissa Schellenberg
Scott Morrison	Katie Pocock	Erika Rathje	Nicole Rogers	Dean Schiavon
Ashley Overton	Ellen Pointer	Marja-Leena Rathje	Brian Rohl	Cindy Schlutter
Nuri Ozpinar	Ken Porteous	Sylvain Ratthe	Dylan Rohl	Mike Schmidt
Anna Pace	Wendy Porter	James Raymond	Monica Rohl	Darlene Schopman
Katy Pace	T. Potsepp	Maureen Raymond	Chris Rolfe	Bernard Schroeder
Krista Page-Cowan	Anne Power	Sara Reeves	Gloria Rolfsen	Richard Schuster
Margaret Palmer	Irene Pozzolo	Mike Reid	Ashley Roll	Jennifer Schutz
Mike Parenteau	Jason Prack	Catherine Reimer	Matt Rollie	Judy Scott
Lorne Parker	Vikki Pratt	Jai Remnant	Mary Rose	Mel Scott
Ross Parker		Rita Rennie	Hartley Rosen	Rick Scott
Angela Parkinson			Christina Ross	Shannon Scott

Trevor Scott	Jess Smith	Eric Stolberg	Rebecca Thouin	Sanne Van der Ros
Scotts Canada Ltd., Karen Stephenson	Karen Smith Stuart Smith	Grigg Stone Stefan Storey	Joe Tibble Michelle Tilley	Marina Van Driel Diana van Eyk
Tricia Sedgwick	Ted Smith	Sheila Stotyn	Laura Timmermans	Thea van Roode
Jack Segal	Tyler Smith	Susan Stout	Leslie Timmins	Corry Van Viersen
Mike Seselja	Mandala Smulders	Caroline Stower	Marcel Tindal	Ben Vandenberghe
Seymour Golf and Country Club, David Harris	Rob Sommerfeldt Samara Sonmor Natalie Soon	Tara Stoyles Adam Stratton Julie Summerland	Coral Dawn Tipton Jennifer Tom David Tompkins	Kathryn Vanderlinden Rachel VanGassen Ben Verkerk
MaryJane Shankel	Shelley Sorensen	Sun Peaks Men's Golf Association, Adam	Ray Tong Gerald Tonn	Frits Verkerk Sophie Verkerk
Aman Sharma	South Okanagan- Similkameen	Earle	Silvana Tonti	Evelyne Vesper
Kimberly Sharman	Invasive Plant Society, Phil Rippin	Suncor Energy, Michael Kandravy	Jamie Tooze Harmien Torenbeek	Ami Vine-Sullivan Jennifer Vogt
Ryder Sharpe	Mona Southron	Surrey White Rock Pesticide Free	Gabor Toth Louise Towell	Jennifer Von Drasek Tanya Voormeij-de Zwart
Shaughnessy Golf and Country Club, Robin Macfarlane	Beth Southwell	Coalition, Melodie Tomiyama	Shirlelynn Toy- Olson	Jan Vozenilek Chris Waight
Patty Shaw	Laurie Spearin	Jo-Anne Sutherland	David Tracey	Kim Waite
Robert Shaw	Kim Speight	Michael Sutherland	Carly Tre	Roger Walker
Kevin Shearer	Mark Spencer	Brandy Svenson	Shirley Treger	Brenda Wall
Kate Shewchuk	Laura Spitz	Juania Swanson	Deb Trelinski	Ronald Wall
Gerald Shong	Sports Turf Association, Paul Gillen	Doneen Swart	Josee Tremblay	Jim Wallace
Kristin Shoolbraid	Teresa Spring	Lisa Sweeting	Bree Tremble	Fran Wallis
Roland Siegmund	Donald Spruston	Catherine Symons	Willo Treschow	Ben Walsh
Sierra Club Victoria Group, S. Jean Wallace	Squamish Valley Golf Club, Brian Avey	Lory Tanner	Amber Trettenero	Katie Walsh
Audrey Silver	Marne St Claire	Al Taylor	Trickle Creek Resort, Ray Guimont	Tom Walton
William Silversides	James Stallwood	Joyce Taylor	Kristen Trojanoski	Patrick Wang
Megan Simmer	Jordan Stanley	Louise Taylor	Doug Truant	Alena Warner
Erika Simms	Elena Starr	Regan Taylor	Agatha Tse	Brian Warner
Marcella Simpson	Chris Stasko	Judy Taylor-Atkinson	Geoffrey Tse	Craig Warner
Jessie Sinclair	Tony Steer	Glen Thayer	Ivan Tucakov	Bruce Warren
Keleegh Sinclair	Tony Steer	The Kootenay Lawn Doctor Inc., Paul and Mance Visentin	Ivan Tucakov Doreen Tucker	Donna Warrender
Al Singer	Jason Stefanko	Lindsay Stefanko	Sarah Tucker	Dan Waterman
Niki Sinhart	Lindsay Stefanko	Kimberley Stefansson	Andrea Turchanski	Carol Watson
Julia Skelley	Kimberley Stefansson	Harvey Thibault	Allen Turner	Jessy Watson
Monica Skinner	Gloria Stelting	Patrick Thibodeau	Andrew Turner	Russell Watson
Kirsten Skipp	Joanne Stephenson	Charles Thirkill	Jillian Turner	Tammy Watson
Lilly Sky	Marie Stevens	Carl Thomas	Laurel Turner	Caley Watts
Patricia Sky	Sue Stevens	Christi Thompson	William Scott Turner	Kimberly Weaver
Fran Sloan Sainas	Howard Stevenson	Jay Thompson	Brian Usher	Sheryl Webster
Tyler Smart	Susan E. Stevenson	Jody Thompson	Louise Valentine	David Wees
Naomi Smienk	Kendra Stewart	John Thompson	Charlie van de Kamp	Elaine Weidner
Nicolas Smit	Michael Stewart	Tanya Thompson	Kevin van der Leek	Anita Weimann
Christine Smith	Elmer Stobbe	Peter Thomsen	Ryan van der Marel	Malcolm Weinstein
Elaine Smith	Peter Stockdale	Janine Thornton		

L. Weir	Justin White	Williams Lake Golf &	Debbie Winkler	Dara Young
Cathryn Wellner	Karen White	Tennis Club, Rick	Fiona Winning	Findlay S. Young
Donna Wells	Doug Whitford	Gartrell	Gordon Wirth	Marion Young
Anita Wempe	Cindy Whiting	Claire Williams	Nichole Wismer	Amanda Yurich
Hiroko Wennevald	Judith Whytock	Diane Williams	Stephen Wither	Michele Zacharias
Jon Wennevold	Lena Wickman	Dorrie Williams	Bill Witter	Ted Zawaski
Joan Werner	Leanne Wicks	Liz Williams	Adam Wolters	Xin Zhao
Shannon West	Darren Wiebe	Rick Williams	Cylia Wong	Trisha Zielke
Western Canadian	Vic Wiebe	Carol Williams-	Carolyn Wood	Aeronn Zlotnik
Turf Association,	Al Wiensczyk	Freeman	Doug Wood	Mark Zlotnik
Jerry Rousseau	Shawn Wiese	Alan Wilson	Lisa Wood	Bahareh Zolfaghari
Keli Westgate	Wildsight-Golden	Andrea Wilson	Roger Wood	Marci Zoretich
Sarah Westwick	Branch, Joan	David Wilson	T. H. Woodman	Kurt Zwingli
Eldon Whalen	Dolinsky	Vanessa Wilson	Dana Woolliams	
Dana Whaley	Heather Wilkinson	Joan Wingerter	Neil Woolliams	
Brian White	Trisha Will	Tallulah Winkelman	Stanley Yasin	

Video Submissions

Marc Angus Boyer	Nancy Falconer
Canadian Cancer Society; City of Surrey; Elgin Park	Trevor Henderson
Secondary, Jerry Li	Emily McFarland
City of White Rock, Helen Fathers	Janice Reid
Dylan Collins	Niki Sinhart
Mary Elrick	Charlene Stropky
Daniel Falconer	Stephanie Wong

E-questionnaire Submissions

Jeff Aadland	Gina Adams	Vic Agostinho	Patricia Alexander	John Allen
Rudi Aalborg	Grant Adams	Agrium Advanced	Robert Alexander	Judy Allen
Peter Aarestad	Laura Adams	Technologies,	Patsy Alford	Kirsty Allen
Sara Abbasakoor	Ron Adams	Adrianus Barzilay	Ashtin Ali	Leanne Allen
Jennie Abbot	Margie Adamson	Arsalan Ahmad	Don Allan	Derek Allerton
Colin Abbott	Lorraine Addie	Peter Aiello	Iain Allan	Donna Allison
Robert Abbott	Jason Addy	Jennie Aikman	Lorna Allan	Jim Allison
Virginia Abbott	Kevin Ade	Brian Ailey	Robert Allan	Louise Allison
Rebecca Abernethy	Val Adolph	Mary Aird	Mietta Allchin	Ron Allison
Harold Abra	Alexis Adrienne	Glenn Akselson	Karen Alldred	Tom Allison
Judy Abrahamson	John Agassiz	Anthony G. Albang	Arthur Allen	Erin Allott
Arnold Abramson	Sophie Agbonkhese	Bernard Albert	Barclay Allen	Penny Allport
Sara Abtahi	Stephani Agg	Sarah Albertson	Charles Allen	William Almolky
Amanda Adams	Doug Agnew	Brad Albrecht	Chris Allen	Miranda Aloma
Brett Adams	Glenn Agnew	Russell Alcock	Huguette Allen	

Alouette River Management Society, Nicole Driedger	Michael Anderson Patricia M. Anderson Ray Anderson Rob Anderson	Cailey Armstrong James T. Armstrong Jane Armstrong Lorraine Armstrong	Tim Atkinson Valerie Atkinson Gerry Attewell Nicole Aube	Jeff Bahnman Stephen Bahr Jane Baigent Cynthia Bailey
David Alsop George Alston Joel Altman Tom Altmann Chad Altomare	Ruben Anderson Stephen Anderson Teresa Anderson Thomas Anderson Karen Andreassen	Lukas Armstrong Tom Armstrong Wendy Armstrong- Taylor	Ingrid Aucoin Paul Aucoin Christian Audet Natasha Audy Ulrich Augustin	Doug Bailey Stephen Bailey Susan Bailey Nancy Bain Rick Bain
Allan Alton Lynne Alton Khalilah Alwani Erica Amari George Ambeault	Toni Andreola Anne Andrew Heather Andrews Larry Andrews Linda Andrews	Edwin Arneson Laurence Arnett Mike Arnett Frank Arnold Holly Arnold	Grace Augustinowicz Amanda Austin Greg Austin Yvonne Au-Yeung Lam	Rick Bain Bruce Baird Gord Baird Lou Baird Heather Baitz
Jack Ambler Katherine Ames Husein Amiji Adam Amr Larry Amstutz	Melissa Anema Colin Angel Cheryl Angell Natalie Angell Denise Angelli	Maureen Arnold Patricia Aroca Parros Arros Art Knapp Plantland, Wim Vander Zalm	Monica Averill Barry Avis Don Avison Bill Awmack Rebecca Awram	Jason Bak Jocelena Bak Alex Baker Anne Baker Bryanna Baker
Jim Amy Cecile Anctil Jen Andersen A. Carol Anderson Alison Anderson	Elaine Angelski Keleigh Annau Esther Anonby Linda Antony Jodie Appell	Kyle Artelle Sarah Artis Kit Artus Colleen Artzoumanis Sharon Arwick	Kelly Aya Alan Ayers Sylvia Ayers Lisa Ayres Lina Azeez	Gary Baker Jacquie Baker Leigh Anne Baker Louella Baker Nikki Baker
Anne Anderson Beverly Anderson Bruce Anderson Cameron Anderson Carol Anderson	Allan Appleton Arbutus Grove Nursery Ltd., Nathaniel Stoffelsma	Derrick Ash Christine Ashby John Ashby Mary-Wynne Ashford Alisa Ashley	Rebecca Awram Kelly Aya Alan Ayers Sylvia Ayers Lisa Ayres Lina Azeez	Gary Baker Jacquie Baker Leigh Anne Baker Louella Baker Nikki Baker
Chris Anderson Christine Anderson David Anderson Diane Anderson Doug Anderson	Jerry Archambault Ian Archer Aaron Archibald Kelly Archibald Sarah Archibald	Bruce Ashmore Norah Ashmore Steven Ashton Angie Aske Lynn Askey	Amanda Baarsen Donna Babcock Gerald Babcock JP Babcock Lawrence Babcock	Paul Baker Tom Baker Gavin Bakewell Dave Bakker Anne Balcer
Dustin Anderson Gary Anderson Ian Anderson Iraleigh Anderson Janelle Anderson	Tom Archibald Larissa Ardis Tim Argast Haley Argen Gord Argue	Bruce Ashmore Norah Ashmore Steven Ashton Angie Aske Lynn Askey	Rebecca Awram Kelly Aya Alan Ayers Sylvia Ayers Lisa Ayres Lina Azeez	Elisabeth Baldazzi Anne Balding Brent Baldwin Laurie Baldwin Ted Baldwin
Jeanie Anderson Kama Anderson Lauren Anderson Lynn Anderson Maggie Anderson	Manuel Arias Nicole Arksey Chad Armitage Dana Armitage Gail Armitage	John Ashby Mary-Wynne Ashford Alisa Ashley Bruce Ashmore Norah Ashmore	Donna Babcock Gerald Babcock JP Babcock Lawrence Babcock Russ Babcock	Anne Balding Brent Baldwin Laurie Baldwin Ted Baldwin Michael Ball
Meghan Anderson Melanie Anderson	Alberta Armstrong Barbara Armstrong	Philip Asplin Shirley Astleford Caroline Astley Claire Astley Michael Aston	Russ Babcock Wayne Babcock Maureen Bach Paul Bach Sebastien Bacharach	Heidi Balla Rick Ballendine Peter Ballin Laura Ballon Kerryn Baloc-Likes
		Dorothy Asuma Sarah Atherton Marilyn Atkey Dierdre Atkinson Jean Atkinson	Amanda Baarsen Donna Babcock Gerald Babcock JP Babcock Lawrence Babcock	Victor Balon Anusha Balram M. Banavage David Bancroft Michael Bancroft
		Jeremy Atkinson Marge Atkinson	Chris Back Kyle Bade Mike Baden Jagdish Badhan Neil Badke	Mark Bandstra Diane Banera
			Susan Baerg Linda Bagga Mat Baggaley Mili Baghela Devon Bahnman	

