



**BC Paint and Household Hazardous Waste (HHW)
2011 Program Year Annual Report for:**

- PAINT CATEGORY
- SOLVENT AND FLAMMABLE LIQUIDS CATEGORY
- PESTICIDE CATEGORY
- GASOLINE CATEGORY

REPORTING PERIOD: JANUARY 1, 2011 TO DECEMBER 31, 2011

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1. Program Outline

The BC Paint and Household Hazardous Waste (HHW) program is operated and managed by Product Care Association. Product Care is a federally incorporated, not for profit product stewardship association formed in response to stewardship regulations and is governed by a multi sector industry board of directors.

Product Care is involved in the following product stewardship programs in BC. Paint (established 1994), flammable liquids, pesticide and gasoline (1997)

- LightRecycle program (2010) for residential-use fluorescent light bulbs and tubes; expansion to include all types of lamp technologies and fixtures from all sectors (July 2012)
- Smoke and CO Alarms (October 1, 2011)

Effective January 1, 2011, the members of the Tree Marking Paint Stewardship Association agreed to join Product Care, and the Tree Marking Paint Stewardship Association (TMPSA) was dissolved.

Product Care also operates or is developing product stewardship programs in seven other Canadian provinces: SK, MB, QC, NS, NB, NL, PEI. Product Care manages other product stewardship programs in BC and in other provinces as contracted program manager.

The members of the BC Paint and HHW program are the “producers” (manufacturers, distributors and retailers) obligated by the Recycling Regulation (B.C. Reg. 449/2004) under the following categories:

- Paint product Category
- Pesticide product category
- Solvent and flammable liquids category
- Gasoline category

The BC Paint and HHW program enables consumers to drop off unwanted program products at depots and collection events across the province at no charge. Leftover paint is also made available to the public, free of charge, for reuse at a number of depots.

The program is funded by membership fees, known as “eco fees”, remitted to Product Care by its members based on the volume of sales of the designated products. In some case, retailers recover the fees as a separate visible eco-fee to consumers. The eco-fee rates are set by Product Care. Program revenues are applied to the operation of the program, including education, collection system, administration, transport, recycling and disposal of collected residual products as well as a reserve fund.

See the Product Care website at www.productcare.org for more information.

This report only covers the paint and HHW program. Other Product Care programs such as LightRecycle will be reported separately.

2. Educational Materials and Strategies

Product Care uses a number of methods to raise consumer awareness of the program. In 2011, these methods included:

- **Program Website** – The BC Paint and HHW program pages received over 41,500 hits in 2011. It provides information to BC residents on:
 - Description of products accepted by the program
 - Depot locations with details on hours of operation and products accepted at each location
 - eco-fee rates
 - Annual reports and other program information
 - Information for consumers on buying the right amount of paint as well as the safe storage and handling of program products
- **Website Linkages** – Product care coordinates with other parties, such as municipalities and regional districts, to establish links to the program’s website.
- **Reuse Websites**- To promote its paint exchange program, Product Care is listed on all relevant Reuse sites such as *Surrey Reuses*.
- **Point of Sale (PoS) Materials** – Program brochures and posters, as well as can-stickers, are regularly distributed to over 3,000 retailers. Orders were replenished upon request in 2011, free of charge. In 2011, over 60,000 brochures were distributed to retailers, depots, municipalities, regional districts and other stakeholders.
- **Yellow Pages** – Advertising was placed in the “recycling services” section of 32 Yellow Pages publications across BC.
- **RCBC Recycling Hotline** – Product Care contracts with the Recycling Council of British Columbia for the RCBC “recycling hotline” service. RCBC hotline operators provide consumers with a convenient “one stop” contact to obtain information about Product Care programs and any other recycling questions. Product Care promotes the RCBC hotline number through its web page, on its signs, brochures, as well as Yellow Pages listings. The RCBC Hotline is open Monday through Friday from 9 am to 4 pm, and is accessible to all BC residents by a toll free telephone number (1-800-667-4321). The following are the numbers of calls received through the hotline during 2011:

Paint:	4,481
Flammable liquids:	1,530
Pesticides:	774
Gasoline:	<u>383</u>
Total:	7,168
- **RCBC Recyclepedia** – Product Care collection sites were also listed in the RCBC Recyclepedia search engine <http://rcbc.bc.ca/recyclepedia>, an online province-wide searchable database for disposal options of all residential products. There is also a Recyclepedia “app” for smartphone users.
- **Local Government Partnerships**- Product Care works with municipalities and regional districts (RD) to promote the Product Care program. Specific actions include:
 - Advertising in 14 municipal garbage collection/recycling calendars
 - Local government website linkages
 - Point of purchase consumer information material was also made available to all municipalities free of charge
- **Print Media** – Product Care advertised in a select number of print media such as the Recycling & Waste Management special report in the Vancouver Sun.

3. Awareness Survey

In April 2011, Product Care commissioned McAllister Opinion Research to carry out an online and mobile web survey of 1,015 BC adults regarding paint, smoke alarms, and lights recycling programs. The results show that 67% of residents are aware of a program or service that takes back leftover paint. The margin of error is +/- 3.1%, 19 times out of 20. In 2007, 64% of residents were aware of the program. A 5% increase was achieved in 2011 compared to 2007 awareness

4. Collection System

Product Care does not directly own or manage any depots, but contracts with existing collection sites. Due to the hazardous nature of some the program products, siting new depots presents a significant challenge relative to other stewarded products. Typically, depots are co-located at facilities such as local government recycling centres or transfer stations, bottle depots, non-profit societies and private businesses. In 2011, Product Care significantly expanded the number of return to retail paint collection sites in 2011.

As of December 31, 2011, Product Care operated 172 permanent, year round collection depots in British Columbia to provide convenient locations for consumers to drop off unwanted program products, a significant increase compared to 114 collection locations in the prior year. Of the total of 172 locations, 115 were Paint Depots that collected leftover paint products, including paint aerosols, and 57 were “Paint Plus” Depots that collected leftover paint products as well as flammable liquids, pesticides and gasoline. There is no charge to drop off program products. See **Appendix A** for a complete list of depots as of December 31, 2011. **Table 2** lists the changes in the collection system in 2011.

Product Care also supplements the depot collection system with a number of one day events, often in collaboration with a municipality or regional district. There were 26 collection events held in 2011. A list of collection events can be found under **Table 3**. A direct pick-up service is also provided for large volume users of paint.

Table 1 compares the number of collection sites and one day events for the past four years, to the targets set out in the 2006 Product Care stewardship plan.

