

Industry Product Stewardship and Beverage Container Waste Management Programs In Canada

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British Columbia

<http://wlapwww.gov.bc.ca/epd/epdpa/ips/>

The Environmental Management Branch of the Ministry of Water, Land and Air Protection (<http://wlapwww.gov.bc.ca/epd/>) is responsible for the design, development, implementation and evaluation of a wide array of pollution prevention and remediation activities throughout British Columbia to fulfill its goal of preventing pollution at source and remediating where necessary.

The branch takes a leadership approach by using a combination of tools such as legislation, regulation, industry product stewardship programs, environmental management systems, market based instruments, guidelines and standards, education, planning processes and a unique contaminated site remediation system. The Municipal Pollution Prevention Section (http://wlapwww.gov.bc.ca/epd/epdpa/mpp/mpp_home.htm) administers a variety of matters related to solid waste including composting, the demolition material diversion strategy, incineration and landfilling, the organic material recycling regulation, solid waste management planning, and waste reduction goals.

British Columbia defines Industry Product Stewardship (<http://wlapwww.gov.bc.ca/epd/epdpa/ips/index.html>) as "a management system based on industry and consumers taking life-cycle responsibility for the products they produce and use". Using this definition and the polluter-pay principle, BC has focused on beverage containers and products that contribute to the household hazardous waste (HHW) stream. In addition to beverage containers, industry product stewardship programs apply to lead-acid batteries, medications, paint, scrap tires, solvents/flammable liquids, gas, pesticides and used motor oil. Programs for lead-acid batteries and scrap tires are examples of first-generation stewardship programs -- funded by consumers and administered by government. By regulating stewardship responsibility the provincial government has moved away from government-managed and taxpayer-financed waste management programs. Industry product stewardship programs are "second generation - cradle to cradle" environmental management programs based on the principles of industry efficiency, accountability and environmental responsibility.

In order to fund regulated industry stewardship programs including the collection depot network, some affected brand-owners, for example - paint, solvents/flammable liquids and pesticides, decided to increase their product prices and list the increases as a separate line item or "eco-fee" on distributor invoices and consumer receipts. The "eco-fees" are managed entirely by non-profit, industry associations and the provincial government neither sets the amount of the "eco-fees" nor receives or administers the funds that are collected. The programs are required by regulation and/or ministry approved stewardship plans to submit annual statements of program revenues and expenditures to the ministry. Some industries, such as the gasoline and pharmaceutical industries, have chosen to internalize the cost of their share of the stewardship programs. "Eco-fees", or other visible consumer price increases, are not assessed.

Beverage Containers

When the Litter Act was enacted in 1970, British Columbia became the first jurisdiction in North America to establish a mandatory deposit-refund system for soft drink and beer containers as a litter control initiative. The success of this approach was recognized by other jurisdictions in Canada and the United States, many of which followed BC's lead by enacting similar legislation. Over time, the beverage industry expanded to include sales of products and container types not envisioned under the Litter Act, and significant numbers of beverage containers again were entering landfills and the litter stream, at considerable taxpayer expense. By the mid 1980's, local governments began to petition the province for relief from the burden of litter clean-up and from the cost of managing used beverage containers in landfills and municipal recycling programs.

In response to local government concerns, the province enacted the [Beverage Container Stewardship Program Regulation](#) in 1997, replacing the outdated Litter Act. The regulation achieves fairness for taxpayers by requiring all beverage brand-owners of ready-to-drink beverages with the exception of milk, milk substitutes, liquid meal replacements and infant formula to establish a province-wide return collection system for beverage containers under a deposit-refund system. The regulation establishes the goal of a minimum 85 percent recovery rate and requires that redeemed containers be either refilled or recycled.

Beverage Container Stewardship Program Regulation Annual Report by Ron Driedger, P. Eng. Director, Pollution Prevention and Remediation Branch

2000 Reporting Period

Synopsis

On December 15, 1997, Cabinet approved the Beverage Container Stewardship Program Regulation to replace the deposit-refund requirements of the Litter Act. The regulation encompasses **all containers of ready-to-drink beverages, except for milk, milk substitutes, infant formula and meal replacements**. An exemption, until October 1, 1999, was granted to polycoated and flexible pouch containers to allow industry to develop a viable recycling solution which was achieved by modifications to the Green Coast paper mill (now Norampac) in Burnaby, BC.

Performance

Three stewardship agencies have been established by the beverage industry to meet their responsibilities under the regulation. These are:

Stewardship Agency	Beverage Category	Proportion of all BC Beverage Containers
Encorp Pacific (Canada)	Non-alcoholic beverages	55%
Liquor Distribution Branch	Wine, spirits, non-refillable beer, cider and coolers, except those produced by Molson and Labatt.	7%
Brewers Distributor Ltd.	Domestic beer in refillable glass and aluminum cans	38%

Funding for the return program is generated through unredeemed deposits, revenue from sales of recyclable materials and brand-owner fees, as necessary. The following independently audited financial information has been provided by the industry stewards:

Stewardship Agency	Reporting Period	Deposits Charged	Deposits Refunded	Recovery Rate
Encorp Pacific (Canada)	January 1, 2000 to December 31, 2000	\$52,774,445	\$39,400,121	72%
Liquor Distribution Branch	April 1, 2000 to March 31, 2001	\$12,098,236	\$10,237,972	85%
Brewers Distributor Ltd.	April 1, 2000 to March 31, 2001	\$57,508,800	\$53,858,938	94%
OVERALL RECOVERY RATE				81%

Industry Updates

Encorp Pacific (Canada)

Encorp's container collection system comprises retail returns of up to 24 containers per person per day at retail stores where the beverages are sold and unlimited returns for all non-alcoholic beverage brands sold in British Columbia at 159 depots province-wide. A list of depots is available on the Encorp website at <http://www.encorpinc.com/>.

It is Encorp's objective to build a depot-based return system which will become the primary beverage container return network in the province for non-alcoholic containers.

Encorp has published its first corporate annual report to the public describing its stewardship program activities and system revenues and expenditures. The report is available on Encorp's internet website at <http://www.encorpinc.com/download/annualreport2001.pdf>

Under Encorp's system there have been no significant changes in recycling processors and brokers from those identified in previous years' reports. Containers were managed over the reporting period as follows:

Material type	Recycled Products
Aluminum	New aluminum cans
PET plastic	New bottles, plastic film
HDPE plastic	Non-food containers such as oil, detergent and spray bottles, plastic film
PVC plastic	PVC Piping
Bag-in-box	Cardboard box - paper products Foil bladder - New plastic for nonfood containers
Glass	Fibreglass home insulation, new bottles, construction aggregate, sand blasting
Bi-metal	Metal products
Gable-top	Paper products including filler plys for medium and grey gypsum wall board cover
Aseptic drink box	Paper products including filler plys for medium and grey gypsum wall board cover

Brewers Distributor Ltd. (BDL)

The BDL container management system provides for retail returns at all LDB retail outlets and cold beer and wine stores, as well as unlimited returns at 20 depots. Information on the BDL stewardship program can be found on the Western Brewers Association Internet website at <http://www.westernbrewers.com/>.

Under the BDL system there have been no significant changes in recycling processors and brokers from those identified in previous years' reports. Containers were managed over the reporting period as follows:

Material type	Recycled Products
Glass	Bottles refilled on average 15 times each. End-of-life glass is recycled into drainage aggregate for construction materials, road aggregate and fibreglass production.
Aluminum	New aluminum cans and other fabricated aluminum products

Liquor Distribution Branch (LDB)

The LDB container management system provides for retail returns at all LDB outlets and rural agency stores province-wide, as well as unlimited returns at 46 depots which were serviced by Wastech under contract to the LDB over the reporting period.

Under the LDB system there have been no significant changes in recycling processors and brokers from those identified in previous years' reports. Containers were managed over the reporting period as follows:

Material Type	Recycled Products
Plastic	Resin for use in new containers and other plastic products
Bag-in-Box ¹	Cardboard Box: Paper products Foil Bladder: Partly recycled; partly disposed to landfill
Glass ²	Fibreglass, manufactured glass products, aggregate road base, decorative blocks, blasting abrasive, landscape material and drainage tile.

Notes:

1. In accordance with the stewardship plan approval conditions, partially recyclable containers are required to be at least 95% recyclable by March 31, 2003, or be phased out.
2. A very small amount of ceramic containers (less than 0.1%) are included in the glass category. This small quantity does not affect the recycling value of the glass stream, for other than new glass manufacturing.

The Beverage Container Management Board

The Beverage Container Management Board meets on a quarterly basis and provides advice to the Minister on the province's deposit-refund system. The ten member board comprises representatives nominated by Encorp Pacific (Canada), Brewers Distributor Ltd., the Liquor Distribution Branch, the BC Bottle Depot Association, local government, labour, retail grocers, the Recycling Council of BC, an environmental non-government organization and the Ministry of Environment, Lands and Parks. The Board is chaired by Pat Wallace from Kamloops, the local government representative.