Alan Bangay	Jack Barrault	Kootenay Region,	Brian Bedford	Richard Bennett
Amber Banks	Cathy Barrett	Michael Knowles	Patricia Beer	Robb Bennett
Lisa Banks	Roger Barrett	Beach Grove Golf	Todd Beernink	Robin Bennett
Nora Banks	Glenn Barrie	Club, Ian Murray	Bari Beggs	Simon Bennett
Bob Bannatyne	Jeanette Barrie	Michael Beach	David Beggs	Gerry Benoit
Jay Bannatyne	Troy Barrie	Joanne Beadle	Adrian Behennah	Chris Benson
Sarah Banting	Glenn Barron	Laura Beadle	Fred Behrner	Elaine Benson
Fred & Christel Banton	Jennie Barron	Richard Beard	Jim Beiderwieden	Fallon Benson
Anna Baral	Jennifer Barron	Kathleen Beaton	Iwona Bein	Karla Benson
Chris Barber	Robert Barrs	Pierrette Beaton	Richard Beirnes	Kris Benson
Greg Barber	Helen Barry	Rebecca Beaton	Suzanne Belanger	Mary Benson
Patrick Barber	Marleene Barry	Allan Beattie	Bob Belbin	Lee Bensted
Shawna Barber	Gary Bartley	Desta Beattie	Billie Belcher	Caroline Bentley
Hilary Barchash	Cali Barton	Hannah Beattie	Gail Belcher	EJ Bercier
Margaret Barclay	Kendrick Barton	Robyn Beattie-Laine	Deanna Bell	Eduard B. Bercovici
Patrick Barclay	Lynn Barton	Allan Beatty	Glenn Bell	Betty Berda
Robert Barclay	Ronda Barzilay	Chris Beatty	Harold Bell	Butch Berdusco
Pattie Bardon	Solita Basil Chretien	Jed Beatty	Heather Bell	Heather Beresford
David Bargh	Orval Baskerville	Tony Beatty	Jean Bell	Lawrence Berg
Marie-Andree Baril	Sandra Baskett	Patricia Beauchamp	Jos Bell	Pamela Berg
Alison Barker	Kristin Basnett	Ryan Beauchamp	Larry Bell	Cynthia Berge
Dory Barker	Robert Bassett	Lindy Beauchamp-	Sharon Bell	Kate Bergen
Gary Barker	Steve Bastable	Chester	Tim Bell	Ryder Bergerud
John Barker	Helen Bastaja	Andrian Beauchemin	Vivian Bell	Liz Bergey
Kilian Barker	Dolores Baswick	Sandra Beaudin	Warren Bell	Lleona Bergey
Theresa Barker	Mark Batchelor	Brigitte Beaudoin	Wayne Bell	Axel Bergman
Diana Barkley	P. Bate	Brian Beaudry	Yvonne Bell	Krista Bergstrom
Michael Barkusky	Andrew Bateman	Sue Beaudry	Keith Bellairs	David Beringer
Colleen Barlow	Carolyn Bateman	Chad Beaulieu	John Bellamy	Bernie Bermbach
Karen Barnaby	Jeff Bateman	Guy Beaulieu	Joel Bellas	Gerald Bernard
Carly Barnard	John Bater	Beaver Valley Golf &	Lois Belluk	Roger Bernard
Brett Barnes	Alison Bates	Recreation Society,	Belmont Golf Course,	Karin Bernauer
Trish Barnes	Becky Bates	Dale Stuparyk	John Perry	Brenda Bernhardt
Stu Barnettson	Jocelyn Bates	Bryan Beca	Bill Belziuk	Christine Bernier
Janet Barney	Rio Bates	Christina Beck	Lori Bender	Cameron Berry
Yanny Barney	Adrian Batho	George Beck	Kevin Bendick	Eloise Berry
Dan Barnhardt	Susan Batten	Dirk Becker	Dorothy Bendsen	Lee Berry
Enid Barnhardt	Kristy Baugh	Gerold Becker	Veronica Bene	Chris Berryman
Roy Barnhardt	Jeremy Baum	Douglas Beckett	Roger Benham	John Bertagnolli
Karen Barnstable	Jori Baum	Marilyn Beckett	Philippe Benjamin	David Bertram
Deneen Baron	Tom Baumann	April Beckley	Richard Benmore	Glen Bertram
Dave Barr	Beth Baumbrough	Janine Beckner	Celena Benndorf	Joann Bessler
Glenda Barr	Rosemary Baxter	Claire Beckstead	Beth Bennett	Fred Best
Jim Barr	BC Golf	Theresa Beddome	Gordon Bennett	Kathryn Best
Larry Barr	Superintendents Association,	Gilbert Bede	Joan Bennett	Tanya Best
		Brenda Bedford	Orion Bennett	

Sinique Betancourt	Petra Blackmore	Lori Boleyn	Steve Boulton	Phil Braig
Martinez	Dixie Blackstock	Jeff Bolingbroke	Matthew Boulton	Lee Brain
Sophia Betegh	Mark Blackwood	Manon Bolliger	Richard Boulton	Tannis Braithwaite
Tanya Bettles	Patrick Blaeser	Drew Bolokoski	Ludovic Bourdon	Adrienne Brand
Peter Betz	Doug Blain	Haida Bolton	William Bourlet	James Brand
Ronald Bevan	Fearon Blair	Julie Bolton	Howard Bourne	Barb Brandel
Anne Beveridge	Gail Blair	Sarah Bonar	Jean-Paul Bourque	Georgia Brander
Barbara Bezeau	Robert Blair	Ashley Bond	Ellen Boutotte	Bruce Brandhor
Jatinder Bhangav	Analisa Blake	Jamie Bond	Bowen Island Golf	Neil Brandt
Nina Bianco	Brenda Blakely	Peter Bondy	Club, Cro Lucas	Robert Branning
Sandra Bicego	Kim Blakely	Jenny Boneshyn	Jonathan Bowen	Steve Branston
Daphne Bickford	Susan Blanchet	Tara Bonham	Linda Bowen	Rosie Bratovenski
Laura Bidinger	Lisa Bland	Stacey Bonneau	Glenn Bowerman	Joan Bratty
Lenard Bidwell	Dan Blankstein	Nicole Boon	Corwin Bowers	Brian Brauer
Layne Bieber	Jack Blarowski	Michael Boot	Harold Bowes	Celia Brauer
Teresa Bigham	Zoe Blarowski	Alice Booth	J. Bowes	Ben & Pat Braun
Linda Biglow	Nicole Bleau	Annie Booth	Brent Bowker	Ray Braun
Rae Bilash	Richard Blitz	Jack Booth	Sherry Bowlby	Rolf Braun
Maureen Bildfell	Sylvia Block	Rob Booth	Britt Bowles	Martin Braverman
Alec Biln	Marie Blodgett	D. Boothman	Lisa Bowles	Brian Brawley
Pat Biln	Hilary Bloom	Janice Boothman	Debbie Bowman	Junie Brayley
Sohen Biln	Laurie Bloom	Bootleg Gap Golf	Jamie Bowman	Shelley Breadner
Gail Binder	Anjie Blue	Society, Pat McTeer	Jessica Bowman	Cynthia Breault
Eric Binion	Cary Blue	Todd Borchert	Marlene Bowman	Norm Breault
Doug Binns	Warren Blue	Matt Borck	F. W. Bowmar	Bradley Breedveld
Sandra-Lee Birce	Blueridge Landscaping	Sara Borck	Dean Box	Graeme Bregani
Janice Birch	& Maintenance	Greg Borle	Eliza Boyce	Wenda Breitkreutz
Greg Bird	Ltd., Michael Riva	John Bors	Jason Boyce	Michael Bremner
Tim Bird	Laura Blumhagen	Kristina Borys	Dr. David R. Boyd	Patricia Bremner
Christine Bishop	Kristine Bock	Bos Sod Farms Inc.,	Randall Boyd	Janet Brennan
Elisse Bishop	Ron Bocking	Bert Bos	Susan Boyd	Joseph Brennan
Eileen Bistrisky	Richard Boden	Silas Boskov	Leanna Boyer	John Brent
Brian Bjarnason	David Bodrug	Janice Bosley	Marc Angus Boyer	James Bresett
Louise Bjorknas	Barbara Boechler	Anda Bosnea	Sarah Boyle	Anne Bresnahan
Bruce Blachford	Jim Boeckman	Elisabeth Bosse	Denise Brackett	C. Brett
Marline Blachford	David Boehm	Matt Bossons	Kate Bradford	Donna Brett
Black Mountain Golf	Garnet Boese	Elisabeth Botman	Doris Bradley	Latifah Brett
Club, Eric	Paul Bogaert	Helen Botsis	George Bradley	Gwen Bridge
Thorsteinson	G. Bogan	Bruce Bouchard	Pat Bradley	Laura Bridge
Julia Black	Lesley Bohm	John Boucher	Sherry Bradley	Scott Bridge
Nicki Black	Maureen Boissy	Judy Boucher	Wayne Bradley	Kristi Bridgeman
Sarah Black	Kerry Bokenfohr	Paul Boucher	Jim Bradshaw	Susan Bridgman
Nicole Blackburn	Denis Boko	James Boudreau	Narda Bradshaw	Jason Briggeman
Mark Blackman	Fran Bold	Kristan Boudreau	Richard Bradshaw	Cathy Briggs
Ann Blackmore	Cliff Boldt	Elise Boulanger	Roberta Bradshaw	Fred Briggs
John Blackmore	Nornan Bolen	Jennifer Boulanger	Ted Bradshaw	Mike Briggs

Michele Brill-Edwards	Diana Brown	Hermann Bruns	Antonina Bureacenco	Euarda Calado
Michael Brinsmead	Dominic Brown	Louise Bruns	Corey Burger	Arthur Caldicott
Karen Brisbois	Don Brown	Cynthia Brunt	Gavin Burgess	Norman Caldicott
Maja Briscoe	Donald Brown	Frank Brunt	W. Burgess	Cliff Caldwell
British Columbia Golf Superintendents Association - Interior Chapter, E. Bradley Turnbull	Doug Brown Elizabeth Brown Ian Brown Jeremiah Brown Jeremy Brown	Marilyn Bruschetta Susan Bryan Angela Bryant Colin Bryant Debra Bryant	Warren Burgess Natasha Burian Philip Burk Jennifer Burke Tanya Burke	John Caldwell Cindy Cale Gail Caljouw Rob Caljouw Keith Callander
British Columbia Golf Superintendents Association, Kevin Schiefner	Jo-Ann Brown Karen & Gary Brown Keith Brown Laurence Brown	Gerald Bryant Lou-Anne Bryant Cicely Bryce Ray Brydon	Mel Burkholder C. Burks Dan Burnett Alison Burns	Patrick Callas Pina Camerin Caren Cameron David Cameron
British Columbia Railway Co., John Brodie	Mike Brown Murray Brown Nancy Brown	Abra Brynne James Buchanan Judy Buchanan	Darren Burns Patrick Burns Colin Burrows	Ian Cameron Russell Cameron Meriel Cammell
Beatrice Britneff	Nicholas Brown	Kelli Buchanan	James Burrows	Talia Camozzi
Glen Britton	Patricia Brown	Rosemarie Buchanan	Frances Burton	Theresa Camozzi
Vaughn Britton	Rita Brown	Sandy Buchanan	Gwen Burton	Bev Campbell
Amanda Broad	Robert Brown	Geminy Buckham	Richard J. Burton	Debra Campbell
Tom Broad	Shawn Brown	Lance Buckland	Ken Bushell	Dennis Campbell
Drew Broadfoot	Terry L. Brown	Eoghan Buckley	Angela Bushey	Doug Campbell
Fred Brome	Verna Brown	Jane Buckley	Claudia Butler	Hazel Campbell
Robert Bromley	William Brown	Shawn Buckley	Don Butler	Heather Campbell
Gary Brookes	Winston Brown	Tracey Buckley	Gillian Butler	Ian Campbell
Susan Brookes	Martin Browne	Susie Buckmaster	Laura Butler	James Campbell
Victoria Brookes	Dorothy Browning	Ron Buckno	Lynn Butler	Joel Campbell
Megan Brooking	Katie Brownlee	Lana Bucuris	A. F. Butt	Lorne Campbell
Bob Brooks	Terence Brownlee	Allison Budd	Gwen Buttemer	Marie Campbell
Jayne Brooks	Judy Brownoff	Arnie Budd	Wyonna Buttici	Tanis Campbell
Richard Brooks	Dr. Meyer	Lynn Budny	Ann Buttrick	Vance Campbell
Robin Brooks-Hill	Brownstone	Kevin Buell	Eila Buziak	Terry Campeau
Greg Broome	Christopher Brown-	Gerd Buerger	Daleen Bybee	Robert L. Campsall
Janine Brossard	Watts	Charles Builder	Sheila Byers	Jeremy Canada
Delores Broten	Carol Brubaker	Mary Builder	Jenny Byford	Canadian Association
Lynsey Brothers	Dale Brubaker	Gayle Bukowsky	Robert Byler	of Physicians for the
Heather Broughton	Doug Brubaker	Elizabeth Bulbrook	Jeanie Byrd	Environment,
Mike Brow	Allan Bruce	Ansa Bulfone	Lynette Byrne	Gideon Forman
Aline Brown	Ron Bruce	Aaron Bull	Jane Cabral	Canadian Cancer
Amanda Brown	Colin Bruintjes	Carol Bullen	Neil Cadger	Society, Mary
Becky Brown	Lora Bruncke	Katherine Bullen	David Caesar	Hatlevik
Bill Brown	Sondi Bruner	Doug Bullock	Christina Cafouros	Canadian Clean Air
Blaine Brown	Ken Bruniski	Darrell Burak	Holly Caine	Alliance, Vicki
Brian Brown	Werner Brunke	Bud Burbee	Calvin Cairns	Morell
Christine Brown	Walter Brunn	John Burbidge	Kate Cairns	Canadian
Cory Brown	Garry Brunner	Guy Burdikin	Kim Calabrigo	Environmental Law

Association,	Lonnie Carpenter	Scott Catton	Karen Chapple	Gary Christensen
Kathleen Cooper	Alison Carr	Robert Cavallin	Arnie Charbonneau	Glen Christensen
Canadian Forest	Carla Carr	Romilly Cavanaugh	Perry Charlton	Leslie Christensen
Products Ltd.,	Diane Carr	William Cave	Walter Charlton	Lisa Christensen
Robert Willows	Donna Carr	CAW Canada, Ken	Ken Charters	Louise Christensen
Canadian Partnership	Jennifer Carr	Bondy	Arun Chatterjee	Paul Christensen
for Children's	Terrance Carr	CAW Durham	Randy Chatterjee	Penny Christian
Health and	Jack Carradice	Regional	Dean Chatterson	William Christie
Environment, Erica	Richard Carras	Environment	Sarb Chattu	Sean Christopher
Phipps	Renee Carreiro	Council, Dave	Sam Chee	Maraiba Christu
Anna Canino	Gillian Carrigan	Renaud	Roger Chen	Elizabeth Chrumka
Daryll Cannon	Chet Carroll	Edward Cawley	Christina Chenard	An Te Chu
Debra Cannon	Marina Carroll	Debra Cebula	Pamela Chenery	Baree Chu
Capilano Golf Club,	Michael Carroll	Peter Cech	T. Cheng	Nigel Chuah
Brad Burgart	Tcee Carroll	Renee Cenerini	Azem Cherif	Lewis Chuba
Stephanie Captein	Katrina Carroll-Foster	Centre for	Rhiannon	Larry Chung
Richard Capyk	Bill Carruthers	Environmental	Chernencoff	Lorna Church
Lynn Car	James Carruthers	Health Equity, Tara	Lorne Chernochan	Patrick Chury
Doug Carabetta	Allen Carson	Zupancic	Tristen Chernove	Vi Chwartacki
Darryl Carate	Caroline Carson	N. Cerullo	Erin Chesal	Catherin Chwelos
Clayton Carby	Jessica Carson	Brian Chadwick	David Cheslow	Gerry Chwelos
Greg Card	Murray Carson	Gagan Chahal	David Chesney	Mary Chwyl
Cariboo Properties	Shauna Carson	Nicole Chaland	Ed Chessor	Daryl Chymko
Ltd., Eric Eriksson	Susanna Carson	Brian Chamberlain	Stephen Chessor	Beverly Chysyk
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Carignan	Alan Carter	Alan Chamberlin	Dallas Cheung	Joe Ciarniello
Jason Carleton	Ann Carter	Joseph Chambers	Chanda Chevannes	Jeff Ciecko
Ross Carleton	Chris Carter	Jocelyn Champion	Harry Chew	Tara Ciecko
Dianne Carlson	Dave Carter	Dean Chan	Eliana Chia	Michelle Ciolfitto
Donna Carlson	Dominique Carter	Jason Chan	Ann Chidwick	Ezra Cipes
Jade Carlson	Kristi Carter	Kathy Chan	Thomas Child	Connie Cirkony
John Carlson	Leigh Carter	Patrick Chan	Raymond Chin	Citizen Action to
Mark Carlson	Ron Carter	Shirley Chan	Mary Chipman	Protect the
Michelle Carlson	Ryan Carter	Simon Chan	Peter Chirico	Environment,
Nancy Carlson	Gerry Casavant	Jillian Chang	Nikita Chitnis	Barbara Gallagher
William Carlson	Barb Casement	Kimberley Chang	Ruth Chitty	City Farmer Society,
Adam Carmichael	Marlene Cashin	Tina Chang	Guenther Chmela	Mike Levenston
Stu Carmichael	Greg Caskey	Andrew Chapman	Shas Cho	City of Campbell
Todd Carnahan	Matt Casselman	Arthur Chapman	David Chorneyko	River, Amber
Leslie Carnell	Joe Cassetta	Bill Chapman	Kathi Chorneyko	Zirnhelt
Robin Carner	Katelyn Cassidy	Dorian Chapman	Anon Chouinard	City of Coquitlam,
David Carney	Bridget Cassidy-Keais	John Chapman	Edmund Chow	Verne Kucy
Elizabeth Carney	Castlegar Golf Club,	Norman Chapman	Jackie Chow	City of Langley, Len
Nicole Caron	Gordon Boyd	Sheila Chapman	Lillian Chow	Walters
Brian Carpenter	David Cater	Tim Chapman	Sarah Chown	
John Carpenter	John Catterall	Greg Chapple	Daryl Christensen	