Table 1 – Product Care Depots and Targets, 2007-2011

	2007		2008		2009		2010		2011	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
Paint Depot	60	59	62	61	64	63	66	64	68	115
Paint Plus Depot	45	45	47	49	49	50	51	50	52	57
Total Permanent Depots	105	104	109	110	113	113	117	114	120	172
One Day Events	13	19	12	15	12	19	12	16	12	26

Table 2 – Depot Changes in 2011

Depot Name	Location	Change
Irly Building Centre	Mackenzie	Opened as Paint only
RONA	50 stores, various locations	Opened as Paint only
Lorne Street Bottle Depot	Kamloops	Opened as Paint plus
Courtenay Return-It Depot	Courtenay	Opened as Paint plus
Scotch Creek Bottle Depot	Scotch Creek	Opened as Paint only
Lougheed Return-It Depot	Coquitlam	Opened as Paint only

Boucherie Bottle Depot	West Kelowna	Change to Paint plus
Gibsons Disposal	Gibsons	Change to Paint plus
SLRD – Lillooet Landfill	Lillooet	Opened as Paint plus
Merritt Home Hardware	Merritt	Opened as Paint plus
Village of Gold River	Gold River	Change to Paint plus
Barnhartvale Landfill	Kamloops	Opened as Paint only

Table 3 – Collection Events in 2011

Date	Name	Location
Apr 16, 2011	Sicamous Mobile	Sicamous
Apr 30, 2011	Golden Mobile – Spring	Golden
May 7, 2011	Cache Creek Mobile (TNRD)	Cache Creek
May 7, 2011	Clinton Mobile (TNRD)	Clinton
May 7, 2011	City of Delta	Delta
May 8, 2011	Ashcroft Mobile (TNRD)	Ashcroft
May 8, 2011	Logan Lake Mobile (TNRD)	Logan Lake
May 10, 2011	District of Mission	Mission
May 28, 2011	Chase Mobile (TNRD)	Chase
May 29, 2011	Clearwater Mobile (TNRD) – Spring	Clearwater
Jun 1, 2011	Barriere Mobile (TNRD)	Barriere
Jun 4, 2011	City of Kamloops	Kamloops
Jun 4, 2011	Merritt Mobile (TNRD)	Merritt
Jun 18, 2011	Mackenzie Mobile	Mackenzie
Jun 25, 2011	Galiano Island (CRD)	Galiano Island
Jul 19, 2011	Mayne Island (CRD)	Mayne Island
Aug 27, 2011	Saturna Island (CRD)	Saturna Island
Sep 10, 2011	Cortes Island (SRD)	Cortes Island
Sep 11, 2011	Quadra Island (SRD)	Quadra Island
Sep 24, 2011	Clearwater Mobile (TNRD) – Fall	Clearwater
Oct 1, 2011	Enderby (NORD)	Enderby
Oct 1, 2011	Lumby (NORD)	Lumby
Oct 1, 2011	Vernon Mobile	Vernon
Oct 1, 2011	Chilliwack Mobile	Chilliwack
Oct 15, 2011	Sayward Mobile (SRD)	Sayward
Oct 22, 2011	Township of Langley	Langley

5. Management of Collected Materials

Product Care utilizes a number of performance measures to track changes in the program's performance year to year. Particularly with consumable, long life products, no single performance measure is considered an accurate indication of the program's performance.

5.1 Volume Collected

5.1.1 Residual Recovery Volume

Residual Recovery Volume represents the liquid volume, measured in litres, of program products recovered by the program. Table 4 and Figures 1 and 2 show the volume of program products collected from 2003-2011.

Table 4 – Residual Recovery Volume in Litres, 2003-2011

	Paint (non aerosol)	Paint Aerosol	Flammable Liquids	Pesticides	Total
2003	1,637,090	15,480	45,484	8,760	1,706,814
2004	1,854,960	18,860	49,224	8,880	1,931,924
2005	2,164,042	17,360	54,386	7,656	2,243,444
2006	2,164,437	15,426	58,516	10,716	2,249,095
2007	2,331,223	14,766	65,746	12,431	2,424,166
2008	2,700,416	17,226	92,872	16,076	2,826,590
2009	2,869,745	14,360	87,824	16,249	2,988,178
2010	2,777,390	48,816	86,792	17,158	2,933,758
2011	2,807,027	35,216	93,980	19,022	2,955,245

Figure 1 – Paint (non-aerosol) Residual Recovery Volume in Litres, 2003-2011

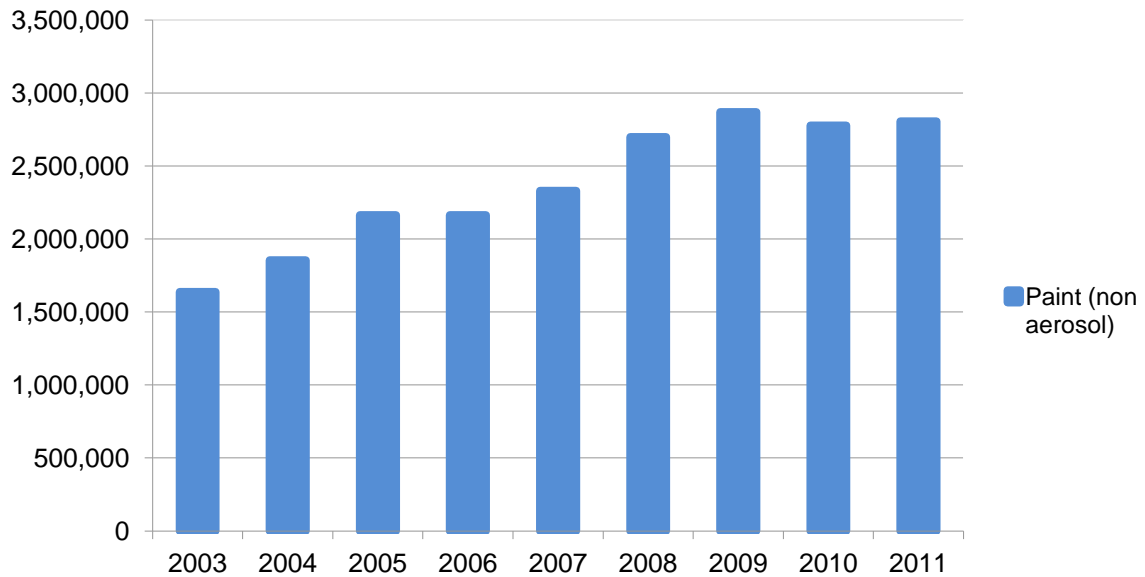
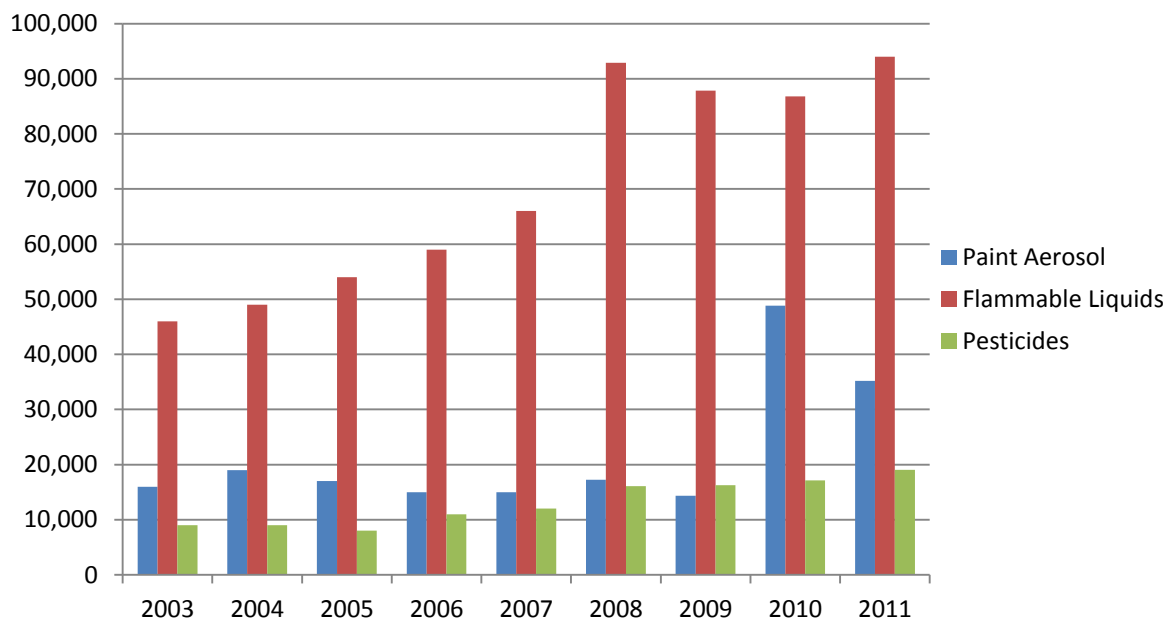