Further Information

Recycling Hotline of BC	(604) 732-9253 (Greater Vancouver) 1-800-667-4321 (Rest of BC) http://www.rcbc.bc.ca/
Encorp Pacific (Canada)	(604) 473-2400 (Greater Vancouver) 1-800-330-9767 (Rest of BC) http://www.encorpinc.com/
Liquor Distribution Branch	(604) 252-3029 http://www.bcliqorstores.com/service/recyclingcentres.cfm
Brewers Distributor Ltd.	(604) 664-2300 http://www.westernbrewers.com/

BEVERAGE CONTAINER DEPOSIT REFUND RATES

Non-Alcoholic 5¢ Up to and including 1L (one litre) 20¢ Bigger than 1L	Wine, Spirits, Import Beers & Coolers 10¢ Up to and including 1L (one litre) 20¢ Bigger than 1L
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CONTAINER RECYCLING FEES CHARGED BY ENCORP PACIFIC

The money collected from the Container Recycling Fee, plus the money from the sale of commodities, and any money left over from unclaimed (unredeemed) deposits, is used to pay for the collection, handling, transportation and processing of the containers. All of these tasks are performed by independent private operators who work under contract to Encorp. There are dozens of companies and hundreds of people employed in B.C. as a result of this program.

Container Type	Size	Deposit Value	Recycling Fee
Aluminum	0 - 1L	5.0 cents	1.0 cents
Plastic	0 - 500ml	5.0 cents	1.0 cents
	501ml - 1L	5.0 cents	2.0 cents
	> 1L	20.0 cents	5.0 cents
Glass	0 - 500ml	5.0 cents	2.0 cents
	501ml - 1L	5.0 cents	3.0 cents
	> 1L	20.0 cents	7.0 cents
Bi-Metal	0 - 500ml	5.0 cents	No recycling fee
	501ml - 1L	5.0 cents	No recycling fee
	> 1L	20.0 cents	2.0 cents
Bag-in-a-box	> 1L	20.0 cents	4.0 cents
Drink Box	0 - 500ml	5.0 cents	No recycling fee
	501ml - 1L	5.0 cents	1.0 cents
	> 1L	20.0 cents	No recycling fee
Gable Top	0 - 500ml	5.0 cents	No recycling fee
	501ml - 1L	5.0 cents	1.0 cents
	> 1L	20.0 cents	No recycling fee
Drink Pouch	0 - 1L	5.0 cents	No recycling fee

According to Encorp Pacific, British Columbians kept approximately 592 million recyclable beverage containers from ending up in BC's landfills. This is what was returned in 2000.

- **84.3% of all aluminum cans sold**, for a total of 351,358,633
- **71.3% of all plastic bottles and pouches sold**, for a total of 147,565,758
- **60.6% of all glass bottles sold**, for a total of 36,849,199
- **43.6% of all drink box containers sold**, for a total of 53,327,382
- **38.6% of all bi-metal tins sold**, for a total of 2,228,703
- **59.97% of all bag n'boxes sold**, for a total of 294,029

BC Lead-Acid Battery Collection, Transportation and Recycling Program

In June, 1991, the BC Ministry of Environment, Lands and Parks implemented the BC used lead-acid Battery Collection Program, the only initiative of its type in Canada. Initially administered by a contracted consultant, the ministry assumed responsibility for delivery of the program in November, 1995.

Depending on the region and prevailing lead prices, it is estimated that in the past up to 60% of all end-of-life batteries generated in BC were disposed of in landfills or other sites. This

type of activity greatly increases the risk to both human and environmental health from toxic leachate, lead exposure, and other uncontrolled impacts.

The battery program provides Transportation Incentive Payments (TIPS) as a form of funding assistance to ensure safe collection and transportation of end-of-life batteries from generators to an approved broker or processing facility. Funding for TIPS comes from a \$5 levy collected on the sale of all new lead-acid batteries weighing over 2 kg (i.e. automobile, motorcycle and industrial).

The objectives of the program are to recover at least 98% of all end-of-life batteries generated annually in BC and to ensure that end-of-life batteries generated anywhere in BC can be economically transported to a processor. Under the program, virtually 100% of the end-of-life lead-acid batteries generated annually in the province are recovered for a total of over 5 million BC generated battery units since 1991.

British Columbia Medications Return Program

Pharmaceuticals are a small but very important component of the waste stream affecting every household in British Columbia. Unused pharmaceuticals pose a significant health, safety and environmental hazard when improperly stored or disposed to the environment. In response to this concern, the pharmaceutical industry voluntarily established the Medications Return Program in November 1996. At that time, pharmaceutical brand-owners requested that the province expand the scope of the [Post-Consumer Residual Stewardship Program Regulation](#) to include pharmaceutical products in order to ensure a level playing field for all producers through universal participation in the program. The regulation, passed on March 27, 1997, required all brand-owners of pharmaceutical products sold in B.C. to take cradle-to-cradle responsibility for the safe management of their products.

For the period April, 2000 to December, 2000, industry reports that over 550 retail pharmacy outlets, representing over 75% of all pharmacies in British Columbia, accepted unused and expired medications from consumers. Industry indicates that the number of participating pharmacies is anticipated to increase as the new program management agency continues to heighten awareness of the program among British Columbia pharmacists. For the nine month period April, 2000 to December, 2000, the program reports the collection of 4490.1 kg for a four year program total of 32,776 kg. The program will be reporting on a calendar year basis for the year 2001 and onward. Given the nature of these wastes, incineration is the accepted best management practice for residual medications collected by the program. Over this reporting period, residual pharmaceuticals were transported by licensed transporters to special waste treatment facilities in Alberta.

A revised stewardship plan was submitted by the not-for-profit Post-Consumer Pharmaceutical Stewardship Association (PCPSA) in December, 2000. Under the revised plan, the program was re-launched in March, 2001, as the Medications Return Program with a renewed communications plan to enhance awareness of the program among health professionals and consumers. Since March 2000, Residuals Management Group Ltd. of Surrey, BC, has assumed the program's day to day operations on behalf of the PCPSA.

Post-Consumer Paint Stewardship Program Regulation

The [Post-Consumer Paint Stewardship Program Regulation](#) became effective September 1, 1994. This regulation requires producers and consumers of consumer paints to take responsibility for management of their leftovers or wastes. Producers of these products began roll-out of a province-wide paint collection depot network in September, 1994. This regulation provides consumers with a safe and convenient method to manage unwanted and waste paints, which comprise as much as 70% of British Columbia's household hazardous waste stream.

There are over 100 permanent PPC paint collection depots currently available to the public throughout the province. In addition, 26 distributors of industrial aerosols accept paint returns under the TSA program. The associations reported the following paint collection results:

TIME PERIOD	PAINT & PRODUCT CARE (PPC) elcs*	TREE-MARKING ASSOCIATION (TSA) elcs*
2000	4,000,000	86,842
1999	3,900,000	81,000
1998	3,702,000	32,000
1997	2,889,000	-
1996	2,111,000	-
1995	1,099,000	-
1994	284,000	-
Total	17,985,000	199,842

- **elcs** - equivalent litre containers. Due to concerns for public and worker safety, handlers at the **PPC** collection depots do not open the paint containers. The individual containers are placed in a secondary containment unit (called a tubskid) and returns are measured by totaling, in litres, the volume of all the containers.

Over the years since the inception of the paint program, **PPC** has successfully moved up the pollution prevention hierarchy to the point that in 2000 there was no leftover paint sent to landfills. PPC reports that 78% of paint returns were recycled, 11% was reused for its original purpose, 8 % was fuel blended and utilized for the recovery of energy, and 3% was incinerated. Recycled paints are used as a raw material for the production of new consumer/industrial goods, such as specialty concrete products, roofing materials and caulking compounds.

In addition, 437 tonnes of scrap steel and 30 tonnes of plastic from paint containers were recycled.

Collected paint by **PPC** that is suitable for re-use, for example as graffiti cover, is offered free of charge to non-profit groups and community organizations. The **PPC** has partnered with the Recycling Council of British Columbia in its province-wide materials exchange program which matches those with larger quantities of left-over paint with others who can reuse it, thereby eliminating that paint from the waste stream. In 2000 , approximately 138,000 litres of paint were re-used in this manner.

All **TSA (Tree-Marking Association)** brand-owner paint products are solvent-based and the residuals from returned aerosols are fuel blended for energy recovery at cement kilns. While **TSA** is committed to an ultimate recovery rate in excess of 80% of total product sales, their stewardship plan stipulates a recovery rate of 44 % by the end of the year 2001. As of December, 2000, **TSA** reported a return of 31 % for the previous twelve months.

The regulation does not permit brand-owners to charge consumers for the return of consumer paint products. As a result, to recover their stewardship program costs the brand-owners, through their respective associations, have elected to charge consumers an "eco-fee" at the retail point of sale on new paint and show the "eco-fee" as a separate line item on consumers receipts. "Eco-fees" are product price increases by the paint brand-owners. "Eco-fees" are set, collected and administered by the industry associations, **not government**. Because they are part of the product price, and provide a service to consumers, PST and GST are assessed on "eco-fees" just the same as if the "eco-fee" was internalized into the total product price. "Eco-fees" assessed for paint are based on container size/type and are as follows:

- 250 ml or less - \$0.10

- 251 ml to 1 litre - \$0.25
- 1.01 litre to 5 litres - \$0.50
- 5.01 litres to 23 litres - \$1.00
- aerosols - \$0.10/can (**PPC** and **TSA**)

In order to improve consumer awareness of the leftover paint collection program, PPC has partnered with the Recycling Council of British Columbia to provide accessible, toll-free information on paint depot locations and stewardship programs province-wide.

The **PPC** website (<http://www.productcare.org>) was created to provide the public with up-to-date depot and program information. It contains a searchable database of depots, an explanation of products encompassed by the program and a list of the industry "eco-fees" charged. In 2000, **PPC** began to develop classroom materials for use by teachers within the public school system in order to better educate and inform our school children on proper management of household hazardous wastes.