City of Port	Karen Clemson	Tom Cole	Jenna Cook	Andrea Corrigan
Coquitlam, Allen	William Clendinning	Brita Colero	Julie Cook	Jim Corrigan
Jensen	Sharon Cleveland	Larry Colero	Nicole Cook	Joselin Corrigan
City of Richmond,	Richard Clevette	Anthony Collett	Cooke Carleton	Robert Corrigan
Lesley Douglas	Michele Clifford	Wendie Colley	International - Golf	Sarah Corsini
Leigh Cieurka	Tanya Clift	Cathy Collinge	Course Architects,	Oli Cosgrove
Sharon Claassen	Taylor Clift	Carol Anne Collins	Wayne Carleton	Mary Cosman
Trisha Clare	Richard Cline	Gillian Collins	Darren Cooke	Manuel Costa
Bobbi-Lynn Clark	Greg Close	Jeff Collins	Judy Cooke	S. Costa
Charles Clark	Kathryn Clouston	Katherine Collins	N.J. Cooley	Lisa Costain
Courtenay Clark	Trina Cloutier	Russ Collins	Karen Cooling	Brian Cote
Dianne Clark	Chelsea Coady	Sarah Collins	Jane Coombes	Karen Cote
Jenny Clark	Coast to Coast	Stephanie Collins	Al Cooper	Barbara Cotgrave
Jessica Clark	Reforestation New	Tim Collins	Chrystoph Cooper	Janet Cotgrave
Joanna Clark	Generation Co-op	Ross Collver	Danielle Cooper	Maria Cotovio
John Clark	Ltd, Robert	Geoff Colpitts	Deborah Cooper	Peter Cotsworth
Judeth Clark	Nemeth	James Colpitts	Dianne Cooper	Jim Cottingham
Karen Clark	Gabriella Cocciolo	Ron Colpitts	Jeff Cooper	Cottonwood Golf
L. R. Clark	Frances Cochran	Columbia Valley Golf	Jocelyn Cooper	Course, Trent Kaese
Laurel Clark	Dennis & Yvonne	Association, Wayne	Kathy Cooper	Stephanie Couch
Mark Clark	Cochrane	Rossington	Leslee Cooper	Cougar Creek
Pat Clark	Rob Cochrane	Fran Colussi	Lisa Cooper	Streamkeepers,
Sandra Clark	Robert Cochrane	Jacob Colyn	Roger Cooper	Deborah Jones
Steve Clark	Rod Cochrane	Catherine Comben	Sarah Cooper	Al Coughman
Alisa Clarke	Steve Cochrane	Robert Common	Olivia Cope	Carol Coulter
Angela Clarke	Tom Cockrell	Community	Claudia Copley	Gary Coulter
Annie Clarke	Graham Cocksedge	Education on	Darren Copley	Mike Coulter
Dr. Bill Clarke	David Code	Environment and	Jennifer Copley	Tracene Coulter
Laura Clarke	Linda Code	Development	Hilary Copp	Country Girl
Maureen Clarke	Doug Coe	(CEED) Centre	Copper Point Golf	Landscapes and
Peter Clarke	Nick Coe	Society, Christian	Courses, David	Design, Liz
Stephen Clarke	Ron Coe	Cowley	Lister	Potashnyk
Tom Clarke	Brian Coffyne	Robert & Bonnie	Heather Corbett	Dave Court
William Clarke	Lisa Cogan	Condie	Anne Corbishley	Neil Courtney
Arianna Clarke-Watts	Alice Coggan	Keith Condliffe	Danielle Cork	Devyn Cousineau
Janice Clary	Shanoah Coghlan	Sara Conley	Isabelle Cormier	Dave Cousins
Kelly Clauson	Dan Cohen	Tracy Conley	Les Cormier	Brad Couttie
Hollie Clavering	Adam Coladipietro	Debbie Connah	Sarah Cormode	Jenny Couture
Elen Clay	Al Colbeck	Ian Connell	Michael Cornelissen	Anita Couvrette
Ann Clayson	Ed Colberg	Sara Connell	Rosemary Cornell	Chris Couzelis
Brandee Clayton	Nigel Colclough	John Connolly	Tamzin Cornell	Nancy Covington
Gail Clayton	Sandra Colclough	Carla Conrod	Beth Cornelson	Chris Cowan
Kevin Clayton	Amy Cole	Monique Constant	Suzanne Corno	David Cowan
Tracie Clayton	Candace Cole	Marlene Conway	Corporation of Delta,	Kady Cowan
Charlene Cleary	Christie Cole	Katrina Conwright	Kim Houghton	Shannon Cowan
David Clements	Donald Cole	Cliff Cook	Garth Corrigan	Stanley Cowan

Suzanne Cowan	Robert Cribbs	Marion Cumming	Grace Dalgarno	Bruce Davies
Laura Cowen	Bill Cripps	Neil Cumming	Mark Dalgarno	Christopher Davies
Cowichan Golf Club,	Jennifer Critcher	Dawn Cummings	Michael Dallaire	Gwen Davies
Dave Purslow	David Critchley	Don Cummings	Brian Dallamore	Nanci Davies
Cowichan Green	Greig Crockett	Marlene Cummings	Dennis Dalla-Vicenza	Brooke Davis
Community	Jennifer Crockford	Ben Cunningham	Tina Dam	Caspar Davis
Society, Alan Philip	Terrance Crofford	Edith Cunningham	Madeline Dams	Ferne Davis
Cowichan Valley	Jill Croft	Gillian Cunningham	R. Danard	Gary Davis
Bottle Depot,	Rob Crompton	Helen Cunningham	Moss Dance	Geralyn Davis
Sophy Roberge	Susan Cron	Judith Cunningham	Yaana Dancer	Josina Davis
Dawn Cowie	Elizabeth Cronin	Liz Cunningham	Andrew Dancsak	Lindsay Davis
Chris Cowland	Jacque Cronin	Jason Curran	Howard Dancyger	Lynne Davis
Ryan Cownden	James Cronk	Taylor Curran	Michele Danielov	Michael Davis
Anne Cox	Elizabeth Crosby	Caitlin Currey	David Daniels	Murt Davis
Carmen Cox	Kathy Crosby	Brad Currie	Richard Daniels	Sandra Davis
Danny Cox	Ronald Crosby	M. Currie	Grant Danielson	Tony Davis
Garth Cox	Tony Crosina	Tanya Currie	Karen Dar Woon	Jenifer Dawson
Ian Cox	Baden Cross	Bob Curry	Colby Darbyshire	June Dawson
Natashia Cox	Brian Cross	Dave Curry	Dianne Darke	Scott Dawson
Stephen Cox	Hayley Cross	Michelle Curtis Wake	Frederick Darke	Peter Day
Gregory Coyes	Miranda Cross	Carlo Cusanelli	Tanya Darling	Shaunet Day
John Cragg	Sharon Cross	Tara Cusanelli	Michael Darnbrough	Jaclyn Dayson
Nancy Craig	Stephen Cross	Marci Cushner	Bill Darnell	James Dayson
Todd Craig	Dave Crosson	Jean-Daniel Cusin	Jennifer Dart	Cristiano de Barros
Wayne Craig	Marie Croteau	Len Cuthbert	Rachel Darvill	Pieter de Boer
Andrea Cramer	Michael Croteau	Wendy Cutler	Arlene Dashwood	Derek de Candole
Margaret Crammond	Elissa Crouse	Todd Cyra	Barbara Dashwood	Andy de Graaff
Douglas Cranch	Zachariah Crow	Michelle Czornobay	Ellen Dashwood	Selma de Haas
Heather Cranston	Brian Crowe	Paulo Da Costa	Christian Daubigeon	Alexandra de Jong
Gerald Crape	Kevin Crowell	Sallie Dabb	Robert Daum	Westman
Dave Crawford	CROWS Point	Jane Daborn	Guy Dauncey	Greg de Jong
John Crawford	Community	Phil Dacre	Mark Dauphinee	Rick de Jong
Meara Crawford	Garden, Celina	Jason Dadswell	Garry Davey	Lucia de Kok
Michael Crawford	Starnes	Brenda Dafoe	Jacqueline Davey	Nicole de Margerie
Monique Crawford	Rick Crowson	John Dafoe	David David	Sebastien De Marre
Peter Crawshaw	Cody Cruise	Bob Dahl	Annette Davidson	Hendrik de Pagter
Trevor-Jay Creamer	Deane Crutch	Jim Dahl	David Davidson	Richard De Rooy
Creatively United for	Muriel Crutch	Sherry Dahl	Jennifer Davidson	Philip De Rosa
the Planet, Frances	Ron Csokonay	Valerie Dahl	Karl Davidson	Lee de Rosenroll
Litman	Les Csolle	Tenley Dahlie	Kat Davidson	Geoff de Ruiter
Doug Creba	Laurie Cullen	Darren Dahlstedt	Kelly Davidson	Annette de Vries
Pat Creighton	Tanya Culling	Donald Daintrey	Kyle Davidson	Jack De Vries
Roberta Creighton	Dianne Cullum	Loretta Daintrey	Margaret Davidson	Troy de Vries
Creston Golf Club,	Rosalyn Culos	Catherine Dale	Matt Davidson	Mike de Wit
Devan Davidson	Susan Cumberland	Norman Dale	Peter Davidson	Corrinne de Zoete
Alexander Crevolin	Robin Cumiskey	Esther Daley	Ron Davidson	Daniel De Zwart

Brian Deakin	Laurel Dennison	Elisabeth Charlotte	Mike Doggart	Linda Douglas
Andres Dean	Greg Denton	Dieryckx	Daniel Doherty	Ruth Douglas
Corey Dean	Agnes d'Entremont	Karen Dietrich	Morris & Jacquie	Guy Dow
Murray Dean	Marc d'Entremont	Kevin Digness	Doherty	Kari Dow
Sandy Dean	Margaret Denys	Jennifer Dijk	Patrick Doherty	Kari Jo Dowdell
Becky Deane	Glenn Deobald	Rondy Dike	Peter Doherty	Cheryl Dowler
Marion Deane-	Justin Deol	Larry Dill	Sandra Doherty	Jonathan Down
Freeman	Faye d'Eon-Eggertson	Eric Diller	Jeanette Doholis	Ken Downes
Jessie Deans	Christine Depauli	Jytte Diller	Ros Doi	Kyle Downie
Pat Dearden	Dawn DeRijck	Gina Dillon	Aaron Dolan	Seth Downs
Mark Dearing	Yasaman Deriszadeh	Tony & Liz	Nancy Dolan	Jamie Downton
Ken De'Ath	Faroe Des Roches	DiMambro	Cassandra Dolen	Kylie Doyle
Siobhan Debad	Patricia DesBrisay	Laima Dingwall	Ben Dolf	Paul Doyle
Ned Debeck	Mary Therese	Tawn Dingwall	Carmen Dolinsky	Wendy Doyle
Sueann Deeble	DesCamp	Mike Dion	Joan Dolinsky	Carolyn Draginov
Bob Deeks	Guy Deschatelets	Rob D'Ippolito	Kevin Dolphin	Liliana Dragowska
Jodi Deering	Doug Deschner	Glenn Dirks	Conrad Dombrowski	Leanne Drake
Sheila Deering	Jean-Pierre Desforges	Tom Dishlevoy	Emmanuel Domingo	Crystal Draper
Darren Deford	Melyssa Desilles	Marilyn Dishon	Richard Dominy	Susan Draper
Natalie Degoey	Rubino	Brian Disney	Julie Domovich	Kim Drew
Katie Degroot	Hugh Desjardins	District of North	Brendan Donahue	Tom Drews
Ton Degroot	Kira DeSorcy	Vancouver - Parks,	Patricia Donahue	Barry Drinkwater
Ryan Dejager	Peter Desserud	Trisha McCarthy	Elizabeth Donald	Bob Drinkwater
H. Delafie	Margaret Devantier	District of Port	Keith Donkersloot	William Drinkwater
Sean Delaney	Fiona Devereaux	Edward, Ron	Jim Donlevy	Anna Driscoll
Barbara Deleebeeck	Joan DeVerteuil	Bedard	Lori D'Onofrio	David Driscoll
Delta Golf Course,	Sofeya Devji	District of Sooke,	Dianne Donohue	Pat Driscoll
Craig Robison	Carmen Devlin	Laura Byrne	Claire Donovan	William Driscoll
Delta Men's Golf	Omer Devlin	Chris Dixon	Marie Donovan	Sue Dritmanis
Club, Kerry Scales	Jeremy DeWaard	Laura Dixon	Mary E. Doody Jones	Nick Drohan
Vienna Demeduk	Anthony Dewell	Lise Dixon	Dick Doorman	Beverly Drombolis
Cynthia Demeester	Kenneth DeWetter	Yvonne Dixon	Amelia Doran	Dorothy Drubek
Janine Demidoff	Sunny Dhannu	Linda Do	Don Dorey	Darrin Drumm
Anita Den Dikken	Pamela Dicer	Dave Dobi	Karen Dorion	Doug Drummond
Sheila den Toom	Paul Dickey	Christopher Dobie	David Dorrington	Art Drysdale
Jacinthe Denault	Fred Dickinson	Nancy Dobie	Rebecca Dorris	Dale Dubberley
Sarah Denbigh	Jeffery Dickinson	Ron Dobie	Francis Dorsemaine	Dean Dube
Christine Dendy	Michelle Dickinson	Keith Dobson	Caitlin Dorward	Gaetan Dube
Margaret DeNeef	Shannon Dickinson	Kristi Dobson	Richard Doucette	Joseph Dube
Dorothea Denis	Dave Dickson	Cherry Dodd	Aaron Douglas	Sharon Dube
Wayne Denis	Dr. Robert C Dickson	Wayne Dodd	Carol Douglas	Janie Dubman
Janet Denison	Jim Dickson	Ed Dodge	Gordon Douglas	Gord Dubois
Scott Denkers	Rian Dickson	Kathleen Dodson	Iona Douglas	Patrick Dubois
Denman Island Forage	Desi Diebel	Donn Doe	Jeremy Douglas	M. Dubord
Fish Group, Edina	Francois Diebolt	Randy Doe	John Douglas	Elise Dubourg
Johnston		Peter Doetsch	Katherine Douglas	Gael Duchene