Figure 2 – Aerosol Paint, Flammable Liquids and Pesticides Residual Recovery Volumes in Litres, 2003-2011



5.1.2 Container Capacity Volume

Given the fluctuation in the quantity of liquid residuals contained within containers returned to the program, the aggregate nominal capacity of the program product containers collected is also a meaningful measure of program performance. Container capacity volume, also known as “equivalent litre container” (ELC), is a measure of the capacity of the original containers that are returned through the program. These figures are extrapolated from the number of “tubskids” of program products managed by the program. Tubskids are collection bins used to transport containers of program products from depots to processing facilities.

Table 5 below provides an overview of the container capacity volume, in litres, of program products collected by the program from 2006 to 2011.

Table 5 – Container Capacity Volume in Litres, 2006-2011

	Paint (non aerosol)	Paint Aerosol	Flammable Liquids	Pesticides
2006	6,727,968	134,978	159,840	38,578
2007	7,445,870	129,202	179,092	44,020
2008	8,637,266	150,728	213,408	54,259
2009	8,930,736	125,650	215,568	59,486
2010	9,407,232	158,200	258,345	66,182
2011	9,618,048	192,588*	289,930	69,638

*Note: While there was an increase in container capacity volume collected, the amount of residual on average (Table 4) in the paint aerosols for 2011 was less than in 2010

The 2006 product stewardship plan committed to a minimum 4% annual increase in the total collected volumes for the paint product categories. This target represents an aggregate increase of 20% for the five year period ending 2011 compared to the 2006 baseline. Table 6 illustrates the percent change in container capacity volume collected between 2006 and 2011. As the last row of the table illustrates, the 20% aggregate increase target was exceeded for all Program Product categories.

Table 6 – Percent Change in Container Capacity Volume, 2006-2011 Comparisons

	Paint (non aerosol)	Paint Aerosol	Flammable Liquids	Pesticides
2006 vs. 2007	10.7%	-4.3%	12.0%	14.1%
2007 vs. 2008	16.0%	16.7%	19.2%	23.3%
2008 vs. 2009	3.4%	-16.6%	1.0%	9.6%
2009 vs. 2010	5.3%	25.9%	19.8%	11.3%
2010 vs 2011	2.24%	21.74%	12.23%	5.22%
2011 Cumulative Target	20%	20%	-	-
2006 Baseline vs. 2011	42.9%	42.7%	81.4%	80.5%

Table 7 - Tubskids Collected, 2003-2011

Product Category	2003	2004	2005	2006	2007	2008	2009	2010	2011
Paint	12,594	13,547	14,796	15,574	17,122	19,856	20,673	21,776	22,264
Aerosol Paint	773	943	842	771.3	738.3	861.3	718	904	1,100
Aerosol Others	19	21	22	39.8	48.3	53.5	63.7	66.7	89.2
Solvents	274	292	333	370	395	494	499	571	635
Pesticides	73	74	66	89.3	101.9	125.6	137.7	153.2	161.2

Table 8 illustrates the number of tubskids collected from each regional district in 2011. A tubskid is a standard size container utilized for the collection and transportation of collection materials. Totals exclude paint given away at depots for Paint Exchange, other than Paint Exchange volumes distributed out of Product Care's Surrey facility.

Table 8- Summary of Collection for 2011 by Regional District in Tubskids

Regional District	Paint	Aerosols	Solvents	Pesticides	Other Aerosols
Alberni Clayoquot	95	16	4	1	0
Bulkley Nechako	94	12	0	0	0
Capital Regional District	2581	82.3	83	37.3	14
Cariboo	131	10	2	0	0
Central Coast	4	0	0	0	0
Central Kootenay	220	12	3	1	1
Central Okanagan	826	37.1	17	5	7.2
Columbia Shuswap	189	7	1	0	0.9
ComoxStrathcona	489	36	10	4	2
Cowichan Valley	588	31.2	33	6	6.4
East Kootenay	332	12	5	2	0.6
Fraser Fort George	223	20	8	1	0
Fraser Valley	1228	53.6	34	15	5.1
GVRD	11524	297.9	360	65.3	29.7
Kitimat Stikine	42	8	0	0	0
Kootenay Boundary	160	8	7	1	2.3
Mt. Waddington	62	8	0	0	0
Nanaimo Regional District	1128	49	31	13	4.5

North Okanagan	401	24	4	1	1
Northern Rockies	16	1	0	0	0
Okanagan Similkameen	409	16.1	3	3.6	0
Peace River	217	14	6	1	0
Powell River Regional District	83	3	5	1	0
Skeena-Queen Charlotte	35	12	3	0	0
Squamish Lillooet	278	10	0	0	0
Sunshine Coast	273	20.3	12	2	1.5
Thompson Nicola	499	12	4	1	1
Large Volume Paint Users ¹	130	3	0	0	0
Large Volume Paint Aerosol Users ¹	7	285	0	0	12
TOTAL²	22,264	1,100	635	161.2	89.2

¹ Material collected directly from generator at various locations in BC

² Volumes shown do not include volume of paint given away through "Paint Exchange" program, except those distributed from the Product Care's Surrey facility.