The Financial Incentives for Recycling Scrap Tires (FIRST) Program

The Financial Incentives for Recycling Scrap Tires (FIRST) program began in June, 1991, eleven months after the introduction of a \$3 levy on the sale of new tires in British Columbia. The FIRST program can be considered an example of a first generation industry stewardship program. It is funded by consumers and administered by government. There is no involvement of the tire industry, other than retailers, who collect the levy on behalf of the government and voluntarily take back scrap tires from consumers. Generators of scrap tires other than retailers, include local government landfills (acting as marshalling yards) and auto salvage yards.

The financial assistance available from the program consists of a transportation credit, designed to assist the movement of scrap tires from generators anywhere in the province to the nearest eligible processor registered in the program; and a processing/end use credit. The transportation credit is calculated by multiplying the weight of the tires hauled (tonnes) times the distance hauled (kilometres) times a cost factor (trucking credit) that varies by the distance hauled. The end use credit available is up to \$110/tonne for tire-derived fuel (TDF) and up to \$183/tonne for tire derived products (TDP).

In order to receive credits, processors must be registered in the FIRST program. Transporters must have an arrangement with a processor to accept the tires. Transporters receive payment directly from the processor. From its inception in June 1991, the program quickly achieved its initial diversion goal for passenger and light truck (PLT) tires (16 inches or less inner rim size) and has since increased the capture rate to approximately 90%, which in 2000/01 represented over 2.3 million units. Medium truck (MT) tires (between 16 and 24.5 inches inner rim size) were formally included in the program in 1993. The capture rate in 2000/01 for these tires was almost 96% or 187,000 units. For both PLTs and MTs, the capture rate is estimated to be closer to 100% if those tires removed from the scrap tire stream for reuse are considered. The TDP sector is utilizing in excess of 82% of tires captured (up from 15% in 1990), with the remainder used by the TDF sector.

As of March, 2001, over 27 million passenger tire equivalents (PTEs), standardized to a weight of 8.2 kilograms, have been diverted from landfills and other inappropriate forms of disposal, at a total cost in program contributions of over \$46 million. The program currently captures about 285,000 PTEs per month. Visit the provincial government's web site at <http://wlapwww.gov.bc.ca/epd/epdpa/ips/tires/index.html> to get the latest information on FIRST program performance.

Post-Consumer Residual Stewardship Program Regulation

The [Post-Consumer Residual Stewardship Program Regulation](#) was approved by Cabinet on March 26, 1997. This regulation requires the producers and consumers of solvents/flammable liquids, domestic pesticides, gasoline and pharmaceuticals to take responsibility for the management of their leftovers or wastes. Producers of these products began the roll-out of a province-wide depot network in October, 1997. This regulation provides consumers with a safe and convenient method to manage household hazardous waste and reduce improper disposal.

There are 35 permanent residuals collection depots currently operating throughout the province - at least one in every Regional District, except Central Coast. The CPSP reported the following residuals collection results:

Year	1998	1999	2000	Total
Flammables (elcs*)	98,928	105,065	71,023	275,016
Pesticides (elcs*)	30,850	22,464	16,334	69,648
Total	129,778	127,529	87,357	344,664

*elcs - equivalent litre containers. Due to concerns for public and worker safety, handlers at the collection depots do not open the residual containers. The individual containers are placed in a secondary containment unit (called a tubskid) and returns are measured by totaling, in litres, the volume of all the containers.

To identify flammable liquids that are eligible for collection, the regulation utilizes scientific criteria, i.e.: a flash point less than 61 degrees Celsius. Generally speaking, these are products that display a flammability warning symbol on the label, or a text warning such as "keep away from sparks or open flames". There is a vast number of products that are covered by this regulation and that presents major obstacles in the publication and maintenance of an accurate list of regulated product names.

Eligible pesticide residuals must be labeled as "Domestic" pesticides, carry a Pest Control Products Act (Canada) registration number (PCP#), and display a poison hazard symbol (skull and cross-bones) on the label. Insect repellents, sanitizers, disinfectants, pet products and agricultural/commercial pesticides are exempt.

The regulation does not permit brand-owners to charge consumers for the return of regulated product residuals. As a result, to recover their stewardship program costs, some brand-owners have elected to charge consumers an "eco-fee" at the retail point of sale and show the "eco-fee" as a separate line item on consumers receipts.

"Eco-fees" are product price increases by the brand-owners. "Eco-fees" are not set, collected or administered by government. Because they are price increases, "eco-fees" attract PST and GST just the same as if the "eco-fee" was internalized into the total product price.

The industry assessed "eco-fees" for residuals are as follows:

- Solvent/flammable liquids - \$0.40 per litre. Eligible containers range from .25 litre to a maximum of 10 litres, except kerosene (up to 9L.). Aerosol solvents - \$0.10 per container.
- Domestic pesticides - \$0.60 up to 1 litre or kilogram; \$1.20 for 1 to 1.99 L or kilograms; \$2.40 for 2L or kilograms and over.

The gasoline industry has chosen to internalize their share of stewardship costs and does not assess consumers separate "eco-fees". Consumers may return up to 25 litres of residual

gasoline in ULC approved containers. The ULC containers will not be returned as the residual contents cannot be bulked at the depot due to worker and public safety concerns, however, a voucher for a portion of the container's replacement cost will be issued for a mail-in refund from CPSP.

In 2000, PPC and CPCare members report the recovery of \$1,144,805 from "eco-fees" assessed to consumers at point of sale. The total program revenues of \$1,706,610 includes brand-owner membership dues, and total program expenditures on operations were reported as \$1,229,481. From examination of industry's financial statements, the excess in program revenues of \$477,129 over operational expenditures were allocated in accordance with standard operating business practices and were associated with paying down of debt, transfers to environmental liability reserves, facility improvements and capital asset acquisitions. Of the total expenditures, about \$150,000 was dedicated to the gasoline return component of the program. With respect to the overall program activities, the allotment of funding was approximately \$602,000 (49%) to administration and \$627,000 (51%) to operations.

In order to improve consumer awareness of the CPSP, the associations have partnered with the Recycling Council of British Columbia to provide accessible, toll-free information on depot locations and stewardship programs province-wide. The Ministry evaluated the effectiveness of industry stewardship to determine if empty residuals containers should be included as a product category. It was recommended, and subsequently approved by the Deputy Minister, not to proceed with a regulatory amendment, however, to complete a second review in 2001 to again consider adding empty residual containers at that time. The PPC website (<http://www.productcare.org>) was created to provide the public with up-to-date depot and program information. It contains a searchable database of depots, an explanation of products within the program and a list of the industry "eco-fees" charged. In 2000, PPC began to develop classroom materials for use by teachers within the public school system in order to better educate our school children on proper management of household hazardous wastes.

Return of Used Lubricating Oil Regulation

The [Return of Used Lubricating Oil Regulation](#) requires all sellers of lubricating oil except industrial sellers to provide or arrange for facilities for the return of used lubricating oil up to prescribed quantities.

Some 250 million litres of used lubricating oil (engine oil, transmission fluid, gear oil) disappear into the Canadian environment each year. Dumping this oil into landfill sites, sewers or on the ground contributes to environmental pollution and wastes a non-renewable natural resource. But if collected, used oil can be recycled and reprocessed for use again as a lubricant or fuel. The Canadian Petroleum Products Institute (CPPI), BC Environment and local sellers of oil have started a program to collect and recycle used lubricating oil. This industry-driven initiative is the first of its kind in Canada.

As of September 1992, all sellers of lubricating oil in British Columbia are required to accept their customers' used oil for recycling at no cost to the customer. The oil seller can either have a collection depot on site or contract a local depot to accept their customers' used oil. Used lubricating oil is being collected, re-refined to meet industry standards, packaged and marketed as a recycled product. By purchasing recycled oil, or oil with recycled content, consumers can complete the recycling loop and do their part for a cleaner environment.

For an excellent example of a web page that answers all the questions about disposal of hazardous products, visit the Recycling Council of BC's site at http://rcbc.bc.ca/recycling_toolkit/hotline_faq.htm.

Product Stewardship Program Review

In accordance with the commitment in the ministry's service plan to improve and expand the product reuse-and-recycling business approach, the ministry is reviewing its approach to product stewardship, and will be developing a stewardship business plan. The following documents and sources will provide guidance in the development of this plan.

"Stewardship Options: A Review of Service Delivery Models" (March 2002) available at

http://wlapwww.gov.bc.ca/epd/epdpa/ips/stewardship_rpt2002.pdf

"Assessing When to Implement Extended Producer Responsibility" (January 2002) available at

http://wlapwww.gov.bc.ca/epd/epdpa/ips/marbak_reports/finalrpt_2002.pdf This last paper comes with a workbook available at

http://wlapwww.gov.bc.ca/epd/epdpa/ips/marbak_reports/workbook_2002.pdf. The BC

government web site

<http://wlapwww.gov.bc.ca/epd/epdpa/ips/review.html> also contains links to other EPR.

Alberta

<http://www3.gov.ab.ca/env/waste/aow/index.html>

Under the Environmental Protection and Enhancement Act (EPEA) passed in 1993, Alberta Environmental Protection has the responsibility for regulating the transportation, treatment and disposal of hazardous wastes. Alberta Environmental Protection (AEP) also has responsibility for waste management facilities dedicated to handling and disposing of non-hazardous waste produced by industry.