Michelle Duchesneau	Linda Dupuis	Dawne Edwards	Megan Ellis	Ron Eriksen
Lorraine Ducich	Eva Durance	Dean Edwards	Stephen Ellis	Dale Erikson
Alan Dudley	Jackie Durand	Garth Edwards	Jackie Ellisoh	Joanne Erikson
Robert Dudonis	Ryan Durand	Grace Edwards	Marie Elmore	Charli Erker
Dorothy Dueck	Cynthia Durand-	Jillian Edwards	Elyse Elmslie	Rayana Erland
John Dueckman	Smith	John Edwards	Shauna Elton	S. Errey
Melissa Duehmig	Philip Durell	Mary Edwards	Andrea Elvidge	Fern Esau
Michelle Duerksen	Helen Durie	Pauline Edwards	Greg Elzinga	Brent Eschner
Kim Duess	Tony Durke	William Edwards	Roelof Elzinga	Gabrielle Eschner
Byron Duffy	Heather Durrand	Ashley Edworthy	Jeanette Embury	Brad Eshpeter
Johanne Dufour	Wendy Durrant	Brian Egan	Krispian Emert	Evie Eshpeter
Bill Duggan	Angela Duso	Gary Egan	Chris Emery	Thomas Essery
Trudy Duivenvoorden	Mike Dutoit	Geoffrey Eggleton	Maryann Emery	Carly Esson
Mitic	Janice Duval	Ian Eggleton	Mike Emery	Russ Estabrook
Kari Dukeshire	Michael Duval	Miriam Eguchi	Matt Emkay	Nory Esteban
Evan Duly	Catherine Dworak	David Ehret	Jane Emlyn	Curtis Etheridge
Dave Dumaresq	Carol-Ann Dwyer	Tony Einfeldt	Melanie Emlyn	Valerie Ethier
Deborah Dumka	Barbara Dyble	Ariella Eini	Sally Emory	Barry Evans
Steve Dumma	Amy Dyck	Bill Eisenhower	Kyle Empringham	Bert Evans
Helen Dunbar	Brad Dyck	Dieter Eisenhower	Rod Endel	Bob Evans
Paul Dunbar	Jonathan Dyck	Yvonne Elden	Marg Enders	Daniel Evans
David Duncan	Phyllis Dyck	Anna Elder	Orion Engar	Darren Evans
G. Duncan	Robert Dyck	Bill Elder	Doug Engbrecht	Larry Evans
Jim Duncan	Terry Dyck	Jennifer Elder	Keith Engel	Michael Evans
Laura Duncan	Helen Dye	Ray Elder	Heinz Engelmann	Taivo Evard
Sara Duncan	Corinne Dykeman	Brian Eldridge	Christian Engelstoft	Mark Eveleigh
Shannon Duncan	David Dykes	Margo Elfert	Beverley England	Robert Everatt
Ryan Dunkley	Barbara Dymond	Lotte Elias	Denise English	Amy Every
Shirley Dunkley	Doug Dymond	Katie Eliot	Krista Englund	Barbara Eves
Margaret Dunlop	Megan Eadie	Kevin Eliuk	Evelyn Enns	Wendy Eves
A. Dunn	Marion Eals	Bruce Elkin	Gerry Enns	Susan Ewing
Burgandy Dunn	Elizabeth Earle	Theodore Ellan	Josh Enns	Maja Eymann
Carmen Dunn	Lynda Earley	James Ellard	Jenica Enquist	Gregory Eyre
Donna Dunn	Bert Easterbrook	Kay Elle	Laura Enright	Richard Fahlman
Grant Dunn	Shelley Easthope	Sandi Ellefson	David Ensing	Denny Fahrentholz
Harvey Dunn	Eunice Easton	B. Elliott	Nicole Ensing	Frank Faigaux
William Dunn	Kristi Easton	Bob Elliott	Arthur Entlich	Matt Fairbarns
Sheila Dunnachie	Colin Eaton	Heather Elliott	Claudette Erdman	Amy Fairbridge
Bev Dunne	Joan Eaton	Ian Elliott	Michael Erdmann	Jordan Fairhead
Margo Dunnet	David Eaves	June Elliott	Mirel Eremia	Dorothy Fairley
Cindy Dunphy	Godon Eccles	Scott Elliott	Brian Erhardt	Daniel Falconer
Clifford Dunsdon	Tricia Edgar	Todd Elliott	Doug Erichson	Nancy Falconer
Christian Duntz	Edible Garden Project,	Valerie Elliott	Glen Erickson	Ramona Falconer
Paul Dupont	Heather Johnstone	Diana Ellis	Manuel Erickson	Falls Golf Resort,
Dan Dupuis	Bruce Edson	George Ellis	Tom Erickson	David Homme
Julie Dupuis	Derek Edstrom	Matthew Ellis	Wayne Erickson	Dylan Falls

Stefanie Falz	Kathy Ferguson	Robert Fisher	Don Forbes	Alana Francis
Sasha Faminoff	Sergio Ferloz	Susan Fisher	Doreen Forbes	Chris Francis
Lindsay Fane	Fernie Golf & C.C.,	Celine Fitzgerald	Rob Forbes	Donna Francis
Birgitta Faraday	Mel Dies	Susan Fitzgerald	Cliff Ford	Jenny Francis
Graham Faraday	Fernie Golf And	Pamela Fitzgibbon	Deanna Ford	Margaret Ethel Francis
Shawn Fare	Country Club, Ray	David Fitzharris	Joan Ford	Jocelyn Franco
Sharon Farinha	Bryant	William Fitzmaurice	Forest Nursery Assoc	Sandra Frangiadakis
Paul Farley	Raquel Feroe	Dale Fitzpatrick	of BC, Patti Kagawa	Peggy Frank
Kevin Farnell	Lucia Ferreira	Ray Fiuzza	Geoff Forgie	Brenda Franke
Rebekah Farnon	Tracy Ferreira	Margaret Flanagan	Yaneev Forman	Kelly Franklin
Marcia Farquhar	Ron Ferrier	Alix Flavelle	Judith Forman-Clark	Hyuma Frankowski
James Farrer	Kenneth M. Fersht	Denis Fleming	Andra Forney	Tom-Pierre Frappe-
Melissa Farris	David Fiander	Jo Fleming	Mark Forrest	Seneclauze
Richard Farris	Isabel Fianza	Justin Fleming	Alan Forseth	Genevieve Frappier
Steven Farris	Glenn Fiebig	Lynda Fleming	Andrew Forshner	Fraser Valley Regional
Linda Farruggia	Dorothy Field	Alex Fletcher	Ken Forsman	District, Al Stobbart
Alison Faulkner	Ryan Fieldhouse	Art Fletcher	Doug Forsyth	Bill Fraser
Della Faulkner	Barry Fifer	Carolyn Fletcher	Stewart Forsyth	Brian Fraser
Kristen Faulkner	Filbelly Forest	Garry Fletcher	Dale Forsythe	Carole Fraser
Sandra Fawcett	Workers' Co-	L. Fletcher	Linda Forsythe	Colin Fraser
Kelly Fay	operative, Sarah	Lara Fletcher	Peter Forsythe	John Fraser
Ben Fecht	Orlowski	Marje Fletcher	Cathy Fortin	Naomi Fraser
Karen Fediuk	Tina Filippino	Paul Fletcher	Melanie Fortune	Sharon Fraser
Fred Fedorak	Katherine Filteau	Sarah Fletcher	Marj Foseid	Fraser Glen Golf
Lois Fedorak	Heather Finch	Julie Flett	Bradley Fossett	Course, Corrine
Tracey Fedorenko	Elaine Findlay	Eileen Floody	James Foster	Allan
Magdalena Fedorow	Karen Findlay	Greg Flook	Karen Foster	Lynne Fraser-Olson
Heather Feenstra	Joy and Cam Finlay	Terre Flower	Rob Foster	Fraserview Golf
Barb Fehlau	Dave Fiorentino	Ron Flyman	Ruth Foster	Course, Mike
S. Fehler	First Call: BC Child	C Alix Flynn	Sam Foster	Ferdinandi
Inge Fein	and Youth	Devon Flynn	Trina Foster	Erik Frebold
Jennifer Feinberg	Advocacy Coalition,	Joe Flynn	Ward Foster	Rebecca Frederick
Arlene Feke	Adrienne Montani	Mark Flynn	Jeri Fostvelt	Robert Frederick
Hilary Feldman	First Nations	Steven Flynn	Gerry Fosty	Ivor Frederiksen
Mel Felker	Environmental	Ray Foisy	Lizzy Foulkes	Debra Freeman
Carmen Fennell	Network, Steve	Louis Fok	Rich Fournier	Angeles Fremes
Patricia Fennell	Lawson	George Foley	Fran Fowler	Kwadwo Frempong
Sally Fenneman	Heather Fischbuch	Jim Foley	John Fowler	Lucy French
John Fenton	Mike Fischer	Tim Foley	Cathy Fox	Rachel French
Salish Fenwick-Wilson	James Fish	Hellen Folkmann	Dale Fox	Susan Freudenberg
Gail Fenyedi	Byron Fisher	Heather Follis	Jane Fox	Lisa Frey
Vivian Ferdinands	Cary Fisher	Rick Fontaine	Jo Fox	Anna Friedlander
Bonnie Ferguson	Jo Anne Fisher	Dave Fooks	Jo-Ann Fox	Barbara Friedli
Cec Ferguson	Joan Fisher	Brian Foote	Michael Fox	George Friedrich
Fee Ferguson	Joanne Fisher	Bruce Forbes	Dawn Foxcroft	
Jamie Ferguson	Kirk Fisher	Coral Forbes	William J. Foyle	

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Jim Friesen	Victor Gamble	Dale Gentile	Daniel Girard	Deanne Goldberg
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Steve Fultz	Rick Gartel	Michael Gibbins	Wood	Sara Golling
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Charles Gadalla	Greg Gauthier	Katrina Giesbrecht	David Gloag	Paul Goodkey
Louise Gadd	Raoul Gauthier	Gloria Gietz	Marcelle Glock	Joe Goodlad
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Andrew Gage	Mark Gawehns	Allison Gilbert	Virginia Glover	Erin Goodman
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Tonia Gagne	Jennifer Gaze	Steve Giles	Josephine Go	Don Gordon
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Joanne Gailius	Gordon Geddes	Andrew Gillam	Douglas Goddard	Karen Gordon
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Terence Gorman	Alice Grange	David Greenley	Anne Guillo	Robert Hale
Eric Gormley	David Granirer	Robert Greenough	Ray Guimont	Wendy Haley
Harvey Gorsline	Granite Pointe Golf and Recreation	Jack Greenwell	Dave Guiney	Edward Halko
Victoria Gort		Kim Greenwood	Peter Gumplinger	Aleita Hall
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Douglas Gossoo	Doug Grant	George Greig	Dan Gusztak	Hayley Hall
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Bonnie Goudie	Mark Grant	Joann Grey	Werner Gysi	Larry Hall
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Morgan Gough	Ron Grant		Michael Haack	Shirley Hall
Rex Gould	Belle Grant-Fairn	Klaus Grieser	Liz Haan	Steven Hall
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Lina Goulding	Jean Graves	Laura Griffin	Siggi Haas	Larry Hallet
Purnima Govindarajulu	Tom Graves Danielle Gravnic	Matthew Griffin	Rebecca Haber	Regan Hallett
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Doug Graham	Jen Green	Lizzie Gross	Karen Haggblad	
Douglas Graham	Richard Green	Groundswell Network Society, Alison Bell	Jurate Haiduk	Andy Hamilton
Jeannie Graham	Rick Green		Michael Haiduk	Ashley Hamilton
Julia Graham	Rory Green	Wayne Grout	Simon Haiduk	Brian Hamilton
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Robyn Graham	Stephen Green	Anne Grube	Samantha Haines	Garry Hamilton
Terry Graham	Tamara Green	Bev Gruhn	Toby Haiste	Gordon Hamilton
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Mary Hamilton	Victor Harms	Carolyn Haug	William Heath	Bonnie Henderson
Mary-Jo Hamilton	Morris Harowitz	Mike Haug	Heather Hills Farm &	Clifford Henderson
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Rodger Hamilton	Beth Harper	Murry Haukeness	Robson	Evan Henderson
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Susan Hamilton	Debbie Harper	Peter Havlik	Maureen Heaven	Jim Henderson
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Shirley Hammond	Andrea Harris	Greg Hawkins	Andrew Hedley	Alexandra Henley
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Erik Hansen	Heather Harrison	Thomas Hawrelak	Dalaina Heiberg	Molly Henry
James Hansen	Kevin Harrison	Claire Hawrys	Terry Heidt	Thomas Henschel
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Sheila Hansen	Sheryl Harrison	Ian Hay	Leah Hein	Katherine Hepper
Wayne Hansen	Franki Harrogate	John Hay	Mark Hein	Pat Hepper
Arlene Hansford	David Hart	Kinga Hay	Ron Hein	Dave Hepting
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Alida Hansma	James Hart	Dennis Hayashi	Chris Heinemann	Kim Herdman
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Keith Hanson	Sheila Hart	Marlene Hayes	Erin Heinrichs	Azul Herlihy
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Geoff Hill	Merrilee Hoen	Jesse Holth	Sandra House	Nikki Hughes
Gordon Hill	Kurt Hoeschle	P. & E. Holuboff	Greg Houston	Rob Hughes
Michael Hill	Nancy Hofer	Lori Homstol	Jennifer Houston	Sue Hughes
Patricia Hill	Ron Hoff	Larry Honeybourne	Jim Houston	Roger Hume
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Suzanne Hill	Gordon Hoffman	Bryan Hookenson	Frank Hovenden	Donna Humphries
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Kristina Hills	Bill Hogaboam	Cameron Hopkins	Jeff Howard	Hailey Hunt
K. Hilmoie	Bill Hogaboam	Christine Hopkins	Jennifer Howard	Marianna Hunt
Renaie Hilty	Lorna Hogg	Cathy Hopland	John Howard	Ray Hunt
	Sherri Hohert		Karlynne Howard	Rob Hunt

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Richard Hunter	Spence	Barb Jackson	Gord & Ethel Jenkins	Stein Johnson
Terri Hunter	Integrated	Darryl Jackson	Jean Jenkins	Sylvia Johnson
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A. T. David	Edward	Jennifer Jamal	Daiva Jocius	Heather Johnstone
Hutchings	Haythornthwaite	Adam James	Harpreet Johal	Richard Johnstone
Claire Hutchings	Ace Inthahole	Andrea James	Nicole Johannsen	Sandra Johnstone
J. Hutchins	Invasive Plant Council	David James	Lisa Johansen	Shana Johnstone
Ray Hutchinson	of Metro	Dawna James	Michael John	Sheila Johnstone
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Christine Hyde	Prudence Ip	Tom James	Barry Johnson	Allan Jones
Lawrence Hyde	Liza Ireland	Trent James	Carrol Johnson	Andrea Jones
Ron Hyndman	Robert Irvine	Steve Jamieson	David Johnson	Anne Jones
Rod Hyslop	Kate Irving	Joe Jankowski	Diane Johnson	Bruce Jones
Sara Hyslop	Blair Irwin	Greta Jansen	Greg Johnson	Bryne Jones
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Yann Loranger	Patty Irwin	Alberto Jaramillo	Heather Johnson	Dennis Jones
Renee Iaci	Tara Irwin	Scott Jarosiewicz	Jeremy Johnson	Eric Jones
Darrell Ibach	Emma Isaac	Amanda Jarrett	Keith Johnson	Hilary Jones
Omar Ilsley	Jack Isaak	Kim Jarvi	Lee Ann Johnson	Jessica Jones
Dave Imrich	Sara Isenor	Marylea Jarvis	Leslie Johnson	Kevin Jones
Nancy Ingersoll	Devendra Ishaya	Reginald Jarvis	Linda Johnson	Luana Jones
Richard Ingle	Erica Isomura	Steve Jarvis	Margo Johnson	Michael Jones
Greg Ingram	Nancy Issenman	Mark Jasayko	Marguerite Johnson	Nadine Jones
Richard Ingram	Jeannine Istvanffy	Paramjit Jassal	Mary Johnson	Ralph Jones
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Tyler Innes	Sangita Iyer	Nicole Javadi	Mika Johnson	Rick Jones
	Ewa Izdebski	Eva Jaycox	Myles Johnson	Sandra Jones