5.2 Product Sales

The quantity sold annually of program products varies with market conditions, but is an important reference for the quantity of products available for collection in the future. **Table 9** and Figures 3 and 4 illustrate the quantity in litres sold of program products from 2003-2011.

Table 9 – Sales Volume in Litres, 2003-2011

	Paint (Non Aerosol)	Paint Aerosol	Flammable Liquids	Pesticides
2003	30,059,254	861,425	3,508,158	220,914
2004	33,132,411	950,091	3,505,961	154,056
2005	34,704,008	929,981	4,308,371	185,882
2006	37,007,180	944,963	4,576,310	181,732
2007	36,169,248	946,941	4,366,434	177,055
2008	35,564,330	975,329	3,940,716	189,178
2009	31,356,165	845,428	3,404,010	159,428
2010	33,003,735	892,913	3,310,459	188,649
2011	29,292,683	979,216	3,368,510	175,535

Figure 3 – Sales Volume of Non-Aerosol Paint in Litres, 2003-2011

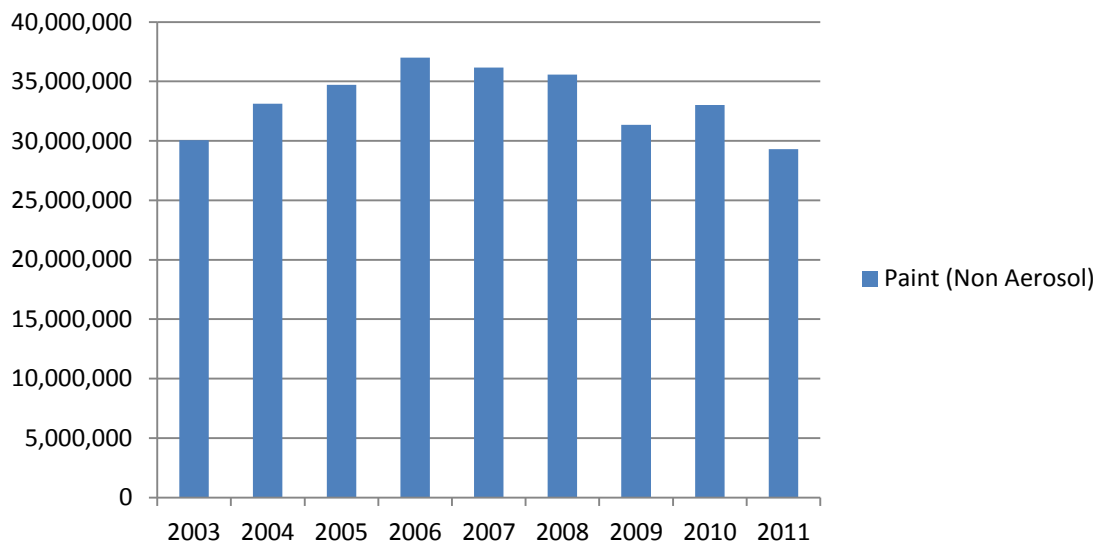
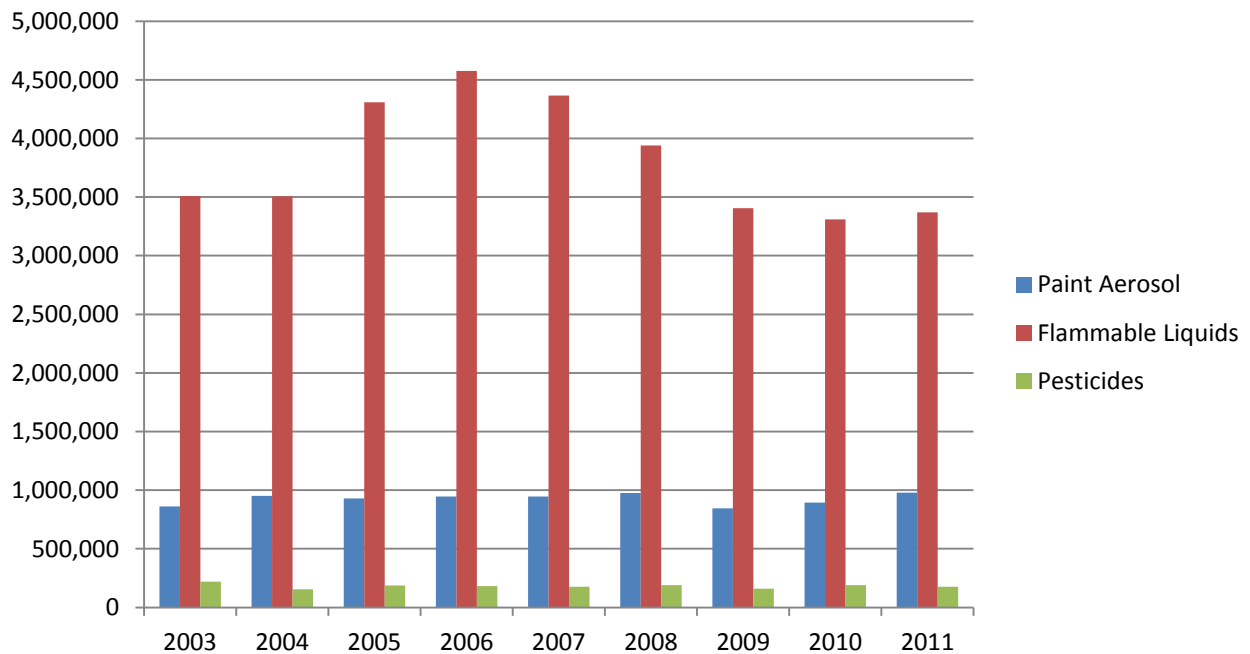


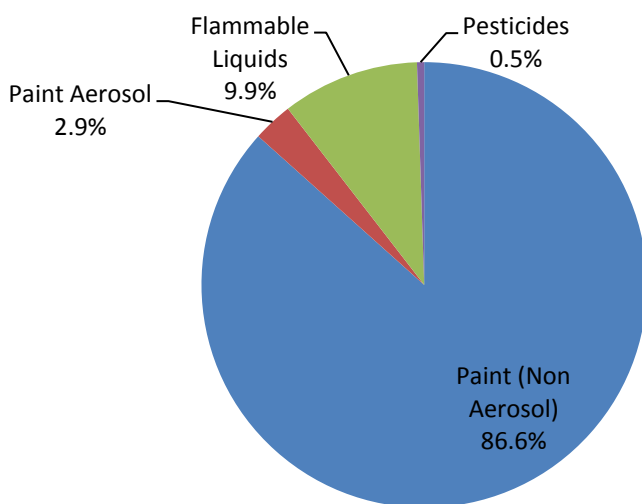
Figure 4 – Sales Volume of Aerosol Paint, Flammable Liquids and Pesticides in Litres, 2003-2011



Program Product Sales:

Figure 5 illustrates the relative quantity of sales in 2011 for each of the program product categories.