In September 1996, the regulation of all waste management facilities, including those owned and operated by waste management companies, municipalities, and regional authorities, was transferred from the Public Health Act to EPEA and became the responsibility of AEP. A new regulatory approach was also introduced in that not all facilities require approvals. A landfill accepting hazardous waste or over 10,000 tonnes per year of non-hazardous waste or a compost facility accepting over 20,000 tonnes per year of mixed organic material requires an approval. A landfill accepting 10,000 tonnes of non-hazardous waste or less per year or a compost facility accepting 20,000 tonnes or less per year of mixed organic material must be registered with Alberta Environmental Protection. For a facility to be registered, it must be sited, designed, and operated in accordance with a Code of Practice published by the Department.

Beverage Container Recovery

The Beverage Container Collection Program, regulated under the Environmental Protection and Enhancement Act (EPEA), diverts over 500 million containers annually from the waste stream for recycling. This represents an 80-85% recovery rate of all regulated containers sold in the province. Implemented in 1972, the program has expanded to include registration of over 16,800 products in various containers made of glass, metal, plastic or a combination of materials (e.g. aseptic and waxed paperboard). Containers are collected through a network of over 200 privately owned beverage container depots and the program is administered by the [Beverage Container Management Board](#). This infrastructure has created direct employment for over 1,500 people. The mandate of the BCMB is to maximize stewardship of recovery and recycling of beverage containers and to administer the Beverage Container Recycling Regulation for the Province of Alberta. Ready-to-serve beverage containers sold in Alberta have a minimum refund of 5 cents for containers up to and including 1 litre and 20 cents for containers over 1 litre. The BCMB is financed by depot operators and manufacturers through a charge of \$0.0005 cents per container recovered. With the costs of operation, regulation, and enforcement fully borne by

the system, Alberta provides an excellent case study of costs associated with a depot-based deposit-return system.

Container Recovery Success Twelve Months Ending

December	1998			December	1999	
Sales	Recovered	Return Rate	Material	Sales	Recovered	Return Rate
4 7 4 , 7 7 2 , 7	3 8 6 , 6 9 8 , 7	81.45	A l u m i n	4 7 1 , 8 2 7 , 0 5	3 9 6 , 6 4 7 , 6	84.07
1 9 9 , 7 4 0 , 3	1 4 7 , 6 3 6 , 8	73.91	P l a s t i c s	1 9 6 , 9 7 6 , 2 5	1 5 1 , 2 6 2 , 6	76.79
1 3 9 , 4 2 2 , 0	1 0 4 , 2 6 7 , 6	74.79	G l a s s	1 3 0 , 7 4 3 , 0 8	1 0 6 , 3 1 3 , 0	81.31
1 0 6 , 5 4 5 , 6	4 4 , 6 9 6 , 1 4	41.95	P o l y c o a t	1 0 6 , 0 2 0 , 3 9	5 7 , 1 1 7 , 4 6	53.87
4 , 6 6 5 , 3 3 9	2 , 5 5 3 , 0 1 2	54.72	B i - M e t a l	4 , 2 2 2 , 2 9 5	2 , 4 3 1 , 9 9 2	57.60
9 2 5 , 1 4 6 , 1	6 8 5 , 8 5 2 , 4	74.13	T o t a l	9 0 9 , 7 8 9 , 0 7	7 1 3 , 7 7 2 , 7	78.45
8 1 9 , 2 1 5 , 2	6 4 1 , 3 5 5 , 5	78.29	P r e - 1 9 9 7	8 0 4 , 4 4 6 , 0 3	6 5 6 , 8 9 4 , 9	81.66

The recycling of the end products from the beverage container system has changed dramatically over the past three years. Previously, most of the products were sold to the States for re-use. In 1999, the majority of the items were sold into Western Canada, and in the year 2000, all of the items will be sold into Alberta or British Columbia. The volumes of materials are now great enough to create secondary industry, and thus ensure the re-use of recycled materials.

Recycled material totals for 1999 were:

Aluminum: 12,751,882 pounds
 PET: 12,871,596 pounds
 Other Plastics: 685,029 pounds
 Glass: 77,222,340 pounds
 Tetra Brik: 1,985,430 pounds
 Gable Top: 560,096 pounds
 Bi-Metal: 599,970 pounds

Total Recyclable Material: 106,676,345 pounds

Milk Container Recycling Initiatives

When the **Alberta Dairy Council (ADC)** got an exemption from that province's deposit-refund system, it was contingent on a commitment by the dairy industry to come up with a recycling program that got results. The government told the ADC it had to include the mostly paper gable-top cartons and achieve a 55% diversion rate by year three. The Alberta Dairy Council, chartered under the Societies of Alberta, represents 13 dairy processors who process 600 million litres of milk annually; this represents 99% of Alberta's dairy farm production. The three dairy processors of fluid milk in Alberta who fund the Plastic Milk Jug Recycling Program are Dairyworld Foods, Lucerne Foods and Palamalat Canada. They pay two cents for each four litre jug of milk and one cent for each two litre jug of milk sold in the province. This money is paid into a Container Recovery Fund, which is used to support plastic milk jug recycling programs. Municipalities or designated recycling centres are guaranteed to receive \$400 per tonne for each tonne of milk jugs they recycle.

The ADC milk container recovery program includes a transportation subsidy for community recycling programs. The Alberta Plastic Milk Jug Recycling Program is an industry

stewardship initiative through which Alberta's dairy industry supports the voluntary collection and recycling of High Density Polyethylene (HDPE) plastic milk jugs. Under the initiative, the Alberta Dairy Council established an HDPE Container Recovery Fund to provide 'top-up' support payments to registered municipalities or their recycling designate to supplement the revenues they receive for densified HDPE containers. Other plastic jugs and bottles of similar plastic (HDPE #2) are not accepted into this program.

The ADC has also produced a compact disk with a milk jug recycling song that has been sent to all schools in the province to encourage children to recycle milk jugs clean, compacted, and capless. The ADC even collects the lids separately in a "Milk for Kids" program. A milk jug recycling door hanger campaign was launched earlier this year and reached over 480,000 households. A milk container roundup day was held October 20, 2001 in cooperation with the 4-H Foundation. The ADC also operates the www.milkjugrecycling.com website, has an office, a telephone number, and a program coordinator. It has just started rolling out its gable top milk carton campaign and will determine 'top-up' support payments in consultation with existing municipal recyclers.

Used Tire Management Program

The [Tire Recycling Management Association](#), established in 1992, has the responsibility of maintaining a scrap tire recycling program for the province. Close to 9 million tires have been recycled since this program's inception. Visit their web site via the link above to find out more.

Hazardous Waste Recovery

The Household Hazardous Waste Round-up program is currently coordinated through Action on Waste. Approximately 65 communities throughout Alberta participate in annual one-day events, with the cities of Edmonton, Calgary and Lethbridge hosting year-round facilities. Over 4.5 million litre equivalents of household hazardous waste materials have been safely treated and disposed of in the province since 1988. Follow this link (http://www3.gov.ab.ca/env/waste/aow/initiatives/Roundup_dates.html) to the 2001 household hazardous waste round-up schedule. A guide for municipalities participating in the Household Hazardous Waste program is available at <http://www3.gov.ab.ca/env/waste/aow/factsheets/HHW/RoundupGuide.pdf>.

Fluorescent Bulb and Computer Recycling Program

The Fluorescent Bulb and Computer Recycling Program is a voluntary partnership initiative with the following partners:

- The Capital Region Waste Minimization Advisory Committee, representing 20 municipalities in the Edmonton Region (<http://www3.gov.ab.ca/env/waste/aow/crwmac/index.html>),
- [Northern Coordinated Action for Recycling Enterprises](#) (CARE) (representing 60 municipalities in northern Alberta),
- the City of Calgary,
- Alberta Environment (Action on Waste) <http://www3.gov.ab.ca/env/waste/aow/index.html>,
- the [Recycling Council of Alberta](#), and
- the [Alberta Plastics Recycling Association](#).

For more information about the program, contact Lynn.Bellamy@gov.ab.ca - Action on Waste / Alberta Environment at (780) 422-2009.

Under this program, local Alberta recyclers will collect and process fluorescent bulbs and computers. They will safely recycle these components into new products. The program has the following objectives:

- to achieve a public sector recycling rate of 75% by 2002
- to achieve a private sector recycling rate of 75% by 2005

[Fluorescent and high intensity discharge \(HID\) bulbs](#) contain mercury. Each year, Albertans dispose of 6 million bulbs. Each bulb contains, on average, 15 milligrams of mercury, which adds up to almost 87.5 kilograms of mercury in Alberta's annual waste. Based on volumes of 500 or more, the cost to pick up and recycle a four-foot fluorescent bulb ranges from \$.30 to \$.50. Building managers should look at recycling costs of 1/2¢ per facility square foot.

Computers are complicated machines with more than 1000 materials, many of which are highly toxic in the environment. Lead is of particular concern. The monitor's cathode ray tube in an average personal computer (PC) contains 1.7 kg of lead.

Computer waste is a big problem in Alberta because of high ownership of computers (63% for home PCs and 54% for work PCs, in the year 2000), greater than any other province in Canada. This situation is made worse by the high rate at which computers become outdated. The volume of obsolete computers will double over the next five to six years. In 2000, estimates were that approximately 11,000 tonnes of computer waste, containing more than 500 tonnes of lead, were produced in Alberta. This volume could increase to as much as 47,000 tonnes by 2005. Recycling of computer systems should not lead to any additional costs over and above traditional disposal methods.