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Jill Jonkman	Mihoko Kanashiro	Julie Kelly	Manishi Khatter	Laura Kirkhope
Susan Jonsson	Khadijah Kanji	Mary Theresa Kelly	Brenda Khoo	Al Kirkley
Adele Joorisity	Bill Kaplan	Patience Kelly	Amitis Khorsandi	David Kirkness
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Marlies Jordan	Annie Kaps	Paul Kelly	Yu-Zhi Kiang	Rhonda Kirkpatrick
Matthew Jordan	Krista Kaptein	Sandra Kelly	Derek Kidd	Isabel Kirtzinger
Richard Jordan	Daisy Kapusta	Tim Kelly	Danielle Kiedyk	Al Kiss
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Rosemary Jorna	Howard Karby	Marian Kemp	Dorothee Kieser	Dana Kittle
Chris Joseph	Britt-Inger Karlstrom	Phil Kemp	Astrid Kihl	Mike Kittmer
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Stephen Joyce	Christopher Kasza	Matthew Kemshaw	Christy Kiloh	Thad Klassen
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Victor Jubinvill	Rick Kavanagh	Elizabeth Kennedy	Abigail King	Jeffrey Klein
Priscilla Judd	Helen Kavouris	Elizabeth Kennedy	Carole King	Kerri Klein
Tana Judson	Lisa Kawaguchi	Emilia Kennedy	Glenda King	Michael Klein
Pieter Jugovic	Chris Kay	Jesse Kennedy	Glenn King	Sharon Klein
Mae Juleff	Heather Kay	Neil Kennedy	Helen King	Teresa Klein
Michael Juleff	Vanessa Kay	Gary Kennell	Henry King	Dianne Kleinman
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Chris Jung	Mike Kearns	Ian Kennington	Johnny King	Deg Klektau
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Alice Kabernick	Murray Keating	Gordon Kenyon	Raia King	Megan Klitch
Bud Kadin	Veronica Keddy	Peter Kerevan	Sarah King	Danuta Klos
Laurie Kadin	Anne Keegan	Anne Kerr	Scott King	M. Klug
David Kadish	John Keegan	Eva Kerr	Steve King	Ashley Knapp
Ivona Kado	Jeanne Keegan-Henry	Meaghan Kerr	Marvin Kingma	Kristina Knappett
Norm Kaethler	Rowan Keegan-Henry	Wendy Kester	Micha Kingston	Jakob Knaus
Terra Kaethler	Rudy Kehler	Devin Kettle	Carillon Kinley	Marlis Knaus
Jutta Kaffanke	Wilfred Kehler	Helen Kettle	Heather Kinney	Kirsten Knechtel
Chris Kahl	Amanda Kehler-Stevens	Lisa Kettle	John Kinney	Eva Knell
Samantha Kailley	Chris Keir	Anna Kettler	Albert Kinsey	Graham Knell
David Kaiser	Magda Keith	Gabriela Kettner	Lynn Kinsey	Rob Knight
Susanna Kaljur	Danica Kell	Kelly Keys	Jon Kinsley	Susan Knight
Hillar Kalmar	Sarah Kell	John R. Keyser	Tom Kinsman	Teresa Knight
Michelle Kam	Roland Keller	Yvonne Keyzer	Cathy Kintey	Troy Knight
Krystal Kamanos	Janice A. Kelley	Chehrazade Khalfi	Elia Kirby	Graham Knipfel
George Kamiya				Murray Knipfel

Marcel Knittel	Evangelia	Joachim Kudish	Jessica Lamb	Michelle LaPointe
Julie Knobloch	Koutsodimos	Loretta Kuemper	Leah Lambert	Dionne Lapointe-
Michael Knobloch	Rita Koutsodimos	Cindy Kullman	Roselyne Lambert	Bakota
Cheryl Knorr	Kate Kovacs	Connie Kuramoto	Sean Lambert	Stephanie Larkin
Lori Knorr	Julie Koven	Elizabeth Kurjata	Paul Lammens	Ronda Larmour
Kelly Knott	Vincent Kowalchuk	Angela Kurkiewicz	Wray Lammie	David Larocque
Tom Knott	Janet Kozak	Roni Kury	William Lamond	Michael Larose
James Knowles	Paul Kraeling	Aleksandra Kushnir	Brett Lamontagne	Albert Larratt
Samantha Knowles	Derek Krahn	Kevin Kvisle	Larry LaMontagne	Dallas Larsen
Natasha Knox	Russell Krake	David Kwan	Terry Lamport	Derrek Larsen
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Arielle Kobryn	Donald Kramer	Tanya Kyi	Peggy Land	Sandra Larsen
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Peter Kok	Randy Krantz	Cindy La Favor	Alex Landels	Arnold K. Larson
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(KFSS), Sandi	Daryl Kroeker	S. Lafleur	Christopher Langer	Danny Latin
McCreight	Shelby Kroeker	Andy Lafontaine	Stacey Langford	Yuko Latovlovici
Kootenay Landscape,	Jeremy Krogh	John Lafratta	Graeme Langille	Carol Lattey
Dwayne Thompson	Ilana Kronick	Sherri LaFreniere	Ken Langkammer	John Latzen
Kootenay Weed	Kaley Kroschinsky	Tom Lafreniere	Langley	Ron Laufer
Control, Allan	Sylvie Kruchten	Darrin Lagimodiere	Environmental	Sharon Laughlin
Freeborn	Zoe Kruchten	Marlene Lagoa	Partners Society,	Linda Laurenson
Milen Kootnikoff	Oscar Krueger	Tim Lahay	Taryn Hesketh	Raymond Lauzier
Caitlin Kopperson	Chris Kruger	John Laing	Jennifer Langley	Celia Laval
Anne Kordyback	Vincent Kruggel	Denise Laitinen	Laura Langley	Suzie Lavallee
Alla Korotenko	Rainet Krumsiek	Benjamin Lake	Ross Langmaid	Karen Lavoie
Catherine Korven	Denyce Krupa	Lakepoint Golf and	Mario Lanthier	Jennifer Law
Becky Kosakoski	Joel Krupa	Country Club, Jim	Veronica Lanz	Krista Lawlor
Michael Koselowski	Howard Kruschke	McKinnon	Graeme Lapaire	Marie Lawlor
Ronski Kosky	Lynn Kruszewski	Chris Lam	Albini Lapierre	Kathy Lawrence
Michael Kosolofski	Pam Kryskow	Gary Lam	Julie Lapinsky	Lillian Lawrence
Sheila Kosolofski	Anna Kubacki	Nancy Lam	Kelvin Lapka	Sharon Lawrence
Mark Kostyrko	Tim Kubash	Alia Lamaadar	Brian LaPointe	Tom Lawrence
Parvin Kouchmeshgi	Sandra Kubert	Graham Lamb	Kenneth Lapointe	John Lawson

Laurel Lawson	Joe Lee	Denny Leung	Len Lippa	Douglas Loughran
Mary Lawson	Joldine Lee	Henry Leung	John Lipski	Margaret Loukras
Sandy Lawson	Lana Lee	Susan Leung	Marlene Liske	Bruce Lounds
Zeta Lay	Manon Lee	Christian Lev	Robert Liske	Emilio Lovisa
Brenda Layzell	Pat Lee	Shelagh Levey	Andrew Lissett	Anne Low
Ben Lazar	Stephan Lee	Ruth Levin	Tim Lissimore	Bill Low
Wesley Lazette	Beverley Lee-Chen	Hadas Levy	Ken Litchfield	Don Low
Pauline Le Bel	Katharine Lees	Jean Lewandowski	James Lithgow	Jason Lowe
Guy Le Masurier	Maurice Lees	Angela Lewis	Barbara Little	Kevin Lowe
Quy Le	Michael Leevers	Bill Lewis	Murray Little	Paul Lowe
Cecilia Lea	Russ Lefler	Brad Lewis	Lawrie Livingstone	Perry Lowell
Karen Leach	Nina Legac	Davin Lewis	Elizabeth Liznick	Lower Nipit
Trevor Leach	Louis Legal	Hannah Lewis	F. Anthony Lloyd	Improvement
Nova Leaf	Darlene Legare	Myrna Lewis	Lesley Lloyd	District, Coral
Terry Leal	Sari Legate	Scott Lewis	Mike Lloyd	Brown
Seradaye Lean	Paul Leguerrier	Don Lewthwaite	Stacey Lloyd-Jones	Lower Shuswap
Alan Leard	J. Gord Lehman	Gwyn Leyshon	Jonathan Lobb	Stewardship
Pat Leard	Bonnie Leibel	Doreen L'Hoir	Ted Lock	Society, Jean Clark
Sharman Learie	Genelle Leifso	Brenda Li	Sarah Locke	Lower Similkameen
Dian Learn	Shanoon Leigh	Chris Li	Rowena Locklin	Indian Band, Tracy
Matthew Learning	Bibiana Leikucs	Michelle Li	Chris Loelke	Lawlor
Maxine Leask	Petra Leinemann	Ron Libbrecht	Don Loewen	Jody Lownds
Helen Leboe	William Leisen	LICE911, Barbara	Kurt Loewen	Aaron Lubell
Sonja Leborgne	Robert Leitch	Pattison	Todd Loewen	Arleta Lucarelli
Mark LeBourdais	Kip Leith	Corinna Lichota	Brent Logan	Charlotte Lucas Lucas
Vanessa LeBourdais	Andrea Lemire	Iwona Lichota	Tracy Logan	Warren Luchene
Ernie Lechner	Glow Lemon	Amber Lidstone	Nicky Logins	Dianne Luchtan
Mark Lechner	Doris Leong	Peter Lighthall	Colleen Loguisto	Laura Lucina
Heidi Leckenby	Arlene Lepp	Susan Lighthall	Anne Lomas	Janna Luck
Brian Leckie	George Lerchs	Dale Likes	Larry London	Pat Luders
Peter Leckie	Diane Les	Wendy Lim	Michael Long	Dennis Luick
Sandra Leckie	Edward Les	Ta-Wei Lin	Debbie Longley	Marcus Luk
Rosalind Lecky	Heather Leschied	Tamara Lincoln	Meghan Loop	Maureen Luker
Christine Leclerc	Dustin Leskosky	David Linde	Andrea Loops	Natasha Lukey
Albert Lecomte	Allison Leslie	Ivan Linde	Vito Lore	Timothy Lukian
Katherine LeComte	Gayle Leslie	Rudolf Lindner	Stephanie Lorencz	David Lukinuk
Amanda Ledgerwood	Megan Leslie	Trudy Lindner	Clarence Lorenson	Danielle Lukovich
Ken LeDuc	Susan Leslie	Shelagh Lindsey	Crystal Lorenz	Ocean Lum
Amanda Lee	Madeleine Lesnie	Lennard Lindstrom	Judy Lorinczi	Garett Lumley
Andrea Lee	Joe Lesosky	Brent Lineker	Antonio Loro	Wayne Lundeberg
Caroline Lee	Sarah Lesperance	Kim Linekin	Richard Los	Sarah Lundy
Corissa Lee	Christopher	Dennis Linfoot	Garth & Merrien	Joan Luoma
Ed Lee	Lethbridge	Rassamee Ling	Loughead	Robert Lusk
Harvey Lee	George Letourneau	Gaert Linnaea	Kim Lougheed	Robert Lutener
Jeanette Lee	Jim Leuba	Jennifer Lipka	Sam Lougheed	Kem Luther
Jen Lee	Sky Leuba	Phillip Lipp	Vivien Lougheed	Janice Luton

Annette Luttermann	Angus MacKay	Barbara Macnaughton	Sharen Malone	Linda Martens
Darcey Lutz	Chris MacKay	Peter MacNeil	Anita Mamela	Nancy Martens
Monica Luu	James MacKay	Mal MacPhail	Hilary Mandel	Andrew Martin
Jacky Ly	Judith Mackay	Eric MacPherson	Dave Mander	Bill Martin
Bobbe Lyall	Karen MacKay	Jay Macpherson	Veronica Mangulins	Christel Martin
Gary Lyall	Shawne MacKay	Sarah MacPherson	Eric Manion	Clare Martin
Keith Lyall	Alan Mackenzie	Jamie MacQuarrie	Helga Mankhof	Cody Martin
Vicki Lyall	Bill MacKenzie	Glenn MacRae	Linda Manky	Dan Martin
Tamsin Lyle	Edward MacKenzie	Klara Macskasy	Annemarie Mann	Dave Martin
Frances Lynott	Elizabeth MacKenzie	Aaren Madden	Richard Mann	David Martin
Ken Lyons	Jason MacKenzie	Signy Madden	Vaughan Mann	Donna Martin
Mishka Lysack	John Mackenzie	Grant Maddock	April Manning	Doug Martin
Jackie Lysak	Judy Mackenzie	Jamie Madeira	Jim Manning	Iain Martin
Corey Lysohirka	Kevin MacKenzie	Dr. C. Mader	Paddy Manning	Jim Martin
Antony Lyttle	Kristi MacKenzie	Laura Madsen	Megan Mansbridge	John A Martin
Bonnie Ma	Sandy Mackenzie	Gary Maekelburger	Brent Mansfield	Judy Martin
Lee Ma	Tamara Mackenzie	Cam Magnan	Linda Manzer	Keith Martin
Laura Maben	John Mackie	Linda Magnuson	Amber Marceau	Larry Martin
Gary MacAdam	Neil Mackie	Veronica Magnusson	Thomas Marchand	Natalie Martin
Arlene MacAdams	Cynthia MacKinnon	Ron Magrath	Michael Marcoux	Pat Martin
William MacAdams	James MacKinnon	Jules Maguire	Wayne Marcy	Sandra Martin
Gerald Macauley	Kevin MacKinnon	Rosemary Maharaj	Conrad Margolis	Tom Martin
Laurie MacBride	Natasha Mackinnon	Sophia Maher	Lorelee Marin	Tracey Martin
Anne MacCormack	Sean MacKinnon	Pat Mahon	Sandra Mark	Douglas G. Martineau
Jeannette Macdonald	William MacKinnon	Liz Mahoney	Deborah Markle	Florin Martineau
Ryan	Simonne Macklem	David Maidman	Budimir Markovic	Margaret Martineau
Allen MacDonald	Harley Mackoff	Jennifer Maier	Gordana Markovic	Louise Martinson
Braden MacDonald	Debbie Maclagan	Kathleen Maika	Andrew Markus	Mariem Martinson
C. Mia Macdonald	Marlene Maclaren	Liisa Mailer	Bob Markwart	Rynette Marx
Cam MacDonald	Jeff Maclean	Dan Mains	Nichole Marples	Karen Marzocco
Dana MacDonald	Jodi MacLean	Gail Mainster	Trevor Marples	Hana Masata
Dougald MacDonald	John MacLean	Brenda Maisey	Nicole Marques	Michael Mascall
Elizabeth Macdonald	Murray Maclean	Jim Maitre	Paul E. Marquis	Dawn Masear
Jackie & Brian	Angus MacLellan	Jack Major	Adrienne Marr	Carla Maskall
MacDonald	Darlene Maclellan	Lehoa Mak	Davin Marr	Cliff M. Mason
Kate MacDonald	Judi MacLeod	Heather Makarowski	Don Marr	Jane Mason
Ken Macdonald	Karen MacLeod	Kalyeena Makortoff	Micheline Marr	Ken Mason
Lew MacDonald	Norm MacLeod	Ramsay Malange	Susanne Marr	Marcia Mason
Loretta Macdonald	Scott MacLeod	Beth Malena	Marianne Marsh	Patricia Mason
Roderick MacDonald	Francine Maclure	Janice Malkow	Nancy Marsh	Rob Mason
Susan MacDonald	Philip MacMahon	A. Mallett	William Marsh	Sam Mason
Teresa MacDonald	A. MacMillan	Shivani Malli	Brooke Marshall	Derek Masselink
Edith MacFarlane	Adrienne Macmillan	Geoff Mallory	Donald Marshall	Cheryl Massey
Agnes Macham	Jasmine MacMillan	Agnes Malm	Lynn Marshall	Trevor Massey
Terry Macham	Susan MacMillan	Karla Malm	William Marshall	Pia Massie
Marc Macintyre	Randal Macnair	Jeff Malmgren	Garth Martens	Carolyn Masson