Figure 5 – Share of Program Product Sales - 2011



5.3 Recovery Rate

The products managed in the program can be stored for long periods and are designed to be consumed. While the amount recovered can be determined, it is difficult to determine the total amount of the product “available for collection.” In addition, the lag time between purchase of a product and the decision that the leftover program product is unwanted varies. A recovery rate compares the volume of products sold in a year to the quantity of products collected by the program in that same year. As such, fluctuations in the volume of products sold can cause changes in the recovery rate.

Subject to these limitations, the recovery rates for the program’s products are shown in Table 10 below. The recovery rate is calculated by dividing the volume of residuals collected (from Section 5.1.1 above) by the volume sold (from Section 5.2 above) for each year.

A report prepared for RECYC-QUÉBEC, the regulator of product stewardship programs in Québec and Eco-Peinture, the paint stewardship program in Québec, determined that 6.71% is the proportion of architectural paint sales that will eventually be available for collection. Product Care program’s recovery rates in recent years compare favourably, however it must be noted that in calculating the recovery rate, the “denominator”, which is the quantity of paint sold in the year, has declined significantly from prior years due to economic conditions, which has the effect of increasing the recovery rate.

Table 10 - Percentage Recovery Rate (Residual Recovery Volume/Sales), 2003-2011

	Paint (non aerosol)	Paint Aerosol	Flammable Liquids	Pesticides
2003	5.4%	1.8%	1.3%	4.0%
2004	5.6%	2.0%	1.4%	5.8%

2005	6.2%	1.9%	1.3%	4.1%
2006	5.8%	1.6%	1.3%	5.9%
2007	6.4%	1.6%	1.5%	7.0%
2008	7.6%	1.8%	2.4%	8.5%
2009	9.2%	1.7%	2.6%	10.2%
2010	8.4%	5.5%	2.6%	9.1%
2011	9.6%	3.6%	2.8%	10.8%

5.4 Product Life Cycle Management and Environmental Impacts

The ability of a stewardship program of this scope to influence product design is limited. The paint industry is a consolidating industry and most brand owners manufacture for a market area that includes more than one province or country. The overall program objective is to reduce the environmental impact of leftover paint through the application of the pollution prevention hierarchy of reduce/reuse/recycle.

Many of the paint products covered by the program have changed over time as a result of design for environment activity. In particular:

- There has been a steady shift in the marketplace from oil based (alkyd) paints to water based latex paints. This trend is expected to continue as the consumer preference for latex paint increases and technical specifications improve.
- Federal regulations relating to volatile organic compounds and the composition of surface coatings are hastening the process of reducing the environmental impact of paint products.

Tools used by Product Care Association that may have an impact on product life cycle and reduction of environmental impact include:

- Variable fees paid to the program by brand owners which increase with the size of the container
- Promotion to the consumer of the “B.U.D.” rule, i.e. **B**uy what you need, **U**se what you buy and **D**ispose of the remainder responsibly
- Educating the consumer on the proper storage of leftover paint
- Research development into alternative management options for collected materials

5.5 Management in Accordance with the Pollution Prevention Hierarchy

Product Care endeavours to manage collected products in accordance with the “pollution prevention hierarchy”.

5.5.1 Paint

Leftover paint is the largest volume of the residual products managed by the Product Care program and of the HHW category in general. Leftover paint is managed in a number of ways.

Reuse:

Reusable paint is given away at no charge through the Paint Exchange program to members of the public and to non-profit organizations to be used for its originally intended purpose. The Paint Exchange option is offered at most Product Care depots outside Metro Vancouver. Within Metro Vancouver, the paint exchange program is centralized at Product Care's facility in Surrey with three other paint exchange locations in Vancouver, North Vancouver and Maple Ridge.

In 2011 there were 90 paint exchange depots (out of 172 depots). This accounts for 52% of all the depots offering paint exchange. Users of the program included individuals, community organizations, theatres and anti-graffiti programs. Many participants obtain information about the Paint Exchange program through the RCBC Materials Exchange program. During 2011, 2.1% of the volume of paint collected by Product Care was reused through the paint exchange program.

Recycling:

The 2011 target for the combined reuse and recycling of paint was 85%. In 2011, 66% of the paint collected by the program in 2011 was latex paint and the remaining 34% was oil based paint.

Product Care utilizes a number of options for paint recycling including:

- Reprocessing leftover paint into paint and coatings products.
- Latex paint as raw material incorporated in the manufacture of recycled concrete, and in the manufacture of Portland cement.

During 2011, although 100% of the latex paint collected by the program was recycled by one of these methods, the recycling option for oil based paint continues to be unavailable as the demand for recycled oil based paint remains limited. The combined total of paint reused (2.1%) and paint recycled (66%) was 68.1% of all paint collected (latex or oil-based). Accordingly the 2011 target for the combined reuse and recycling of paint was 85% was not met. In Product Care's program plan for 2012-2017, there are differentiated targets for the two paint types.

Energy Recovery:

Due to the high solvent content of alkyd (oil based) paints; alkyd paints are suitable for energy recovery. Through the process of fuel blending, 100% of the oil based paint and 100% of the flammables and gasoline collected by Product Care during 2011 were used as an alternative energy source in applications such as permitted incinerators. Product Care continues to search for recycling options for oil based paint. This is generally more difficult due to hazardous waste and transportation regulations which limit the movement of this kind of material, also the chemistry of alkyd paints makes it more difficult to recycle into paint and coating products, and the market for the recycled alkyd products is significantly smaller than that for the water based products and continues to diminish. In addition, regulations such as the Federal VOC Regulations, required tighter limits on certain chemical constituents, which tend to be higher in older paints.

5.5.2 Flammables

As a result of the nature of flammable products, and the fact that many flammable products are sold as fuels, leftover flammables are managed for energy recovery as alternative fuels in permitted facilities which comply with all air quality regulations.

5.5.3 Pesticides

Due to the nature of pesticides, there is no reuse or recycling option available, and all pesticides are incinerated at high temperature government regulated and permitted incinerators.

5.5.4 Gasoline

Due to the nature of gasoline, which is intended to be used as a fuel, waste gasoline is managed as an alternative fuel for energy recovery at permitted facilities.

5.5.5 Containers

Metal Container Recycling:

The market for metal containers is highly dependent on commodity prices. The 2011 market was an improvement over 2010 and, all metal containers were recycled as scrap metal.

Plastic Container Recycling:

All plastic paint pails (5 gal. size) and plastic gasoline containers continue to be recycled. Plastic from solvents and pesticide processing are triple rinsed and sent for plastics recycling.

Plastic Containers Energy Recovery:

Plastic (polypropylene) one US gallon size paint cans were managed in one of three ways in 2011:

- Plastics to plastics recycling (12%) plastic to 'plastic wood' recycling (39%)
- Utilized for energy value as solid fuel in permitted waste to energy incinerators or cement kilns (49%).