Used Oil Recovery

Close to 142 million litres of new oil, 7 million oil filters, and the equivalent of 43 million one-litre oil containers are sold in Alberta each year. Of that 142 million litres, about 74 million litres is not consumed in use and is available to be recycled. Current recycling programs recover 42 million litres of oil, one million filters and 3 million containers. The remaining 32 million litres of used lubricating oil, along with 6 million oil filters and 40 million oil containers are improperly discarded into the environment. The [Alberta Used Oil Management Association](#), established in 1997, has been charged with maintaining a program to collect and manage used oil, oil containers and oil filters in the province. Convenient provincial networks of used oil materials collection depots serve small volume oil consumers such as individual motorists, farmers and small commercial operators who service their own vehicles and equipment. Consumers can transport their recyclable used oil materials to the nearest EcoCentre. In Alberta, many Alberta Bottle Depot Association members are equipped to accept these materials.

AUOMA - (Alberta Used Oil Management Association) is a not-for-profit organization incorporated under the Societies Act (Alberta) with a membership open to all wholesale suppliers (first sellers) of oil materials in Alberta. It is managed by a multi-stakeholder Board of Directors with representatives from manufacturing, retailing, consumers, urban and rural municipalities, the Province of Alberta and other non-government organizations. More than 30 organizations representing the oil industry, automotive industry, bottle depots, retailers, consumers, recycling associations, environmental groups and government departments form the stakeholders group which has been involved in and continues to support the implementation of AUOMA's program, including the Western Canadian Used Oil/Container/Filter Task Force. Formed in late 1993, this industry group's mandate is to develop a policy platform and guiding principles for use across the four western provinces.

Saskatchewan

www.serm.gov.sk.ca/

The objective of the **Beverage Container Collection and Recycling Program** is to provide a provincial system to collect and recycle designated non-refillable beverage containers that have been distributed in Saskatchewan. The beverages and the containers that they are packaged in, that are subject to this program, are designated under *The Litter Control Designation Regulations, 1998* (pursuant to *The Litter Control Act*). To date, designated beverages are those which are “ready to serve” (i.e. ready for immediate consumption by the purchaser) and fall within the following categories: beverage alcohol (as defined in *The Alcohol and Gaming Regulation Act*), carbonated and non-carbonated soft drinks, carbonated and non-carbonated fruit drinks, fruit and vegetable juices, non-alcoholic beer and wine, tea and water. Containers currently designated include: metal cans; plastic bottles; non-refillable glass bottles; multi-material, shelf stable containers (i.e. aseptic containers, Tetra Paks, etc.) and paper-based, polycoat, gable top containers.

Manufacturers/wholesale distributors of beverages into the province must report the amount of beverages distributed and remit to Saskatchewan Finance the appropriate environmental handling charge (EHC) and the refundable deposit for each container distributed. The EHC's being remitted are used to fund the collection and recycling of the beverage containers while the refundable deposits provide an incentive to the consumer to recycle the containers. Collection of the beverage containers and return of the refundable deposit to the consumer is carried out by SARCAN Recycling through a province wide depot system.

SARCAN Recycling is a division of the Saskatchewan Association of Rehabilitation Centres (SARC), a provincial co-ordinating and advocacy organization comprised of 62 independent agencies dedicated to improving educational/training opportunities and the employment potential of persons with disabilities. SARCAN was created in 1988 when Saskatchewan Environment and Resource Management contracted SARC to operate a province wide depot system to collect and recycle beverage containers. Currently, SARCAN operates 71 collection depots in 62 communities, two processing plants and an administration center (in Saskatoon). SARCAN employs 365 people, over 80% of whom are persons with disabilities or formerly on social assistance. The recycling effort has saved at least \$1 million in social assistance payments by employing people with disabilities through the organization Saskatchewan Association of Rehabilitation Centres.

Table 1: Environmental Handling Charges and Refundable Deposits

Container Type	Environmental Handling Charge (per container)	Refundable Deposit (per container)		
		0 - 300 ml.	301 - 999 ml.	1 litre or more
Metal cans	5¢	10¢	10¢	20¢
Plastic bottles	6¢	10¢	10¢	20¢
Non-refillable glass bottles	7¢	10¢	20¢	40¢
Multi-material, shelf stable containers (i.e. aseptic, Tetra-Pak, juice box, etc)	3¢	5¢	5¢	5¢
Paper-based, polycoat, gable top containers	3¢	5¢	5¢	5¢

Summary of Achievements in 2000

During the 2000/2001 fiscal year (April 1, 2000 to March 31, 2001), SARCAN collected and recycled approximately 202 million regulated beverage containers. The overall return rate for all non-refillable, designated beverage containers for 2000/2001 was approximately 85%. Table 2 indicates the number of beverage containers returned and the return rates based on container type for 2000/2001 and the two preceding fiscal years.

Table 2: SARCAN Return Rates for Regulated Containers

Container Type	1998/1999		1999/2000		2000/2001	
	Containers Returned	Return Rate	Containers Returned	Return Rate	Containers Returned	Return Rate
Metal Cans	117,320,024	107.4%	112,985,874	96.55%	110,497,122	93.96%
Plastic Bottles	60,535,962	93.70%	59,701,119	85.29%	59,761,165	84.34%
Non-refillable glass bottles	20,027,807	87.16%	19,473,931	84.19%	19,291,477	82.88%
Multi-material, shelf stable containers and paper-based, polycoat, gable top containers	8,509,699*	38.04%	11,700,225	44.96%	12,626,461	46.29%
TOTAL	206,393,492	94.15%	203,861,149	86.23%	202,176,225	84.59%

*Note: Multi-material, shelf stable containers (i.e. aseptic, Tetra-Pak, juice box, etc.) and paper-based, polycoat, gable top containers (i.e. milk carton type containers) were added to this program on April 1, 1998.

For Information

For further information contact SARCAN Recycling at 111 Cardinal Crescent, Saskatoon S7L 6H5, Ph: 1-800-667-3016 **OR** Joanne Fedyk at the Saskatchewan Waste Reduction Council, #203 - 115 Second Avenue North, Saskatoon, SK. S7K 2B1. Phone: (306) 931-3242; Fax: (306) 665-2128; Email: swrc@sasktel.net, Web: <http://www.link.ca/~swrc/>.

Pesticide Container Collection Program

The program objective is to provide Saskatchewan farmers a provincial system to collect and recycle used pesticide containers. The program was initiated and managed by SERM in 1983, with voluntary participation by rural municipalities as owners or operators of the municipal collection sites.

Since 1989, the management of the program has been co-ordinated by the Saskatchewan Pesticide Container Management Association Inc. (PCMA) in conjunction with the Crop Protection Institute, and has been funded by the Crop Protection Institute (CPI).

In early 1998 CPI and the PCMA scaled up the dealer collection program to 120 dealers. The regular container collection program continued to operate from dedicated municipal sites. During the year the collection program was evaluated and a decision was made to continue collecting pesticide containers at both dealer and municipal sites in Saskatchewan. In 1999, crop protection distribution companies and approximately 200 participating retail dealers became voluntary participants in the program. As well, there are about 240 collection sites provided by

rural municipalities. Product users are required to clean, triple rinse, properly drain and dry the plastic containers before they will be accepted by participating dealers or at protected rural municipal sites. Dealers seal the containers in specially designed plastic bags, which are transported by selected distributors to a central depot. Containers are also collected from protected rural municipal sites. Containers are shredded, and the plastic is recycled into curbstops and fence posts, or used as an energy source in some industrial plants.

Summary of Achievements in 2000

During 2000 about 1.7 million plastic containers were collected, representing a return rate of about 60 per cent. This is equivalent to 530 tonnes of valuable resource material that can be recycled. In the year 2000, CPI assumed total program management and PCMA was dissolved.

Saskatchewan Pesticide Return

Saskatchewan Pesticide Return provides Saskatchewan farmers with an opportunity to safely dispose of unwanted and obsolete pesticides at no charge. Saskatchewan agricultural producers can return unwanted and obsolete agricultural:

- herbicides
- insecticides
- fungicides
- rodenticides

to participating agricultural retailers for disposal at no cost during the collection periods that have been held on three days in late October since 1999. No domestic products are accepted.

Saskatchewan Pesticide Return (<http://www.agr.gov.sk.ca/skpesticidereturn/default.asp>) is an industry-led program aimed at the collection and disposal of unwanted and obsolete pesticides that producers may have stored on their farms. The program is being jointly funded by the Crop Protection Institute of Canada and the federal Canadian Adaptation and Rural Development in Saskatchewan (CARDS) program, with each providing up to \$500,000. Saskatchewan is providing in-kind support to assist with the promotion of the program. Saskatchewan Pesticide Return is a new component of the Crop Protection Institute's StewardshipFirst program that supports the safe and responsible use of crop protection products through their entire life cycle, extending from the manufacturing stage to ultimate disposal.

The Scrap Tire Management Program

This is an industry stewardship program dedicated to the collection and recycling of these tires to mitigate the environmental impacts that scrap tires have on the environment. The Saskatchewan Scrap Tire Corporation (SSTC), a non-profit, non-government agency formed in 1996, manages a program to collect tires and to recycle them from a harmful waste into useful products. At the request of industry, the government passed *The Scrap Tire Management Regulations*, in 1998, making it mandatory for all tire retailers to participate in the program or to contract an agency to provide this service. The program has a current membership of 1,200 retailers, including all who sell or supply new tires either individually or on vehicles (such as cars, trucks, farm implements, recreation vehicles). First sellers collect an Environmental Handling Charge (EHC) on every new tire sold in Saskatchewan (see Table 3), remit the fee to SSTC and send the used tires to a recycling plant. The EHC's finance the program and support projects and companies that recycle scrap tires. There are similar programs across Canada and the USA, however Saskatchewan's program is unique in that it collects tires of all sizes and charges varying EHCs based on tire size.