Barb Matfin	Raili Mazurek	Judith McCubbin	Ray McGinnis	Elizabeth McLaughlin
Michael Mather	Joseph Mc Quade	Murley McCue	Cosmea McGovern	Kathryn McLaughlin
Anne Mathers	Rhona McAdam	Caroline McCue-	Dominique Mcgrady	Katie McLaughlin
Ben Matheson	Donna Jean McAlister	Davies	Connie McGregor	Michael McLaughlin
Colin Matheson	Kevin McAllister	Danielle McCulloch	James McGregor	Brian McLean
Dan Matheson	Wayne McAlpine	Doreen McCulloch	Ian McGugan	David McLean
Sandy Mathies	Mike McAvoy	David McCurry	Bev McGuigan	Patricia McLean
James Matsuda	Don McBain	Arnold McCutcheon	Julie McGuire	Robert McLean
Kamal Mattar	Chris Mcbeath	Melanie Mcdaniel	Owen McIlvenna	Tamara McLean
Lisa Matthaus	Adam McBride	Donald McDermid	Mark McInnes	Fiona McLellan
Werner Matthaus	Debbie McBride	Timothy McDermid	Richard McInnis	Joan McLellan
Claire Matthews	Jim McBride	June McDermott	Shaunna McInnis	Leeanne McLellan
Kim Matthews	Michael McBride	Grant McDiarmaid	Alan McIntosh	Denean McLelland
Pam Matthews	Bryan McCaffrey	Adrienne McDonald	Chad McIntosh	Alex McLennan
Wayne Matthewson	Gerald McCaffrey	Brian McDonald	Don McIntosh	Jennifer McLennan
Brian Mauch	Ray McCall	Dana McDonald	Fred McIntosh	Andrew McLeod
Sherri Maunsell	Bruce McCalla	Dawn McDonald	Odile McIntosh	Hugh McLeod
Robert Maurer	Bernard McCallum	Jodie McDonald	Judith McIntyre	Hugo McLeod
Braedon Mauro	Marlian McCallum	John McDonald	Ann Mcivor	Jan Mcleod
Wayne Mauthe	Deborah McCann	Les McDonald	Amanda McKay	John Mcleod
Ursel Mauthner	Joseph McCann	Pete McDonald	Dale McKay	Robin McLeod
John Maveety	Terry McCarthy	Ross McDonald	Kathy Mckay	Taylor McLeod
Barry Mawson	Mary McCauley	Sheila McDonald	Louise McKay	Katie McMahan
Darlene Mawson	Anna McClean	Vanya McDonell	Ian McKeachie	Christine McMahan
Robert Mawson	Matthew McClean	Scott McDonnell	Shelley McKeachie	Ian McMahan
Haig Maxwell	Darren McClelland	Wendy McDonnell	Stephen McKechnie	Kevin McMahan
Kevin Maxwell	Tim McCloskey	Bill Mcdonough	Ross McKee	Pat McMahan
Rob Maxwell	Peter McClure	Marj McDougall	Shirley McKell	Susan McManus
Sue Maxwell	Rebecca McClure	Scott McDougall	Alex McKenna	Mark McMaster
Abbigail May	Allison McClymont	Melissa McDowell	Maureen Mckenna	Fred McMechan
Barbara May	Hamilton McClymont	Kenneth McDuff	Mark McKenney	Sheila McMeekin
Brenda May	Ann McColl	Mavis McDuff	Patricia McKenney	Christie McMillan
Dr. Michael May	Tracey McColm	Maine McEachern	Angela McKenzie	Jason McMillan
Frank May	Donlea McCombs	Theresa McElroy	Marca Mckenzie	Greg McMurray
Gordon May	Barrie McConachie	Gordon McEwan	Lorne McKibbin	Jasmine McMurray
James Mayall	Viviane McConkey	Leroy McFarlane	Rollande McKinley	Jody McMurray
Mayfair Lakes Golf & Country Club,	Brian McConnell	George McFaul	Trisha McKinney	Ken McNair
Mike Smedstad	Karen McConnell	Allan McGale	A. Mckinnon	Colleen Mcnamee
Mayfair Lakes Golf and Country Club,	Lynn McCormack	Gordon McGarva	Frank McKitrick	Sandy McNamee
Steve May	Don McCormick	Jim McGarvey	Marilyn McKitrick	Angus McNee
Wil Mayhew	Frances McCoubrey	Brian McGavin	Valerie McKone	Lucy McNeil
Russell Maynard	Marian McCoy	Jed McGeachie	Cheryl McLachlan	Elizabeth McNeill
Bruce Maywood	Carol McCrady	Steven McGehee	Jack McLachlan	Hugh McNeill
Krisanna Mazur	Charlotte McCrae	Connie McGill	Mel McLachlan	Keith McNeillie
	Tyler Mccrea	Judith McGill	Patricia McLaren	Dave McNeilly
	Lysbeth McCrone	Neil McGill	Dawn McLaughlan	Clint McNichol

Wendy McNiven	Dylan Merrick	Kathleen Millar	Andrew Mitchell	Arwyn Moore
Don McNulty	Jillian Merrick	Doug Millard	Doug Mitchell	Brad Moore
Kathleen McPhail	Lori Merrill	John Millen	Eliza Mitchell	Cari Moore
David McPhie	Eleanor Merriman	Roy Millen	Ellen Mitchell	Chelsey Moore
Linda McPhie	Walter Merritt	Tania Millen	Frank Mitchell	Dave Moore
Brenda McQuade	Gregor Merry	Brad Miller	Jennifer Mitchell	Gordi Moore
Lana McQueen	Beverly Merson	Brian Miller	Jim Mitchell	Herb Moore
Lenora McQueen	Joanna Merson	Carol Miller	Kyla Mitchell	Janet Moore
Jacqueline McQuillan	Samantha Mertlet	Cheryl Miller	Linda Mitchell	Lois Moore
Christine McRae	Beat Mertz	Deanna Miller	Mark Mitchell	Margaret Moore
Colleen McRae	Jane Mertz	Donna Miller	Mary Mitchell	Maureen Moore
Mike McRae	Anne Merwe	Gerry Miller	Renee Mitchell	Patricia Moore
Patrick McRae	Yavar Meshgini	Heather Miller	Scott Mitchell	Shannon Moore
Jim Mcturk	Lorraine Messer	Janet Miller	Wendy Mitchell	Susan Moore
Dorrit McVeigh	Norine Messer	Lawrence Miller	Yani Mitchell	Tess Moore
Natasha McWilliams	Casey Messinger	Michelle Miller	Peter Mitrunen	Dawn Moorhead
Reta McWilliams	Bruce Metcalf	Paul Miller	Mike Mitson	Erin Morantz
Jan Meadows	Norm Metcalf	Robert Miller	David Mivasair	Tara Moreau
Nelson Meadows	Peter Metcalfe	Daniel Millerd	Alina Moczulski	Phil Morehouse
Marian Meagher	Stan Metcalfe	Susan Milley	Sue Moen	Phillip Moretti
Patrick Meagher	Rudi Metzger	Kimberley Milliard	Glenn Moffat	Morgan Creek Golf
Scott Meakin	Bill Mey	Richard Millie	Sarah Moffatt	Course, Bart
Rev. F. Mark Mealing	Alvin Meyer	Janet Milligan	Norman Mogensen	Zayshley
Lorna Medd	Nancy Meyer	Sue Milligan	Peter Mohammed	Scott Morgan
Kerensa Medhurst	Ulrike Meyer	Michael Millman	Adrian Mohareb	Shonna Morgan
Nicole Medos	Bert Mezzarobba	Ken Milloy	Olavi (Oly) Moilanen	William Morgan
Hubert Meeker	Michaelbrook Ranch	Dorothy Mills	Lynda Moir	Shannon Morgenstern
Dorell Meikle	Golf Course,	Linda Mills	Jake Moldowan	Steve Morissette
Brent Meise	Susanne Conant	Patrick Mills	Danny Molloy	Jack Morran
Nora Mejia	Paul Michal	Dawn Milman	Eleonora Molnar	Adam Morris
Chantal Melanson	Amber Michaud	Thomas Milne	Tom Monaghan	Amy Morris
Kathleen Meldrum	Eliane Michel	Laurel Milsom	Melody Monro	Angie Morris
Vesanto Melina	Joan Michel	Denise Mincet	Kari Monteiro	Carolyn Morris
John Mellor	Titania Michniewicz	Patti Minck	Edward Monteith	J. Claire Morris
Joe Melton	Janice Micklethwaite	Jill Miners	Rod Monteith	Jackie Morris
Harvey Mendelzys	Kat Middleton	John Mingay	Bernie Monteleone	James Morris
Donna Mendes Frobb	S. Middleton	Ron Minion	David Montgomery	Judi Morris
Pete Menear	Genevieve Miedema	Mark Minson	Maria Montgomery	Lowell Morris
Beverly Mennie	Heather Mielcarski	Helen Mintz	Eleanor Montour	Mary Ann Morris
Paul Mensch	Anna Migi	Carolina Miranda	Patty Montpellier	Nancy Morris
Patty Mer	Glen Mikkelsen	Gloria Mirandilla	Charlie Moodley	Ronald Morris
Ashley Meriam	Stanley Miklic	Blair Mirau	Anne Moon	Valerie Morris
Meridian Landscaping	John Mikoionas	Marcin Mirski	David Moon	Eanna Morrison Barrs
and Maintenance	Vlado Milanovic	Jelena Misevski	Elaine Moon	Anne Morrison
Ltd., Sarah Janzen	Adrian Miles	Stefan Misse	Thomas Moon	Betty Morrison
Adriana Merlo	Kathryn Miles	Amy Mitchell	Garry Mooney	Carla Morrison

Jim Morrison	John Munro	Peter Nadler	L.W. Neish	Christopher Nicholson
Jody Morrison	Margaret Munro	David Nagel	A. G. Nelson	Danielle Nicholson
John Morrison	Rick Munro	Edie Nagy	Carla Nelson	Maria Nicholson
Mary Morrison	Pamela Munroe	Jodie Nagy	Debra Nelson	Neal Nicholson
Neila Morrison	Thomas Munson	Erich Nahser-Ringer	Dorothy Nelson	Sandra Nickel
Robert Morrison	Veralynn Munson	Brenda Nailor	Eric Nelson	Shelley Nickerson
Baiba Morrow	Anthony Muraca	Ken Nairn	Jonathan Nelson	Nadine Nickull
Vanessa Morrow	Cameron Murchison	Roger Nakagawa	Linda Nelson	Renata Nicmans
Zoann Morten	Jean Murdoch	Nanaimo	Lyndsey Nelson	Heather Nicol
Donna Morton	Ken Murdoch	Metaphysical	Scott Nelson	Janice Nicol
Margaret Moss	Ian Murdock	Network, Judith	Susan Nelson-	Thomas Nicol
Michael Moss	Trevor Murdock	Munns	McDermott	Leo Nicolaas
Andrew Riley Mott	David Murison	Nanaimo Recycling	Kim Nenzen	John Nicolson
Michael Moua	Brad Murphy	Exchange, Michael	Jessica Nephin	Judith Nicolson
Ian Moul	Debbie Murphy	Schellinck	Holly Nesbitt	Nicowynd Golf Club,
Daryl Mount	Dorrie Murphy	Robert Nanson	Wayne Nesbitt	Greg Wadden
Russell Mount	Michael Murphy	Robert Nantel	Nancy Nester	Emma Nielsen
Nancy Moysiuk	Michele Murphy	Jennifer Naples	Don Neuls	Lisa Nielsen
Michael Mozell	Roy Murphy	Gary Napper	Kira Neumann	Mark Nielsen
William N. Mozell	Teresa Murphy	Martin Naroznik	Nic Neumann	Phil Nielsen
MRL Landscape	Andrew Murray	Elizabeth Nash	Heather Neun	Ray Nielsen
Services, Michael	Anne Murray	Graham Nash	Ralph Nevill	Rebecca Nielsen
Lommer	Brennen Murray	Louise Nason	Deborah Neville	Ron Nielsen
Valerie Mucciarelli	Craig Murray	Beandra Nassar	Jocelyne New	John Nightingale
Trish Muehlebach	Hugh Murray	Terence Nathan	Richard Newbury	Renee Niiranen
Randy Mueller	Kate Murray	Bob and Helen Nation	Mandy Newby	Savir Nijjar
Rita Mueller	Michael Murray	NORAHG, William	Erin Newell	Christina Nikolic
Wendy Muir	Philip Murray	& Norah Gathercole	Gary Newell	Adiel Nissim
Sheila Mulgrew	Rylee Murray	Andrea Nause	Marnie Newell	Mary Nixon
Jon Mullaly	Chris Murrell	Phil Nauta	Richard Newell	Peter Nixon
Desmond Mullan	Rick Mussellam	Anu Nayar	Pearl Newfeld	Patrick Noakes
Jack Mullett	Kelly Musselwhite	Maxine Nayler	Newlands Golf	Missy Nobels
Daniel Mulligan	Erica Mustard	Matthew Naylor	Course, Richard	David Noble
Kelly Mullin	S. Mustard	Sonia Nazar	Davies	Emma Noble
Mike Mullin	Addy Musuku	Constance Neaga	Brett Newman	Jenny Noble
Kent Mullinix	Graham Mutch	Wendy Neander	Jane Newman	Cindy Noel
Robert Mullock	Annette Muttray	Anne Neave	Jeffrey Newman	Frances Nokes
Diana Mumford	My Sustainable	Maria Teresa Necchi	John Newman	Judy Norbury
Gavin Munday	Canada, Linda	Linda Necic	Johannah Newmarch	Mimi Nordby
Cliff Munich	Varangu	Michael Nedham	Dawn Newton	Susan Norgaard
Catherine Munn	Bonny Myers	Ronald Needham	Ronald Ng	Susan Norie
Jim Munn	Julia Myers	Havi Neeman	Alan Nichols	Lewis Norman
Eloise Munro	Linda Myres	Beverley Neff	Kathy Nichols	David Norris
Gord Munro	Myrtle Point Golf	Lori Neid	Mary-Sue Nichols	Emily Norris
Hannah Munro	Club, Richard	Ron Neilson	Thomas Nichols	North Columbia
Ian Munro	Harquail	Ieva Neimanis	B. Nicholson	Environmental

Society, Sarah	Meaghan Ogilvie	Juliet Oraziotti	R Painter	Heather Passmore
Newton	Nick Ogloff	Sean Orcutt	Lynda Palahniuk	Jennifer Passmore
North East Invasive	Tim O'Gorman	Christine O'Reilly	Bonita Palmer	Carmen Pastore
Plant Committee,	David O'Haire	Thomas O'Reilly	Steve Palmer	Marian Pastore
Peace River	Angela Oheir	Avril Orloff	Anna Palumbo	Tom Pater
Regional District,	Beatriz Ohep	John Orlowsky	Joni Pangaeng	Diane Paterson
Elaine Armagost	Okanagan Golf Club,	Joel Ornoy	Gordana Panic	John Paterson
Charlie Northrup	Jeff Bennett	Kari O'Rourke	Kevin Pankewich	Judy Paterson
Dave Norton	Okanagan Tree and	Joy Orr	Christine Pansino	Jim & Carol Paton
Sharon Norum	Lawn Care, Judy	Gary Orrico	Manon Paradis	R.J. (Bob) Paton
Eric Notebaert	Moar	Marion Orser	Chris Pardek	Louise Patraschuk
Chelsea Notte	Neil Olafson	Angele Ortega	Dave Parent	Mel Patrick
Anne Novak	Ronald Olafson	Kevin Orton	Jean-Philippe Parent	Joan Patriquin
Amie Nowak	Fiona Old	Duane Orzynski	Neil Parent	Ron Pattermann
Barbara Nunes	Don Olderness	Terry Oscarson	Shelley Parent	Ron Pattermann
Melissa Nunes	Ralph Olds	Sol Oshry	Michael Parenteau	Katharine Patterson
Philip Nurse	Merv Oleksyn	Shawn Osiowy	Sergio Parenti	Michelle Patterson
Michael Nutland	Roberta Olenick	Osoyoos Golf &	Cyndi Parisu	Holly Pattison
Nutri-Lawn	Ken Oleschuk	Country Club,	Andrea Park	Fred Pattje
Vancouver, Rachel	Dennis Oliphant	James Quilley	Ashley Park	Dina Patton
Worthen	Peggy Olive	Brian Ostafew	Dr. Colin Park	Florence Patton
Glen Nyberg	John Oliver	Sandra Osterby	Elaine Park	Harris Patton
Mary Anne Nylen	Christina Olsen	Susan Osterkamp	Jin Young Park	Heather Patton
Dennis O Callaghan	Ilka Olsen	Bill Osterman	December Parker	Phlip Patton
Tami O Callaghan	Eliza Olson	Dennis Ostrowerka	Diane Parker	Gary Paul
Dr. Carole O'Beirne	Greg Olson	George Otto	Gary Parker	Jason Paul
Brigitte Oblak	Louise Olson	Sarah Otto	Jim Parker	Lori Paul
Jennifer O'Brien	Stan Olson	Victoria Otton	Lorne Parker	Alvena Pauls
Sandra O'Brien	Tanner Olson	Out on a Limb	Ross Parker	Marlene Pauls
Sinead O'Brien	Terry Olson	(Consulting Firm),	Michelle Parkerm	Ron Pauls
Dana OBryan	Travis Olson	Scott Morrison	Sonya Parkin	Andrew Paulsen
Mary O'Callaghan	Olympc View Golf	Marina Out	David Parkinson	Ronald Paulson
Michael Ocana	Club, Randy Frank	Chris Overall	Steve Parkinson	Kristina Pavlovic
Edwin Ochmanek	Brian Olynek	David Overall	Brittney Parks	Catherine Pawasarat
Gordon O'Connor	Mark Omelaniec	Helen Owen	Tracy Parolin	Joan Payne
Sasa Odanovic	Helen Omelchuk	Carly Clements	Laura Parr	Leslie Payne
Liam Odell	John Onderdonk	Owens	John Parrott	Reg Payne
Wayne Odin	Rob Ondrik	Jean Paccagnan	George Parry	Rod Paynter
Richard Odo	Colleen O'Neill	Ann Pacey	Susan Parsons	Julia Payson
Dennis O'Donnell	Deirdre O'Neill	Barry Paddington	Alan Partington	Peace Portal Golf
Lindsay O'Donnell	Hugh O'Neill	Kathleen Paddington	Rosemary Partridge	Course, Rob Falk
Cheryl Oenema	James O'Neill	Judie Paden	Kristina Parusel	Ann Peach
Kathleen O'Farrell	John O'Neill	Silvano Padovan	Gail Pasaluko	James Peacock
Judy Offer	Kathy O'Neill	Nick Page	Haleh Pashaei	Philip Peacock
Betty Offin	Rick O'Neill	Royston Page	Barry Pasiechnyk	Wendy Peaker
Bob Ogden	Tommy Ono	Tovah Paglaro	Chuck Passmore	Christine Pearce