5.5.6 Summary and Targets

Table 11 provides a summary of the management options for residuals collected through the program in 2011.

Table 11 – Summary of Management Options for Residuals and Containers Collected, 2011

	Method	Example	Paint	Paint containers	Flammables	Pesticides	Gasoline
1	Reuse	Given to a consumer in original condition through "paint exchange"	2.1%	--	--	--	--
2	Recycling	Reprocessed as paint, used in concrete manufacture, cement manufacture	100% of latex paint	100% of metal cans and pails	100% of containers	100% of plastic containers	100% of containers
				100% of plastic pails			
				51% of polypropylene cans			
3	Energy recovery	Fuel blending	100% of oil based	49% of polypropylene cans	100% of flammable residuals	--	100% of residual gasoline

			paint				
4	Disposal	Incineration	--	--	--	100% of residual pesticide	--
5	Landfill		--	--	--	--	--

5.6 Greenhouse Gas (GHG) Emissions and Reductions

Product Care has not yet obtained information regarding the GHGs associated with the reprocessing of post-consumer paint. Data related to the generation of CO2 gas from the manufacturing of paint has been obtained. Note that the data provided is only meant to provide an estimate and may vary from manufacture to manufacture, geographic location and may vary based on the type of paint manufactured. On average approximately 2.4 tonnes of CO2 gas equivalence is generated per 1000 litres of paint manufactured and produced with the following approximate breakdown:

Raw materials	76%
Packaging	10%
Manufacturing and transport	11%
Administrative operations	3%

6. Fee Information

Product Care pays all of the costs of collecting leftover products (including historic products i.e. products sold before the programs began for which no eco fee was collected) and of managing the products collected including all related program expenses. This cost is funded by eco fees paid to Product Care by its members. For many, but not all, products the eco fee is recovered at the time of retail sale as a separate charge. This is at the option of the retailer. Eco fee rates are established by analyzing and allocating program costs among product types and container sizes. There is no charge to drop off program products at any Product Care collection site.

Paint Product Size	Eco Fees
100 ml to 250 ml	\$0.20
251 ml to 1 L	\$0.25
1.01 L to 5 L	\$0.60
5.01 L to 23 L	\$1.50
Aerosol paint (any size)	\$0.25

7. Performance Measures Summary

Table 12 - Performance Targets Summary

Planned Target Set in Approved Stewardship Plan	2011 Report on the Planned Target
Public Awareness Target from 2007 to 2011: 50% increase in public awareness of the program compared to 2007 awareness.	In 2011, 67% of BC residents aware of a program or service that take and recycle paint compared to 64% awareness in 2007. This resulted in a 5% awareness increase.
Distribute Point of Sale materials to applicable retailers	Distributed over 60,000 brochures in 2011 to retailers and other stakeholders.
Contact a minimum 20 municipalities/brand owners to request website link.	22 municipalities have Product Care linked on their websites.
Advertise in 5 Yellow Pages publications.	Advertised in 32 Yellow Pages publications.
Continue to promote paint can stickers to retailers.	Ongoing.
Identify and participate in Reuse websites.	To date, PCA participates in 7 Reuse websites.
Continue to partner with RCBC for 800-hotline service and other services.	Continued partnership.
Advertise in all available municipal waste calendars.	Advertised in all available (14) 2011 municipal calendars.
Continue to partner with all municipalities willing to distribute consumer program brochures to householders.	Ongoing. Municipalities regularly requested brochure/poster/stickers to replenish their stock.
Collection System Access	
2011 target of 68 Paint Only depots, 52 Paint Plus Depots and 12 one day events.	115 Paint Only depots, 57 Paint Plus depots and 26 one day events.
Management of Collected Materials	
Increase volume of paint managed by reuse or recycling by 4% per year to 85% in 2011 (2005= 65%). For 2010 the target was 81%.	Achieved 68.1% in 2011. See explanation in Section 5.5.1.
Maintain policy of no program products going to landfill.	Maintained throughout 2011.
Increase number of depots offering "paint exchange" by 4 per year.	90 depots offered paint exchange in 2011, up four from 2010.
Collection of Containers	
Maintain rate of 100% recycling of metal and #2 plastic paint containers.	Target maintained throughout 2011.
Maintain rate of 95% of #5 plastic paint containers and flammables plastics containers managed for energy recovery.	51% of the containers recycled, 49% managed as energy recovery in 2011.
Maintain rate of 100% of plastic and metal gasoline containers being recycled.	Target maintained throughout 2011.
Identify options/technology for recycling pesticide	All Pesticide containers recycled as plastic in 2011.

container.	
Program Performance	
Maintain a minimum 4 % increase per year of total collected volumes for the paint product categories.	Achieved 2.24% increase in non-aerosol paint and 21.74% increase in aerosol paint from 2010 (container capacity volume).
Participate in available Product Stewardship Institute studies regarding life cycle management of paint and other HHW.	Ongoing.
Review allocation of eco fee rates based on life cycle and other factors every two years beginning in 2007.	Paint fee was adjusted February 1, 2010 and deemed sustainable and equitable for 2011
Recovery rate of products: litres recovered compared to litres sold in each calendar year.	Program achieved a recovery rate of 9.6% for non-aerosol paint, 3.6% for paint aerosols, 2.8% for flammable liquids and 10.8% for pesticides in 2011. All increases with exception of paint aerosols
Historical comparison: recovery rate data presented on a year to year comparative basis.	Continued comparison of historical recovery rate data. See Table 10.
Waste audit participation: participate in at least one municipal waste audit annually and report available data regarding program products.	PCA did not participate in a waste audit. PCA is working with BC Stewards in conjunction with BC product Stewardship Council and the MOE to create a standardized waste characterization tool for waste audits. Upon completion of the tool, PCA will participate in waste audits as agreed between BC Stewards and the BCPSC.
Continue efforts to identify local alternatives for container recycling.	Ongoing search for new alternatives. In 2011, PCA was able to recycle the plastic pesticide containers
Identify potential synergies with other programs for collection, transportation and consumer awareness.	Participated in BC Stewards' reprint of Recycling Handbook and included in their website. Participated in a number of joint collection events with other stewardship program as a pilot project
Amendments to the plan's performance target/goal:	None at this time.
Confirming next year's strategies projects/research.	2012 strategies will include working with BCPSC on common initiatives, increasing program awareness, opening more depots and expanding services at existing ones, fostering relationships with regional districts and moving material up the pollution prevention hierarchy.