Table 3

Environmental Handling Charges for Tires

\$3.50	Passenger, light truck, small industrial and agricultural machinery tires
\$5.00	Medium truck and implement tires up to 20"
\$10.00	All agricultural equipment tires over 20" including rear Ag (tractor) and grader tires
\$35.00	Off the Road (OTR) tires 20.5 x 25" and up

Note: Maximum of 8 tires charged on new agricultural machinery

Summary of Achievements in 2000

Over 560,00 tires of all sizes, amounting to 1.3 million passenger tire equivalents (equivalent to 26 million pounds of rubber) have been collected and recycled.

Used Oil Material Recycling Program

The Saskatchewan Association for Resource Recovery Corporation (SARRC) is a non-profit organization incorporated under The Non-profit Corporations Act of Saskatchewan. It was formed February 12, 1996 by manufacturers and marketers of oil products in Saskatchewan and is managed by a Board of Directors comprised of industry and public representatives. Its mandate is to develop, implement and maintain a single, cost-effective, province-wide Used Oil Materials Recycling Program for used oil, used oil filters and used oil containers on behalf of its members.

Membership in SARRC is for first sellers, the person who first sells oil or filters in Saskatchewan and includes a person who brings oil and filters into Saskatchewan for use in a commercial enterprise. SARRC has adopted an overall strategy based on recommendations from the Western Canadian Used Oil/Container/Filter Task Force which developed a policy platform and guiding principles for use across the four western provinces. SARRC is maximizing commonality of its Program with that of the Alberta Used Oil Management Association (AUOMA) and the Manitoba Association for Resource Recovery Corp. (MARRC).

As part of SARRC's product management program all oil and filter marketers must collect an Environmental Handling Charge (**EHC**) on the first sale of oil, filters and containers in the province. At present there are 97 SARRC members representing major oil, filter and container manufacturers and marketers in Canada and the USA. There are similar organizations in Alberta and Manitoba. The program is funded by industry which remits the EHC (see Table 4) to SARRC. The EHC's are dedicated by SARRC to the collection, management and recycling of used oil materials through a Recycling Program. The EHC's are used to encourage the collection and processing of used oil material through a Return Incentive (**RI**) for carriers and processors of used oil material. The Recycling Program encourages the development of collection centres and construction of EcoCentres for use of do-it-yourself (**DIY**) consumers. The EcoCentres provide drop-off facilities for the **DIY** consumers such as private motorists, farmers and small commercial operators who service their own vehicles and equipment.

Table 4

Environmental Handling Charges on Oil and Oil Products

Collectible oils	\$0.05 per liter
Consumable oils (e.g. two-cycle oil, chain oil)	Exempt
Oil containers under 30 liters capacity	\$0.05 per liter of capacity
Oil containers over 30 liters capacity	Exempt
Oil and diesel fuel filters under 8" in length	\$0.50 per filter

Oil and diesel fuel filters 8" in length or longer	\$1.00 per filter
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Summary of Achievements in 2000

The program has encouraged the development of over 250 used oil collection facilities that consumers can use in over 150 communities. To increase the number of EcoCentres and return rates for oil containers for the used oil collection program. SARRC has taken the following action. Instead of the previous 50-50 cost sharing with their partners for the construction of the EcoCentres, effective January 2000, SARRC paid the full cost. For the existing EcoCentres the agreement was not retroactive but SARRC has forgone any remaining payments from their partners. On June 7, 2000 a new partnership among recycling organizations and Saskatchewan Environment and Resource Management was announced. The Saskatchewan Association of Rehabilitation (SARC) has agreed to team with SARRC to expand the province's network of used oil material recycling facilities. Sixteen of the new EcoCentres will be operated by Saskatchewan Association of Rehabilitation Centres (SARC) members, creating 16 part time employment opportunities for persons with disabilities. The regulations require SARRC to establish a minimum of 31 permanent collection depots covering 39 service zones in the province. During the year 2000, ten EcoCentres were built in addition to the ten already in operation.

In 2000, approximately 15 million litres of used oil were recycled. In 2000, about 1.7 million filters and approximately 157,000 kg of oil containers were recycled.

Paint Disposal and Recycling Program

SaskTel partners with 10 cities, the SaskTel Pioneers and other provincial environmental groups to provide safe paint recycling for Saskatchewan residents. The objective of the Paint Disposal and Recycling Program is to divert household hazardous paint waste from waste disposal grounds and sewers in an environmentally friendly manner and where possible to re-use good paint within the community. The program is operated by the cities of Estevan, Melfort, Moose Jaw, North Battleford, Prince Albert, Regina, Saskatoon, Swift Current, Weyburn and Yorkton and the towns of Battleford and Meadow Lake in partnership with SaskTel. These municipalities provide program advertising and a collection facility for a set number of days per year and SaskTel provides the safety equipment, knowledge and volunteer staff. The municipalities contract the disposal and share the cost with Sask Tel. Paint and paint products are collected and re-usable product is made available for re-use within the community. Unusable product is delivered in 205 liter drums to a hazardous waste disposal facility. Empty paint cans are recycled at IPSCO.

Amounts collected -170 drums of 205 liter capacity of paint were disposed and about 3,500 liters of paint were re-used in 1998. Nearly nine tonnes of paint cans were recycled. In 2000, three hundred 45-gallon drums of paint were disposed of in an environmentally responsible manner.

Saskatchewan Biomedical Waste Management Guidelines

The Saskatchewan Biomedical Waste Management Guidelines are intended to provide an approach to the management of human/animal waste that is safe for the waste handlers, the public, and the environment. Biomedical waste generators/handlers are encouraged to adopt these guidelines as part of the overall strategy for dealing with this type of waste.

Milk Container Recycling Program

The Saskatchewan Association of Rehabilitation Centres (SARC) announced an improved and expanded milk container recycling program in 2001. Together with Saskatchewan's dairies – Dairyland, Beatrice/Parmalat, Lucerne and Foremost — the partners have agreed to

create a voluntary, non-deposit recycling system for all milk containers. The existing pilot program for plastic milk jugs was operated through SARCAN's 71 depots. On February 18, 2001 the program was also offered to the 30 other local, municipal, private and regional recycling programs within the province. By doing this, and by providing a guaranteed price for the materials, the program expects to see a significant increase in the return rates from the current 30 percent. On July 1, 2001, the program expanded to include the paperboard milk cartons of all sizes. A new hydra-pulping process at the Green Coast Paper Mill in Burnaby, BC will recycle these containers into napkins, tissue, and cardboard. These containers will be collected and processed through the existing 71 SARCAN depots plus the extended network. Once again, the recyclers will receive a guaranteed price for this salvage material.

The program is managed by SARC. An advisory board made up of representatives from SARC, the dairies, the government, the Saskatchewan Milk Control Board and the Saskatchewan Urban Municipalities Association, monitors program performance. The funding for the program comes from a recycling charge that was initiated on February 18. This charge is not refundable; it is not a deposit. It is attached by the participating companies to the wholesale price of the large sizes of milk containers and remitted by the participating companies to the Saskatchewan Milk Control Board. The charge is \$.02 per 4 litre plastic milk jug, and \$.01 per 1 and 2 litre milk containers. There is no extra charge on the smaller sizes of milk containers, but they are also recyclable. All charges collected are used to fund and promote this program, including an expanded educational and promotional effort.

Manitoba

www.mpsc.com/

The Manitoba Product Stewardship Corporation (MPSC) was introduced on January 1, 1995, to encourage the expansion of convenient and efficient recycling services across Manitoba. MPSC is an independent, non-profit organization representing the interests of all sectors of Manitoba, including consumers, industry, municipalities and governments. MPSC is a statutory corporation that operates at "arm's length" from the provincial government, and is currently funded solely by the 2 cent levy on all ready-to-drink beverage containers (excluding dairy) sold in Manitoba. Beer containers are also exempt from the levy since they're managed by the industry's deposit-refund system.

Under the Waste Reduction and Prevention Act (WRAP) MPSC is mandated to establish and administer a waste reduction and prevention program for designated materials for Manitoba. These currently are:

- beverage containers
- packaging of pre-packaged goods
- in-store packaging
- advertising materials
- newspapers
- magazines
- telephone directories

These materials are primarily of a residential nature. Municipalities are eligible for "municipal support payments" if they recycle five designated residential materials. While 92% of Manitobans have access to some sort of recycling opportunity, the latest success rates of recycling programs vary greatly with an average of 24 kilograms of recycling per capita annually in the Interlake and Northern regions compared to 48 kilograms per capita in the South Central Region. Municipalities participate voluntarily. Manitoba continues to be the only jurisdiction in North America where funding is provided for municipal recycling programs on an 80% - 20% cost-share principle.

According to the MPSC April 2000 - March 2001 Annual Report 38,827 metric tonnes of eligible materials were recycled through MPSC-funded municipal recycling programs, an increase of 10% over the 35,452 tonnes recycled in 1999-2000. But as the corporation's latest business plan points out, nearly 58% of material eligible for recycling is still discarded as waste. The annual report indicates newspapers, magazines, flyers and telephone directories are the most recycled materials at a 67% recovery rate. PET plastics and aluminum cans (mostly beverage containers) have recovery rates of only 37% and 31% respectively. A 1999 article by consultant Clarissa Morawski pointed out refillable beer bottles and recyclable beer cans that carry a 10-cent deposit and can be redeemed at beer outlets and government-owned liquor stores enjoy a 95% recovery rate. Morawski concluded, "Without meaningful targets and active industry involvement, Manitobans can expect to continue to exchange a 2-cent flat tax for flat performance."