Edward Pearce	Geoffrey Perkins	Timothy Pezarro	Susan Pinkus	Susan Port
Sarah Pearce	Tessa Perkins	Christiane Pfaender	Arlene Pippolo	Francine Portelance
Stephen Peardon	Bruce Perreault	Paula Phelps	Brenda Piquette	Joel Eric Portelance
Ann Pearson	Karl Perrin	Pauline Phibbs	Mona Piquette	Brian Porter
John Pearson	Danielle Perron	Bill Philip	Al Pisch	Christopher Porter
Keegan Pearson	Andrina Perry	Carolyn Philip	Roswitha Pischko	Erin Porter
Mike Pearson	Bob Perry	Allyson Phillips	Meghan Pistchik	Jane Porter
Tanya Pearson	Carol Perry	Evelyn Phillips	Joanne Pitcher	Kerri Porter
Tina Pearson	Erin Perry	Grant Phillips	John Pitcher	Marian Porter
Pamela Peck	Karen Perry	Jo Phillips	Lucas Pitts	Wendy Porter
Cam Peckinpough	Kristen Perry	Lynne Phillips	Tracie Pitts	Valerie Porth
A David Pecknold	Lee Perry	Mike Phillips	John Plante	Alison Potman
Cari Pecora	Anil Persaud	Ron Phillips	Melissa Plante	Leaneore Potter
Leo Pedersen	Pesticide Free BC	Roy Phillips	Tara Plas	Ken Potterton
Kelley Peeling	website, Judy	Aja Philp	Jim Plasteras	Mark Potyrala
PEI Environmental	Wigmore	Mike Phipps	Karen Playfair	Jim Poushinsky
Health Co-	Pesticide-Free	Physicians for Global	Irene Plett	Nancy Pow
operative, Marion	Edmonton	Survival, Dale	Lee Plett	Derek Powell
Copleston	Coalition, Elisabeth	Dewar	Deirdre Plomer	Frank Powell
Jason Peil	Beaubien	Jill Picard	Louis Plottel	Jeanine Powell
John Peirce	Beth Peters	Kim Picard	Julie Pocock	John Powell
E. Pellizzari	Caryl Peters	Candace Picco	Dorothy Podmore	Norma Powell
Sandi Pemberton	Chico Peters	Jason Pick	Clifford Poersch	Roz Powell
Francisco Pena	Cory Peters	John Pickard	Emma Point	Anne Power
Caitlin Pencarrick	Pauline Peters	Kelly Pickerill	Kim Poirier	Penny Powers
Hertzman	Roy Peters	Linda Pickering	Carey Poitras	Robert Powers
Pender Harbour Golf	Rudi Peters	Rodney Pickford	Beata Polanska	George Allen Poynter
Club Society, Jason	Sonja Peters	Sharon Pickthorne	Penny Polden	Adele Pransky
Haines	Doris Petersen	Carol Pickup	Maryellen Polikoff	Paul Prappas
Holly Pender-Love	Pam Petersen	Karen Pidcock	Lyn Pollard	S. Prasad
Sharon Pendlington	Wayne Petersen	Alexandra Pierce	Deborah Pollock	Sadhana Prasad
Elizabeth Pendray	Brent Peterson	Mike Pierce	Terry Pollock	Susan Prasad
Briony Penn	Dale Peterson	Pat Pierce	David Polster	Paulina Pratico
Mary Lou Pennal	Dave Peterson	Jennifer Pigeon	Konstantin Polyakov	Sheila Pratt
Rachel Pennell	Gus Peterson	Toni Pigeon	Jody Pomkoski	Susan Pratt
Jonathan Penner	Rhonda Peterson	Gordon Piggin	Marge Pomrenke	Ivana Prcce
Monica Penner	Wendy Petillion	Brenda Pilon	Susan Pond	Celine Prefontaine
Tara Penner	Howard Peto	Bridget Pilon	Bonnie Ponto	Marie Preissl
Bob Pennington	Angela Petrie	George Pilon	Louise Poole	Norm Prescott
George Pennington	Lori Petryk	Ann Pilszek	Nancy Poole	J. Press
Penticton Golf &	Gillian Pettersen	Karly Pinch	Ray Popoff	Andy Preston
Country Club, Greg	Demian Pettman	Gord Pincock	Margaret Popovich	Jen Preston
McWilliams	Michel Joseph Petulli	Sylvia Pincott	Mike Por	Larry Preston
Ruby Peppard	Andrea Petzold	Jim Pine	Ila France Porcher	Will Preston
Lara Percy	Jim Petzold	Glenn Pineau	John Porcina	
Morian Perepelitza	Jonathan Pew	Brian Pinkerton	Patty Porretta	

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David Price	Andrea Purton	Allan Ramsay	Tony Reddin	Kenneth Render
Kelly Price	Chris Purton	Laura Ramsay	Ray Redekopp	Lucy Reniger
Maureen Price	Vanessa Purves	Leah Ramsay	Adrian Redford	Erin Rennie
Veronica Price	Russ Purvis	Robert Ramsbottom	Ray Redford	Rita Rennie
Sydney Price-Sparling	Chuck Pusateri	Gordon Ramsdale	Keith Redl	Deb Reny
Darcy Priestlay	Annika Putt	Rebecca Ramsey	Ken Redlack	Mark Renzetti
Ken Priestlay	Jenna Quaglia	Tara Ramsey	L. Redmond	Willemina Reusz
Laurelei Primeau	Paola Qualizza	Donald Ramshaw	Redwoods Golf Course, Peter Szarka	Steve Rex Eric Reynard
Dana Prince	Ron Qually	Steen Rancher		
Norm Prince	Virginia Quamme	Derek Randall	Sonia Reed	Alan Reynolds
Princeton Golf Club, John Simpson	Bette Querin Joseph Querin	Dorothy Randall Keith Randall	David Reedman David Rees-Thomas	Ella Reynolds Freeman Reynolds
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Marlene Proc	Pete Quily	Aaron Ransome	Wes Regan	Angie Riano
Cheryl Procter	Judith Quinlan	Kim Rasberry	Gaylene Rehwald	Allan Ribchester
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Karen Proudfoot	Steven Radin	Adelheid Raworth-Comley	Linda Reid	Daniel Richard
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Teresa Proudlove	Diane Rae	Maureen Raymond	Shaun Reid	Charlie Richards
Jamie Prowse	Ken Rae	Cynthia Raymond-Glasser	Angela Reid-Nagy	Jeff Richards
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Markus Pukonen	Claire Raines	Sherry Reardon	Kathleen Reinheimer	Chum Richardson
Claire Pullman	Wayne Rains	Kamran Reayat	Uwe Reisenleiter	G. Richardson
Deb Purcell	Dianna Raketti	Betty Rebellato	Edith Reiss	Jacob Richardson
Shirley Purcell	Frank Rakow	Renee Rechtschaffner	Konrad Reiss	Nancy Richardson
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Tracy Riddell	Todd Roberts	Elaine Rogers	Dawn Roumieu	Brian Russell
Ryan Riddle	Ken Robertshaw	Elizabeth Rogers	Tyler Rouse	Joan Russell
Heather Ridenour	Alissanne Robertson	George Rogers	Danielle Rousseau	Michael Russell
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Emily Rideout	Cedric Robertson	Ondrea Rogers	Ian Routledge	Sonya Russell
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Kelsey Rieger	Tedd Robertson	Debbie Rondeau	Thomas Rowlandson	Michael Rutkowski
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Julie Rink	Darren Robinson	Frances Rose	Marek Rozwadowski	Jason Ryant
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Gizelle River	Terry Robinson	Jeanne Ross	Joshua Ruether	Jeff Saby
	Michael Roboz	John Ross	Mark Rufiange	Sheryl Sacks
	Greg Robson	Pat Ross		Bradford Sackville
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	Cindy Rochetta	Steve Ross		Robin Sadler
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Joanne Sale	Christina Saunders	Nicholas Schmidtke	Jamie Scott	Jeannie Shaver
Rahman Saleem	James Saunders	Rhiannon Schmitt	Karen Scott	Ed Shaw
Wayne Salewski	Kristin Saunders	Arissa Schmitz	Kelly Scott	Fae Shaw
Eileen Sallis	Ruby Saunders	Arthur Schmon	Kelvin Scott	Karena Shaw
Trevor Salloum	Susan Saunders	Bruce Schmor	Melanie Scott	Pam Shaw
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Mary Salter	Janet Sawatsky	Sharry Schneider	Sea to Sky Invasive Species Council,	Dale Shea
Mary Jane Salter	Leanne Sawatzky	Stuart Scholefield	Kristina Swerhun	Karen Shea
Jacqui Salvino	Steve Sawchuk	Ronald Scholes	Barry Seal	Marial Shea
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Renee Samonig	Lil Sawyer	Africa Society,	Jennifer Sears	Rod Shead
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Rick Sampson	Larissa Sayer	Erin Schowalter	Elizabeth Seaton	David Shein
Christopher Samsom	Rob Scagel	Jan Schredl M.A.	John Sebastian	Michael Shein
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Jacqueline Sandberg	Jacob Schachner	Ann Schroeder	Michelle Segal	Nancy Shelford
Teresa Sande	Taoya Schaefer	Bernard Schroeder	Linda Seifred	M. Shepard
Helen Sander	Gary Schaffer	Diana Schroeder	Ernie Sellentin	Bruce Shepherd
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Kane Sanders	Florian Scharlock	Ken Schultz	Joanne Senetza	David Sheppard
Karel Sanders	Kimberlee	Andrew Schulz	Elizabeth Senft	Kaz Sheppy
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Diana Sanderson	Peter Scheidegger	Fran Schulze	Linda Sewell	Karma Sherap
Scott Sanderson	Allison Schein	Rosa Schulze	Lee Sexsmith	Lynden Sherman
Stephanie Sandham	David Schein	Ed Schum	Seymour Golf and Country Club,	Tim Sherstobitoff
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Bridget Sangster	Susan Schellenberg	Lisa Schwabe	Charles Shamku	Jason Shewchuk
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Victor Santos	Warren Scheuerman	Abby Schwarz	Penny Shapperd	Betty Ann Shiels
Philippe Sapinski	Andrew Schibli	Norbert Schwarzer	Pierce Sharelove	Andrew Shindler
Ilse Sarady	Ian Schierbeck	Steve Schweighofer	Kent Sharkey	Koorosh Shirkoool
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Tasha Sargent	Lori Schlechtleitner	Adrienne Scott	Sepia Sharma	Gerald Shong
Gord Sarkissian	Derek Schlereth	Dolores Scott	Barry Sharman	Craig Shore
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Jen Shragge	Kathryn Sinclair	Andrew Smart	Kerry Smithies	Nadine Soukoreff
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Donna Shugar	Al Singer	Ryan Smillie	Mandala Smulders	Peggy Sowden
Shuswap	Naomi Singer	Alisa Smith	Jacqueline Snair	Spallumcheen Golf &
Environmental	Dev Singh	Anne Smith	Gordon Snider	Country Club,
Action Society, Jim	Ben Singleton-Polster	Bill Smith	Josh Snider	Katrina Johnson
Cooperman	Raewyn Sinhuber	Brian Smith	Danika Snook	Edi Spanier
Jennifer Shypitka	David Sinton	Bruce Smith	Lori Snow	Grant Spannier
Trevor Shyry	Irene Sipila	Candais Smith	Paula Snow	C. Sparrey
Jess Sid	Michal Sirton	Chris Smith	Gerry Sobie	Sparwood Golf Club,
Patricia Sieber	Brittany Siry	Connie Smith	Paula Sobie	Rod Uhll
Linda Siegel	Chris Sivak	Darrell Smith	Walter Sobool	David Spata
Judy Siegenthaler	Joan Sivyver	Dave Smith	Society Promoting	Chloe Speakman
Peter Siegenthaler	Sharon Sjerven	David Smith	Environmental	Ryan Speijer
Karen Siemens	Garth Sjolie	Elaine Smith	Conservation,	Lauren Spencer Hesse
Peter Siemers	Stu Sjolie	Elizabeth Smith	Carole Christopher	Donna Spencer
Sierra Club Comox	Lloyd Skaalen	Frank Smith	Softball City, Murray	Katherine Spencer
Valley, Mike Bell	Barry Skabar	Gordon Smith	Gage-Cole	Ron Spencer
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Avi Silberstein	Rex Skarbo	Hugh Smith	Roger Sollows	Lucie Spencer-Nairn
Viktor Silgailis	Ann Skelcher	Ian Smith	Reid Solodan	Neil Spendiff
Astrid Silver	Mike Skellett	James Smith	Lawrence Soloway	Jim Spicer
Jennifer Silver	Brigid Skelton	Janneke Smith	Patrick Solski	Maureen Spinks
William Silversides	Ronald Skene	Jess Smith	Brad Soltani	Richard Spinks
Connor Silverthorn	Stephanie Sketchley	John Smith	Lorraine Somers	Laura Spitz
Jonathan Sim	Mike Skiba	Katie Smith	Kathleen Somerville	Peter Spoletini
Richard Sim	Andrew Skinner	Kim Smith	Crystal Sommer	Sean Spottiswood
Shanyn Simcoe	Becky Skinner	Kristi Smith	Judy Sommerville	John B. Sprague
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Annie Simmonds	Patty Skinner	Linden Smith	Samara Sonmor	Squamish River
R. Barry Simmonds	Kirsten Skipp	Lorne Smith	Dina Sonneveld	Watershed Society,
Greg Simmons	Leona Skovgaard	Margaret Smith	Cyril Sookachoff	Edith Tobe
Matt Simmons	Marya Skrypiczajko	Mary Smith	Barbara Soper	Maria Squance
Jim Simms	Nikki Skuce	Maureen Smith	Ted Sophonow	Jacques St Laurent
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Margaret Simon	Josh Slatkoff	Robert Smith	Vivian Sorensen	Judy Stables
Stephen Simon	Daniel Sliva	Ronald Smith	Margaret Sorken	Alan Stacey
Susan Simone	Fran Sloan Sainas	Samantha Smith	Mylesa Sorokovsky	Gary Stadnek
Michael Simons	Mark Sloat	Sandra Smith	Peter Sorokovsky	Paul Stadnyk
Brian Simpson	Sandra Slobodian	Shandus Smith	Sorrento Centre,	Blaine Stafford
Deborah Simpson	Kathy Smail	Shelagh Smith	David Wides	Judy Stafford
Ian Simpson	Anita Smalley	Stephen Smith	Sorrento Nurseries	Richard Stainsby
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Brent Sinclair	Jill Smalley	Theresa Smith	Anita Sortome	Dave Stamper