Appendix A – 2011 Collection Sites

Depot Name	City	Regional District	Paint Plus	Paint Exchange
Abbotsford Bottle Depot	Abbotsford	Fraser Valley	Y	
Abbotsford Community Services Recycling	Abbotsford	Fraser Valley	Y	Y
Aldergrove Return-It	Aldergrove	Fraser Valley		Y
Alpine Disposal & Recycling	Langford	Capital Regional District	Y	
Area 'D' Transfer Station (formerly Fraser Lake Landfill)	Fraser Lake	Bulkley Nechako		Y
Armstrong Collision	Armstrong	North Okanagan		Y
Augusta Recyclers Ltd.	Powell River	Powell River Regional District	Y	Y
B&D Bottlers Ltd dba Revelstoke Bottle Depot	Revelstoke	Columbia Shuswap		Y
Barnhartvale Landfill	Kamloops	Thompson Nicola		
Battery Doctors	Kelowna	Central Okanagan	Y	Y
Beaverdell Landfill	Beaverdell	Kootenay Boundary	Y	Y
Bella Coola Recycling Depot	Bella Coola	Central Coast		Y
Biggar Bottle Depot	Port Coquitlam	GVRD	Y	
Bill's Bottle Depot	Salmon Arm	Columbia Shuswap	Y	Y
Bings Creek Solid Waste Management Complex	North Cowichan	Cowichan Valley	Y	Y
Boucherie Self Storage & Bottle Depot	Kelowna	Central Okanagan	Y	Y
Burnaby Recycling Depot	Burnaby	GVRD	Y	
Burns Lake Transfer Station	Burns Lake	Bulkley Nechako		Y
Campbell Mountain Landfill	Penticton	Okanagan Similkameen	Y	Y
Campbell River Bottle Depot	Campbell River	Comox Strathcona	Y	Y
Carney's Waste Systems - Pemberton Waste & Recycling Facility	Pemberton	Squamish Lillooet	Y	Y
Carney's Waste Systems - Squamish	Squamish	Squamish Lillooet	Y	Y
Carney's Waste Systems - Whistler	Whistler	Squamish Lillooet		Y
Central Cariboo Disposal Services	Williams Lake	Cariboo	Y	Y
Chasers Bottle Depot	Vernon	North Okanagan	Y	Y
Chetwynd Lions Recycling	Chetwynd	Peace River		Y
Chilliwack Bottle Depot	Chilliwack	Fraser Valley	Y	
Columbia Bottle Recycling	Creston	Central Kootenay		Y
Comox Return Centre	Comox	Comox Strathcona		Y
Courtenay Return-It Depot	Courtenay	Comox Strathcona	Y	Y
Cowichan Valley Bottle Depot	Duncan	Cowichan Valley	Y	Y
Cranbrook Bottle Depot	Cranbrook	East Kootenay	Y	Y
D.C. Recycling & Bottle Depot	Dawson Creek	Peace River		Y
East Van Bottle Depot	Vancouver	GVRD	Y	
Ellice Recycle Ltd.	Victoria	Capital Regional District	Y	

Fernie Bottle Depot	Fernie	East Kootenay		Y
Fleetwood Bottle Return Depot Ltd.	Surrey	GVRD		
Fort St. James Transfer Station	Fort St. James	Bulkley Nechako		Y
FSJ Bottle Drop	Fort St. John	Peace River	Y	Y
Gibsons Recycling Depot	Gibsons	Sunshine Coast	Y	Y
Go Green Depot & Recycling	Vancouver	GVRD		
Gold Trail Recycling	100 Mile House	Cariboo		Y
Grand Forks Regional Landfill	Grand Forks	Kootenay Boundary	Y	Y
Greenheart Ventures (formerly International Fibre Recycling)	Agassiz	Fraser Valley		Y
GRIPS Recycling	Madeira Park	Sunshine Coast		Y
Hartland Recycling Depot	Victoria	Capital Regional District	Y	Y
Interior Freight & Bottle Ltd.	Vernon	North Okanagan		Y
Invermere Fire Department	Invermere	East Kootenay		Y
Irly Building Center - Mackenzie	Mackenzie	Fraser Fort George		
Islands Regional Landfill Depot	Port Clements	Skeena-Queen Charlotte		Y
J&C Bottle Depot (formerly Penticton Recycling & Bottle Depot)	Penticton	Okanagan Similkameen	Y	Y
Joe's Bottle Depot	Vancouver	GVRD		
Junction Bottle Depot Ltd.	Ladysmith	Cowichan Valley		Y
Kaslo Building Supplies	Kaslo	Central Kootenay	Y	
KBM Autoworks	Lumby	North Okanagan		Y
Kitchener Bottle Depot Ltd.	Burnaby	GVRD		
Kitimat Recycling Depot	Kitimat	Kitimat Stikine		Y
Knockholt Sub-Regional Landfill	Houston	Bulkley Nechako		Y
Ladner Bottle Depot	Delta	GVRD		
Lakelse Holdings Ltd.	Terrace	Kitimat Stikine	Y	Y
Langley Bottle Depot	Langley	GVRD		
Lee's Bottle Depot	Burnaby	GVRD		
Lillooet Glass & Tire	Lillooet	Squamish Lillooet		Y
Lorne Street Bottle Depot	Kamloops	Thompson Nicola	Y	Y
Lougheed Return-It Depot	Coquitlam	GVRD		Y
McKelvey Creek Landfill	Trail	Kootenay Boundary	Y	Y
Meade Creek Recycling Drop-Off Depot	Lake Cowichan	Cowichan Valley	Y	Y
Merritt Home Hardware	Merritt	Thompson Nicola	Y	
Merritt Machine Works Ltd.	Merritt	Thompson Nicola		Y
Mission Flats Landfill	Kamloops	Thompson Nicola	Y	Y
Mission Recycling Depot	Mission	Fraser Valley	Y	Y
Nakusp Landfill Site	Nakusp	Central Kootenay		Y
Nanaimo Recycling Exchange Society	Nanaimo	Nanaimo Regional District	Y	Y
Nechako Bottle Depot	Prince George	Fraser Fort George	Y	
Nechako Valley School Bottle Depot	Vanderhoof	Bulkley Nechako		Y