However, MPSC is about more than just recycling. MPSC programs encompass Municipal Residential Recycling, Promotion and Education, Technical Support and Consulting, Waste Reduction Initiatives, and Research and Development. Virtual Recycling at www.virtualrecycling.com is an educational initiative of the MPSC that provides recycling information and resources for teachers and their students.

Seventy-nine companies were licensed with the MPSC as Product Stewards to supply beverage containers in Manitoba during the 2000-2001 Program Year. The number of companies Licensed as Product Stewards is up from the seventy-four the previous year. During the 2000-2001 program year, the MPSC received approximately \$6.8 M in 2¢ WRAP Levy remittances generated by the 2¢ Levy on non-deposit, ready-to-serve beverage containers. This is a slight increase in comparison to the previous program year, around 3%. (Figures are based on numbers before accrual for late reporting of levies and provisions under the MPSC Credit Program). The Credit Program area of the MPSC is a mechanism whereby Licensed Product Stewards may apply for reimbursement of WRAP Levies for such things as Out of Province sales of applicable materials, double remittance on applicable materials, over remittances and so on. Just over \$168,000 were paid out to the six companies which qualified for credits during the 2001 Program year.

Used Oil, Used Oil Filter and Used Oil Container Recovery

MARRC (Manitoba Association for Resource Recovery Corp.) is a non-profit organization incorporated under The Corporation Act of Manitoba. It was formed April 1, 1997 by manufacturers and marketers of oil products in Manitoba and is managed by a Board of Directors comprised of industry and public representatives. Its mandate is to develop, implement and administer a cost-effective, sustainable, user-financed and province-wide stewardship program for used oil, used oil filters and used oil containers on behalf of its members.

Membership in MARRC is for stewards of oil products or for people who purchase designated products from stewards of oil products and re-sell those products. MARRC has adopted an overall strategy based on recommendations from the Western Canadian Used Oil/Container/Filter Task Force which developed a policy platform and guiding principles for use across the four western provinces. MARRC is maximizing commonality of its Program with that of the Alberta Used Oil Management Association (AUOMA) and the Saskatchewan Association for Resource Recovery Corp. (SARRC). It represents the Manitoba Used Oil Management Committee's principles that consumers, industry and government share responsibility for eliminating negative environmental impacts of used oil materials and for making the Program viable.

The provincial government, principally through Manitoba Environment, will regulate and monitor the progress of this Program. In April 1997, the province enacted the Used Oil, Oil Filters and Containers Stewardship Regulation to create a "level playing field" for manufacturers and

marketers of oil products. Manitoba Environment will maintain a registry of licensed return depots, EcoCentres, carriers and processor/end-use receivers of used oil products.

Tire Stewardship Program

In 1992, the Government of Manitoba legislated a tire levy of \$3 (\$2.80 plus \$.20 PST) for every tire sold for use on licensed vehicles and trailers using Manitoba highways. The levy was collected via PST collections and was dedicated for recycling scrap tires generated in Manitoba. The Tire Stewardship Board was created as an arm's-length from government corporation in March 1995. Its mandate is to establish and administer a scrap tire waste reduction and prevention program for Manitoba to provide for the effective, efficient and economical management of scrap tires. The Board is funded through a WRAP Levy on the sale of new tires. All accumulated levy funds were transferred from Government to the TSB and a permanent Board of Directors was created. Levy funds were designated directly to the TSB and not into government general revenue.

Household Hazardous Waste

The Manitoba Government proposed in August 2001 to regulate the sale of products that become household hazardous waste, meaning that manufacturers and retailers will not be allowed to sell these products unless they have a suitable plan for waste diversion. The Proposed Household Hazardous Waste Stewardship Regulation can be viewed at <http://www.gov.mb.ca/conservation/hhw/technical.html>.

Under the proposed regulation, the products designated as HHW fall into 11 categories:

- Batteries
- Consumer paint products
- Corrosives (such as oven cleaners and drain cleaners)
- Liquid fuels
- Domestic pesticides
- Pharmaceuticals (unused medications and hypodermic needles)
- Pressurized-flammable gas containers (such as propane BBQ tanks and single use tanks)
- Solvent and flammable liquids (such as gasoline, anti-freeze, and paint strippers)
- Swimming pool chemicals
- Consumer electrical and electronic equipment
- Products containing mercury (includes thermometers and fluorescent lighting)

Studies show that households in Manitoba threw 1,979 tonnes of HHW into landfill sites in 1998. Manitoba Conservation spent \$435,000 supporting collection events throughout the province in the year 2000, however demand for the service is much higher than their budget will support. Manitoba Conservation has released for public discussion a draft regulation under the Waste Reduction and Prevention Act. Under the proposed Regulation, companies that sell products designated as contributing to the Household Hazardous Waste stream will be given 3 months to develop plans for an alternative waste management program to keep these wastes out of our environment. General information on household hazardous waste in Manitoba can be found at <http://www.gov.mb.ca/conservation/hhw/> and the Plan to Manage Household Hazardous Waste in Manitoba can be found at <http://www.gov.mb.ca/conservation/hhw/public.html>.

Electronic Equipment Regulation

Manitoba is the first province in Canada to introduce regulations for the collection of electronic equipment. The government says it will discuss with retailers how the collection of electronic equipment will work. The province is expected to get a program up and running by September 2002. TVs and monitors are now on the province's household hazardous waste list.

Cathode ray tubes (CRT) in the sets and monitors contain lead that can leach into the ground when left at landfill sites. Cathode ray tubes are essential for getting the picture on the screen. Each tube can contain up to 3 kg of lead. Rod McCormick of Manitoba Conservation says the cost of recycling an average TV set is small. He says it would cost less than five dollars per TV set. McCormick says waste from CRTs is expected to double in the next few years because of the amount of electronics people are using. A description of products and devices included under the proposed regulation include: televisions, video display equipment, personal computers, laptop and other portable computers, personal computer monitors, computer peripherals.

Information on recycling computer monitors and television sets in Massachusetts is available at <http://www.wastecap.org:8080/wastecap/commodities/crt/crt.htm#CRTfacts>. Both the United States Environmental Protection Agency (U.S. EPA) and the California Department of Toxic Substances Control (DTSC) are currently considering a new regulatory structure for waste CRTs. At present DTSC is working with industry, the California Integrated Waste Management Board (CIWMB), the California Environmental Protection Agency (Cal/EPA), and other interested parties in evaluating several options for alternate management schemes that will encourage the collection and recycling of waste CRTs. A summary of the DTSC response to questions regarding the disposal of cathode ray tubes is available at <http://www.ciwmb.ca.gov/Electronics/RegIssues/DTSCMFF/032001Summ.htm>. The Global Futures Foundation/USEPA report "Computers, E-Waste, and Product Stewardship: Is California Ready for the Challenge?" can be downloaded from <http://www.globalff.org/e-waste.pdf>.

Ontario

<http://www.wdo.on.ca/>

The government of Ontario introduced legislation June 26, 2001 to establish a permanent long term organization to develop, implement and fund waste diversion programs. The *Waste Diversion Act 2001* established Waste Diversion Ontario (WDO) as a not-for-profit corporation, run by a board of directors from industry and municipalities. The WDO's first task was to establish an industry funding organization to set and collect fees from industry to pay 50 per cent of municipal Blue Box costs. The WDO will also develop, implement and fund waste diversion initiatives for used oil, organics such as kitchen waste, household special wastes (e.g. paints and solvents), scrap tires and other materials. The WDO builds on the work of the one-year, voluntary waste diversion organization established in November 1999.

The Liquor Control Board of Ontario will continue to pay for the cost of recycling alcohol beverage glass in municipal Blue Boxes. The LCBO has contributed \$12 million since 1998, and will contribute \$5 million annually for the next five years. This year, \$4 million will go to municipalities for glass recycling, and \$1 million will flow as a one-time payment to assist the WDO in its initial set-up.

Corporations Supporting Recycling at <http://www.csr.org/> is the entity responsible for research and development and promotional programs in support of recycling.

Beverage Container Recovery in Ontario

Like Manitoba, Ontario relies solely on their curbside recycling pickup program to recover beverage containers. In 1992 the Ontario government passed a regulation mandating the provision of "Blue Box" collection of recyclables in municipalities with a population of over 5,000 people. These programs were to collect aluminum, steel, PET plastic and glass containers, and newsprint. The municipal collection programs received funding from a coalition of industry groups, including the beverage container industry, packagers, and the grocery industry. Although the province also had regulations mandating a 30 percent refillable market share for soft drink

containers, these regulations have not been enforced and today refillable soft drink containers account for about 2 percent of sales.

The beverage industry in Ontario has fought not only refillable containers but also the deposit-refund system prevalent in almost every other Canadian province. Since a succession of industry-controlled organizations has driven the collection of all recyclables, including non-beer beverage containers, it is difficult to say what the exact recovery rates are. All recycling data (download the **Municipal 3Rs in Ontario: 2000 Fact Sheet** from <http://www.ene.gov.on.ca/programs/4148e.pdf>) lumps beverage containers with other non-beverage container recovered materials. According to consultant Clarissa Morawski (principal of CM Consulting and author of a ten-part series on Canadian beverage container recovery programs downloadable from <http://www.productstewardship.org>), the beverage container recovery rate in Ontario is estimated between 35 and 50 percent, ranking it one of the worst in Canada. Writes Morawski: "Ontario's beverage container recovery system is at least 30 percent less effective than most deposit-return programs in Canada and around the world; it is almost entirely supported by taxpayers and contains no "polluter-pays" incentives to reduce or reuse. Without meaningful and binding recovery targets, notable increases in the recovery of beverage containers in Ontario is unlikely."