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Leelan Stanjek	Larry Stephenson	Martin Stoller	Aimée Sturley	Jacqueline Swann
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Maya Stano	Melanie Steppuhn	Larry Stone	Jordan Sullivan	Melanie Swanton
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Bob Stanton	Lee Sterry	Shael Stonebridge	Patricia Sullivan	Cliff Sweeney
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Alvin Stedel	Lorelei Stevenson	Storey Creek Golf	and Country Club,	Britt-Inger Swoveland
George Steed	Mitsue Stevenson	Club, Rob Watson	Bob Cotter	Cynthia Swoveland
Gloria Steed	Richard Stewaart	Jim Storie	Surrey Golf Club,	Jonathan Swoveland
Lani Steed	Lonny Steward	Karen Storry	Brian Young	Danielle Sykes
Erin Steel	Brian Stewart	Marion Stotts	Lisa Surrudge	Melanie Sylvestre
Heather Steel	Carol Stewart	Gerald Stoutenburg	Sustainable	Margaret Symon
Norma Steel	Chris Stewart	Laura Stovel	Environment	Louise Szalay
Deana Steele	Derek Stewart	Joan Strack	Network Society,	Anna Szeitz
Fred Steele	Donald C Stewart	Jason Straka	Huguette Allen	Stacey Szeplabi
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Cheryl Steinhauer	Ken Stickland	Brianne Stremel	Alexandra Sutherland-	Paulette Tae
Brian Steininger	Howard Stiff	Ayah Stretch	Barta	Wilf Taekema
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Natasha Taylor	Carl Thomas	Ricardo Thumber	Katherine Trajan	Katherine Turmel
Pat Taylor	Cheryl Thomas	Jean-Paul Thuot	Jim Traynor	Amanda Turner
Samantha Taylor	Chloe Thomas	Joe Thwaites	Dylan Tredger	Ariel Turner
Shawna Taylor	Christine Thomas	Bonnie Tidswell	Brent Tremain	David Turner
Simon Taylor	Haydn Thomas	Remco Tikkemeijer	Joanne Tremblay	Deborah Turner
Tony Taylor	Joan Thomas	Penny Tilby	R. Brent Tremblay	Ronald Turner

Sarah Turner	Van Belle Nursery Inc,	Keith Vandenbrink	Peter Vickers	Martha Waldon
Tanya Turner	Chris Draaistra	Mark VandenDungen	Victoria Golf Club,	Dave Waldron
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Paul Tutsch	Dave Van Belle	Carl Vandermark	Peter Vieweg	Alison Walker
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Al Tweter	Gustaaf van der Lely	Chris Vandermolen	Maria Vilchez	April Walker
Jeremy Twigg	Jan Willem van der	David VanderZalm	Denise Vines	David Walker
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Ray Tyler	Henry van der Molen	Terry vanGinkel	John Vissers	Karen Walker
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Hugh Tyson	David van Dieren	Myfanwy Varalta	Anastasia Volik	Mark Walker
Satoshi Uchida	Evert Van Eerden	Willow Vardal-Bintner	Wayne Vollmer	Nick Walker
Jennifer Ukrainetz	Willem van Heiningen	Dianne Varga	Cecilia von Berg	Pat Walker
Monika Ullmann	Cathy Van	Bea Varley	Fred von Ilberg	Robin Walker
Warren Ulrich	Herwaarden	Mary Vasey	Kristina von Ilberg	Robin Walker
Don Umbach	Jolene Van Huizen	Deb Vassallo	Robert Von Rudloff	Christiana Wall
Gwen Underwood	Anke van Leeuwen	Debby Vassallo	Mike Vopni	David Wall
Gina Ungaro	Emily van Lidth de	Katerina Vassilenko	Marla Vovchuk	Katharine Wall
Steve Unger	Jeude	Lise Vaugeois	Annemieke Vrijmoed	Lai Jean Wall
Travis Unger	Annette van	Christian Veenstra	Paulus Vrijmoed	Leonard Wall
Mary Ungerleider	Niejenhuis	Blake Veerman	Bryan Vroom	Stephen Wall
Adam Ungstad	Brian Van Os	Doug Veira	Alan Vu	Dave Wallace
University Golf Club,	Kesa Van Osch	Melissa Vejins	Ken Wa	Glenn Wallace
Phil Bunting	George Van Ow	Jillian Venables	Joe Wack	Greg Wallace
Mary Unruh	Thea van Roode	Ross Vennesland	Norman Waddell	Ian Wallace
Bill Unwin	Lora Lee van Rossum	Shai Vera	Betsy Waddington	Jamie Wallace
David Urban	Marlie van Roy	Gabriela Verdicchio	Amy Wade	Judi Wallace
Gregory Uremovich	Eric van Steenis	Maria Verdicchio	Nathan Wade	Kim Wallace
Bob Urquhart	Edward van	Glenys Verhulst	Pauline Waelti	Lori Wallace
Marj Vachell	Veenendaal	Christian Verigin	Brigitte Wagner	Scott Wallace
Cathy Vakil	Kerry van Wiltenburg	Ms Sam Verigin	Carol Wagner	Sheila Wallace
Maria Valana	Jessica Van	Andrew Verkaik	Cathy Wagner	Susan Wallace
Agnieszka Valdez	Shelley Vance	Steve Verkaik	Glenn Wagner	Gwen Waller
Laura Valentich	Vancouver Island	Ben Verkerk	Joan Wagner	Katherine Waller
Laurel Valentyik	Community Forest	Frits Verkerk	Karen Wagner	Ronald Waller
Gayle Vallance	Action Network,	Jentien Vermaat	Ted Wagner	Stephanie Waller
Lis Vallaster	Tracie Park	Bruno Vernier	Chris Waight	Darryl Wallis
Sylvain Vallee	Vancouver Island	Craig Vernon	Cynthia Waiz	Rick Wallis
Geza Vamos	Master Gardener	Jan Verspoor	Richard Waiz	Ruth Walmsley
Nancy van Aggelen	Association, Wendy	Christine Verstraete	Mike Walashek	Nicolas Walser
	Strachan	Robert Very	Grant Waldman	Ann Walsh

Ann Marie Walsh	Barbara Watson	Freydis Welland	Whistler Golf Club,	Gary Wild
Ben Walsh	Doug Watson	Warren Welling	Alan Kristmanson	Lili Wilde
Beth Walsh	Dr. Tom Watson	Leandra Wellmeier	Whistler Naturalists	Naomi Wilde
Mike Walsh	Jan Watson	April Wells	Society, Bob Brett	Dale Wilder
PJ Walsh	Nadine Watson	Donna Wells	Alexis White	Dan Wilder
Jennifer Walter	Sheila Watson	Jennifer Wells	Carolyn & Geoff	Janet Wilder
Dave Walters	Cameron Watt	Lynne Wells	White	Wildstone Golf
Jon Walters	Towyn Watt	Roberta Wells	Dagmar White	Course, Jeff Beler
Jenny Walton	John Watters	Trevor Wells	Elizabeth White	Roger Wiles
Kevin Walton	Ron Watts	Mairi Welman	James White	Andrea Wilhelm
Winston Wammer	Glenda Waugh	Rob Welsh	Karen White	Rob Wilke
Adam Wanczura	Judy Wearmouth	Timothy Welsh	Lois White	Dale Wilker
Harvey Wanner	Kimberly Weaver	Suzanne Wemp	Patricia White	Neil Wilkie
Wayne Wanner	Veronika Weaver	Margaret Wendell	Randall White	Carlin Wilkin
Cassandra Ward	J. Webb	Brian Wensley	Susan White	James Wilkin
Peggy Ward	James Webb	Greg Werker	Tanja White	Erika Wilkinson
Ray Ward	Peter Webb	Florence West	Pattie Whitehouse	Joanna Wilkinson
Robert Ward	Simon Webb	Krista West	Ernie Whitelaw	Marion Wilkinson
Susan Ward	Michael Webber	Neil West	Ian Whitfield	Robert Wilkinson
Veera Ward	Ray Webber	Paddy West	Doug Whitford	Shane Wilkinson
Rachel Warden	Clark Weber	Lynn Westcott	Sanders Whiting	Joanne Will
Susan Wardlaw	Rosemarie Weber	Mick Westcott	Valerie Whitlam	Julie Willan
Andrea Wardrop	Sarah Weber	Jan Westerlund	John Whittaker	Sandra Willcox
Terry Wardrop	John Webster	Western Canada	Ed Whittle	Lauren Willes
Lorraine Waring	Scott Webster	Turfgrass	Greg Whitworth	Lorna Willey
Ron Warkentin	Terry Webster	Association, Tab	Jim Whitworth	Terry Willey
Wilf Warkentin	Brett Weddle	Buckner	Whole Family	Williams Lake Golf &
Barbara Warman	Mike Wedekind	Alice Westlake	Nutrition, Kate	Tennis Club, Mark
Roger Warnatsch	Weed Man (Kelowna),	Cody Westle	Hutchinson	Berg
Sandi Warnecke	Harv Chapple	Edward Westphal	Todd Whyte	Asti Williams
Alena Warner	Weed Man Lawn Care	Susan Westren	Catherine Wicken	Barbara Williams
Gordon Warner	Surrey Ltd, Derek	Drew Wetmore	Sonja Wicklum	David Williams
Donna Warrender	Robertson	Donald Wetzal	Barbara Wicklund	Del Williams
Mike Warriner	Sheelagh Weeks	Christine Weyenberg	David Wickson	Dianne Williams
Larry Wartel	Karin Wegner	John Weyermars	Rod Wickstrom	Dwight Williams
Micah Waskow	Lori Weidenhammer	Deirdre Whalen	Jacqueline Widjaja	Elizabeth Williams
Melissa Watanabe	Elaine Weidner	Jerry Whalley	Rita Widmer	Henry Williams
Ale Waterhouse-	Gordon Weighill	Joan Wharf Higgins	Clayton Wiebe	Holly Williams
Hayward	Carol Weinstock	Andrea Wharram	Darren Wiebe	Janice Williams
Sheilagh Waterman	Ian Weir	Michael Wheatley	Arnold Wied	Jared Williams
Jenny Waters	Sonya Weir	Bob Wheaton	Eryn Wiedner	Lew Williams
Rick Waters	Elizabeth Weis	Lynne Wheeler	Michele Wiens	Lorna Williams
Daniel Watkin	Mark Weiser	Ray Wheeler	Josette Wier	Ralph Williams
Catherine Watkins	Christine Weisheit	Chris Whidden	Jodi Wigmore	Richard Williams
Joy Watkins	Christine Wekking	R. John Whillis	J Wikkerink	Rick Williams
Susan Watkins	Greg Welfing	Florence Whipps	Cathy Wilander	Rita Williams

Shannon Williams	Robin Wintemute	Michael Wood	Joan Wynden	Darrel Yurychuk
Valerie Williams	Lyn Winterbourne	Teena Wood	Malcolm Wynden	Kate Zabell
Laara Williamsen	Lesley Winterhalt	Jason Woodall	Neil Wyper	George Zador
Dave Williamson	Mary-Anne Wise	Pip Woodcock	David Yake	John Zagar
Delroy Willier	William Wishlow	Amanda Wooden	Floyd Yamamoto	Ann Jane Zahradnik
Gillian Willis	Stephen Wither	Clark Woodland	Sharon Yamamoto	Kristina Zalite
Lee Willis	Darlana Withers	Woodmere Nursery,	Sandi Yang	Teodora Zamfirescu
Patti Willis	Sandi Witherspoon	Joe Wong	Kristen Yarker	Robert Zandee
Derek Willmott	Shannon Witt	Elizabeth Woods	Tracy Yarr	Dino Zanet
Doug Willoughby	Glen Witter	Gerrit Woods	Julian Yates	Gianni Zanotto
John Willson	J Witter	Michael Woods	Yvonne Yau	Trevor Zaryski
Alexandra Wilms	Rita Wittman	Robert Woods	Leslie Yeager	Ferne Zayik
Nate Wilner	Patrick Witzaney	Victor Woods	Angie Yee	Walter Zayik
Alan Wilson	Paul Wodchyc	Glenda Woodward	Edwin Yee	Michael Zbarsky
Alastair Wilson	Susan Woermke	Joe Woodward	Caroline Yeend	Dominik Zbogar
Bruce Wilson	Maggie Wojtarowicz	Kyoko Woodward	Debra Yendall	Deanne Zeidler
Chris Wilson	Allison Wolf	Rae Wooffindin	Marg Yeo	David Zeiler
Dawn Wilson	Harald Wolf	Dana Woolliams	Katherine Yeung	Jutta Zeisler
Deb Wilson	Cathy Wolfe	Claire Wooton	Maria Yewchuk	Nora Zeman
Doug Wilson	Dennis Wolfe	Glenn Wootton	Karyee Yip	Diana Zeng
Jim Wilson	Jorden Wolfe	Russell Work	Nachiko Yokota	Corinne Zeraffa
Lauren Wilson	Norm Wolfe	Sherry Work	Melinda Yong	Adradeane Zettergreen
Lisa Wilson	Lesley Wolford	Ted Wormworth	Jenelle Yonkman	Sheila Zevit
Lori Wilson	Eveline Wolterson	Jane Wornig	Hae Yoon	Caitlin Zeyl
Marcia Wilson	Women Elders in	Sylvia Worth	Susan Yoshihara	Andrea Zibin
Marlene Wilson	Action WE*ACT	Sandra Wosk	Brian Youell	Jennifer Zickerman
Patricia Wilson	Society, Elsie Dean	Ian Wraight	Hee-Jin Youn	Deanne Ziebart
Robert Wilson	Women's Food and	Lynnette Wray	Andrew Young	Bonnie Ziegler
Terry Wilson	Water Initiative, Jen	Angela Wright	Bruce Young	Jenna Ziegler
Walter Wilson	Fisher-Bradley	Audrey Wright	Elizabeth Young	Marta Zielinski
Angie Wilton	Brian Wong	Catriona Wright	Emm Young	Jean Zigby
Lisa Winbourne	Cylia Wong	Elizabeth Wright	Findlay S. Young	Sibylle Zilker
Myrtle Winchester	Melanie Wong	George Wright	John Young	Elaine Zimmer
Roy Windeler	Philip Wong	Helen E. Wright	Judy Young	Kat Zimmer
Earl Winestock	Tun Wong	Irene Wright	Karen Young	K. Zimmerman
Colleen Wing	Aldea Wood	Jasmin Wright	Marion Young	Ilona Zink
Petrina Wing	Bryan Wood	Kim Wright	Mary C. Young	Sandra Zink
Susan Wingate	Darlene Wood	Marg Wright	Melina Young	Ernie Zuccolin
Diane Winingder	Diana Wood	Suzy Wright	Robert Young	Michael Zuccolin
Debbie Winkler	Doug Wood	Thelma Wright	Sandra Young	Stephanie Zuk
Ruth Winkler	Eric Wood	Winston Wright	Steve & Dorothea	Jeff Zukiwsky
Wally Winkler	George Wood	Myron Wu	Young	Kurt Zwingli
Patricia Winram	Irv Wood	Tim Wyatt	Glen Younghusband	Marie Zwingli
Troy Winsor	Joy Wood	Roy Wydeman	Isaac Yuen	Karen Zygun
Jill Winstanley	Ken Wood	Lloy Wylie	Bill Yule	Klavdia Zykova
Joanne Winstanley	Mia Wood	Miriam Wyman	Michelle Yule	