Nelson Paint Depot	Nelson	Central Kootenay	Y	Y
New & Nearly New	Kimberley	East Kootenay		Y
New Hazelton Bottle Depot	New Hazelton	Kitimat Stikine		Y
New Westminster Recycling	New Westminster	GVRD		
Norbert Salvage	Bridesville	Kootenay Boundary		Y
North Shore Bottle Depot	North Vancouver	GVRD		Y
North Van. Transfer Station	North Vancouver	GVRD	Y	
Oak Bay Recycling Depot	Victoria	Capital Regional District		
Oliver Sanitary Landfill	Oliver	Okanagan Similkameen		Y
Ootischenia Landfill	Castlegar	Central Kootenay		Y
Osoyoos Bottle Depot	Osoyoos	Okanagan Similkameen		Y
Parksville Bottle & Recycling Depot	Parksville	Nanaimo Regional District	Y	Y
Peerless Road Recycling Drop-Off Depot	Ladysmith	Cowichan Valley	Y	Y
Pender Island Recycling Society	Pender Island	Capital Regional District		Y
Qualicum Bottle Depot	Qualicum	Nanaimo Regional District		Y
Quality Glass Ltd.	Ashcroft	Thompson Nicola		Y
Quesnel Landfill Site	Quesnel	Cariboo		
Regional Recycling - Prince Rupert	Prince Rupert	Skeena-Queen Charlotte	Y	Y
Rex's Recycling Centre	Valemount	Fraser Fort George		Y
Richmond Recycling Depot	Richmond	GVRD	Y	
Ridge Meadows Recycling Society dba Maple Ridge Recycling Depot	Maple Ridge	GVRD	Y	Y
Rona - Arrow Building (Castlegar)	Castlegar	Central Kootenay		
RONA - Baywest Hardware Ltd. (Victoria)	Victoria	Capital Regional District		
RONA - BH Allen Building Centre (North Vancouver)	North Vancouver	GVRD		
Rona - Capital Building Supplies (Prince George)	Prince George	Fraser Fort George		
Rona - Cranbrook Building Centre	Cranbrook	East Kootenay		
RONA - GA Hardware Ltd. (Port Coquitlam)	Port Coquitlam	GVRD		
Rona - Glacier Building Supplies (Revelstoke)	Revelstoke	Columbia Shuswap		
Rona - Interlakes Building Supplies Ltd. (Lone Butte)	Lone Butte	Cariboo		
RONA - Mack Foster Building Materials (Richmond)	Richmond	GVRD		
Rona - North Valley Supply Ltd. (Clearwater)	Clearwater	Thompson Nicola		
RONA - Northstar Hardware & Building Supplies (Invermere)	Invermere	East Kootenay		
Rona - Powell River Building Supply	Powell River	Powell River Regional District		
RONA - RA Rosback Enterprises (Alert Bay)	Alert Bay	Mt. Waddington		
RONA - RA Rosback Enterprises (Port McNeill)	Port McNeill	Mt. Waddington		
Rona - Shuswap Building Supplies (Scotch Creek)	Scotch Creek	Columbia Shuswap		
Rona - Terrace Builders	Terrace	Kitimat Stikine		
Rona - Tye Building Supplies (Prince Rupert)	Prince Rupert	Skeena-Queen Charlotte		
RONA Building Centre (Campbell River)	Campbell River	Comox Strathcona		
RONA Building Centre (Cobble Hill)	Cobble Hill	Cowichan Valley		

RONA Building Centre (Duncan)	Duncan	Cowichan Valley		
RONA Building Centre (Nanaimo)	Nanaimo	Nanaimo Regional District		
RONA Building Centre (Fort St. John)	Fort St. John	Peace River		
RONA Home & Garden (Abbotsford)	Abbotsford	Fraser Valley		
RONA Home & Garden (Grandview)	Vancouver	GVRD		
RONA Home & Garden (Kelowna)	Kelowna	Central Okanagan		
RONA Home & Garden (Langford)	Victoria	Capital Regional District		
RONA Home Centre (Austin)	Coquitlam	GVRD		
RONA Home Centre (Burnaby - Edmonds)	Burnaby	GVRD		
RONA Home Centre (Chilliwack)	Chilliwack	Fraser Valley		
RONA Home Centre (Clearbrook)	Abbotsford	Fraser Valley		
RONA Home Centre (Coquitlam)	Coquitlam	GVRD		
RONA Home Centre (Fleetwood)	Surrey	GVRD		
RONA Home Centre (Hope)	Hope	Fraser Valley		
RONA Home Centre (Kamloops)	Kamloops	Thompson Nicola		
RONA Home Centre (King George)	Surrey	GVRD		
RONA Home Centre (Kingsway)	Vancouver	GVRD		
RONA Home Centre (Madeira Park)	Madeira Park	Sunshine Coast		
RONA Home Centre (Maple Ridge)	Maple Ridge	GVRD		
RONA Home Centre (Mission)	Mission	Fraser Valley		
RONA Home Centre (North Vancouver-Tilford)	North Vancouver	GVRD		
RONA Home Centre (Penticton)	Penticton	Okanagan Similkameen		
RONA Home Centre (Quesnel)	Quesnel	Cariboo		
RONA Home Centre (Salmon Arm)	Salmon Arm	Columbia Shuswap		
RONA Home Centre (South Surrey)	Surrey	GVRD		
RONA Home Centre (Squamish)	Squamish	Squamish Lillooet		
RONA Home Centre (Vernon)	Vernon	North Okanagan		
RONA Home Centre (Versatile)	Kamloops	Thompson Nicola		
RONA Home Centre (Whistler)	Whistler	Squamish Lillooet		
RONA Home Centre (Williams Lake)	Williams Lake	Cariboo		
RONA Pemberton Valley Hardware	Pemberton	Squamish Lillooet		
Rosebery Transfer Station	New Denver	Central Kootenay	Y	Y
Saanich Recycling Depot	Saanich	Capital Regional District		
Saltspring Island Recycling	Saltspring Island	Capital Regional District	Y	
Sardis Bottle Depot	Chilliwack	Fraser Valley		Y
Scotch Creek Bottle Depot	Scotch Creek	Columbia Shuswap		
Scott Road Bottle Depot	Surrey	GVRD	Y	
Sechelt Landfill	Sechelt	Sunshine Coast	Y	Y
Semiahmoo Bottle Depot	Surrey	GVRD		
Seven Mile Recycling Centre	Port McNeil	Mt. Waddington	Y	Y
Sidney Bottle Depot	Sidney	Capital Regional District		Y
SLRD Lillooet Landfill	Lillooet	Squamish Lillooet	Y	Y
Smithers/Telkwa Transfer Station	Smithers	Bulkley Nechako	Y	Y

Sooke & District Garbage Depot	Sooke	Capital Regional District		
South Van Bottle Depot	Vancouver	GVRD	Y	Y
Starlite Auto Wrecking & Repair	Sorrento	Thompson Nicola		Y
Summerland Bottle Depot	Summerland	Okanagan Similkameen		Y
Super Save Bottle Depot	Clearwater	Thompson Nicola		Y
The Bottle Depot	Port Alberni	Alberni Clayoquot	Y	Y
Tidewater Equipment	Stewart	Kitimat Stikine		Y
Town of Princeton	Princeton	Okanagan Similkameen		Y
Trail Bottle Depot (0933258 BC LTD)	Trail	Kootenay Boundary		Y
Village of Gold River	Gold River	Comox Strathcona	Y	Y
Walnut Grove Bottle Depot	Langley	GVRD	Y	
West Boundary Regional Landfill (formerly Greenwood Regional Landfill)	Greenwood	Kootenay Boundary	Y	Y
Wide Sky Disposal	Fort Nelson	Northern Rockies	Y	Y
Willowbrook Recycling Depot	Langley	GVRD		