Ontario brewers, on the other hand, maintain their own container return-to-retail deposit-refund program and it is one of the most successful in Canada. A whopping 98 percent of all beer containers sold through the privately owned Beer Store retail chain and through the Liquor Control Board of Ontario (LCBO) are recovered for reuse and recycling. Earth Day Canada, the group spearheading a zero waste goal for Canada, includes The Beer Store as one of its 'Zero Heroes'. (See Target Zero Canada at <http://www.targetzerocanada.org>). The Beer Store serves 12 million people about 1.8 billion servings per year. There are 46 domestic and foreign breweries in the system, 428 retail stores and 17,000 licensed locations. The system has a 98% bottle return rate, 97.6% of all packaging is diverted from landfill, 80% are standard refillable bottles, 11% are refillable kegs and 8% are recyclable one-way packaging. Their deposit-return program (10 cents/unit) provides customers with an incentive to return their empties and other packaging for reuse and recycling. The standard refillable bottle is reused between 15-20 times and thereby uses 92.5%-94.5% less bottles than if they were in one-way containers, which saves brewers about \$160 million in avoided packaging costs every year.

The Beer Store was the first Canadian business to be awarded with the Eco Logo - Canada's distinguished Environmental Choice program. With the success of the Beer Store's packaging return program, Ontario municipalities save about \$31 million in avoided costs associated with collecting the material through municipal waste and recycling programs. The Beer Store also recovers: Aluminum cans, PET containers, plastic bags, stretch wrap, photodegradable tear-away hi-cone plastic rings, office paper, computer paper, corrugated cardboard, and steel (caps).

City of Ottawa's "Take it Back!" Program

Canada's capital City of Ottawa has a **"Take it Back!"** program that offers a convenient option to dispose of some household and hazardous waste products. A **"Take it Back!"** directory is distributed to Ottawa-Carleton households, libraries, community centres, and retailers to ensure information about the program is widely spread and easily understood.

Instead of taking hazardous waste products to the City's Household Hazardous Waste Depot, residents can take the products listed in the directory to participating **"Take it Back!"** retailers. The **"Take it Back!"** program won the 1999 Recycling Council of Ontario Outstanding Product Stewardship Award and was submitted for the [Federation of Canadian Municipalities 2000 Sustainable Community Awards](#).

The following items are part of the **"Take It Back!"** program on the web site http://www.city.ottawa.on.ca/gc/takeitback/index_en.shtml

Automotive:

[antifreeze](#) - [automobiles](#) - [car batteries](#) - [car parts](#) - [gasoline](#) - [kerosene](#) - [motor oil](#) - [oil filters](#) - [propane tanks](#) - [scrap metal](#) - [transmission oil](#) - [tires](#)

Electronics:

[computers](#) - [fax machines](#) - [keyboard & mouse](#) - [laser cartridges](#) - [monitors](#) - [non laser cartridges](#) - [photocopier cartridges](#) - [printers](#) - [breakers, light switches, wiring](#) - [TV, VCR, stereos](#) - [typewriters](#)

Garden Supplies:

[flower pots](#) - [plastic flats](#) - [styrofoam flats](#)

Health:

[medication](#) - [used needles & syringes](#) - [eyeglasses](#) - [wheelchairs and parts](#)

Household Products:

[appliances](#) - [batteries \(rechargeable & non-rechargeable\)](#) - [bicycle & parts, car racks](#) - [Brita water filters](#) - [building materials](#) - [camping gas cartridges](#) - [clothing and household items](#) - [clothes hangers & dry cleaner bags](#) - [fluorescent lights & ballast tubes](#) - [fur coats](#) - [lead acid batteries](#) - [paint thinner & reducer](#) - [styrofoam packaging](#)

Program conditions are:

- Inquire about specific conditions before taking products back to the retailer.
- Quantities may be limited.
- A small handling fee may apply.
- Products **must** be dropped off during business hours.

Now about to enter its third year, success of this popular **"Take it Back!"** partnership program is apparent. It now includes over 35 products and 260 local retail locations that offer the 750,000 Regional residents of Ottawa an opportunity to conveniently 'take back' and properly dispose of many previously problematic household items such as motor oil, antifreeze, automotive parts, pharmaceuticals, propane tanks, garden supplies and many more products at locations they already regularly shop at.

Originally planned as a three-year pilot program, **"Take it Back!"** quickly grew into a popular and innovative product stewardship partnership program run with minimal Regional staff largely using summer students to annually recruit new partners in exchange for providing the retailer's "dream". That is, inclusion in an extensive promotional campaign that made their business look environmentally friendly and brought customers back, again and again into their store, and cost them nothing, other than disposal fees. The program worked and took off even faster than planned with many retailers calling to seek out information on how to join, and not wanting to wait for the planned annual recruitment campaign.

A more detailed description and history of the **"Take it Back!"** program is available on the GrassRoots Recycling Network web site at http://www.grrn.org/resources/ottawa_trish.html.

Québec

<http://www.menv.gouv.qc.ca/index-en.htm>

To deal with wastes in Québec, the Action Plan for Waste Management, 1998-2008 (http://www.menv.gouv.qc.ca/matieres/mat_res-en/index.htm) was developed. This plan replaces the Québec government's 1989 policy respecting integrated solid waste management. For the purposes of the Plan, the term "waste" means any material or object that is obsolete, discarded or otherwise disposed of by Québec households, industries, commercial establishments or institutions, with the exception of hazardous materials generated by industrial, commercial and institutional activities, biomedical waste and pulp and paper mill wastes. The Ministry of Environment has a Biomedical Waste Management regulation (<http://www.menv.gouv.qc.ca/matieres/biomedicaux/index.htm>), a recovery of used syringes program (<http://www.menv.gouv.qc.ca/matieres/biomedicaux/seringues.htm>), and a contaminated snow management program (http://www.menv.gouv.qc.ca/matieres/neiges_usees/index.htm). These pages can be translated into English by typing http://translate.google.com/translate_c?hl=en&u= in front of the web page address.

On November 19, 2001 the Minister of Environment Mr. André Boisclair issued a press release indicating renewed efforts would have to be made if Québec wished to reach its goal of 65% waste reduction by the year 2008. Mr. Boisclair said that while the recovery of materials from the waste stream increased from 1.2 million tons in 1988 to 3 million in 1996 and to 3.8 million last year the rate of recovery is decreasing. Whereas the recovery rate increased from 18% to 37% between 1988 and 1998, it fell to 35% in the year 2000, that is to say the same level as in 1996. The minister asked Recyc- Québec, the true arm acting for the government in the field of the residual waste matters, to submit a new plan to him in order to give fresh impulse to recovery and recycling to Québec. (See the complete press release at <http://www.menv.gouv.qc.ca/communiqués/2001/c011119a.htm>).

Beverage Container Management Program

Québec's soft drink and beer container system is exclusively return-to-retail, making it unique in Canada. Other beverage containers are collected through curbside collection programs. Distributors are regulated under Law 87, the title of which translates literally as the "law on selling and distributing beer and soft drinks in one-way packaging." While the law only covers non-refillables, refillable beer containers are also recovered through a voluntary deposit-return system that uses the same infrastructure as the non-refillable containers.

The Society for Recovery and Recycling (Recyc- Québec) was founded in 1990 to enforce Law 87 and monitor transactions between distributors, retailers, and recyclers. The deposit schedule is 5 cents for non-refillable soft drink and beer containers with volumes under 450 ml, 10 cents for refillable beer bottles and 20 cents for non-refillable beer containers with volumes greater than 450 ml. Distributors are required to collect redeemed containers from vendors. According to Clarissa Morawski (whose 1999 article on the Québec beverage recovery program can be downloaded from <http://www.productstewardship.org/Quebec.pdf>): "In fiscal 1998 the aggregate provincial recovery rate for non-refillable beer and soft drink containers was 76 percent. In Québec refillable containers account for about 90 percent of beer sales by volume and are recovered at a rate of 98 percent. Recyc-Québec collects and pools deposits from distributors. Based on the number of containers redeemed, retailers receive a refund plus a 2-cent recovery "incentive fee" for all non-refillable containers returned. In 1998, says Morawski, Recyc-Québec collected \$14,270,698 in unredeemed deposits and paid out \$17,262,210 in recovery incentive fees.

Québec 's deposit-return system is a model of full producer responsibility, says Morawski, since both the beer and soft drink industries have incorporated container recovery directly into their distribution infrastructure.

Scrap Tire Management Program

A tire stewardship program is administered by the Recyc-Québec Board. The first program to reuse and recycle scrap tires was initiated in 1993. This was funded by funds from Recyc-Québec. In 1999 a tire levy was legislated. The nine-member Board is composed of government appointments from municipalities, non-profit organizations, industry, education, and technical. The mission statement is to encourage industry to recycle scrap tires, to prevent stockpiling and landfilling of tires, to clean up all tire stockpiles and assist industry in creating viable industries and to improve the environment for future generations.

Management of Pesticide Wastes

Québec defines pesticide wastes as the actual pesticide, plus materials contaminated by pesticides, the water used to rinse empty pesticide containers and pulverizers, out-of-date or withdrawn concentrated products, the empty pesticide containers, pulp remainders, discharge residues, and ground contaminated by pesticides. Both domestic and commercial pesticide wastes can be designated "dangerous matters" and must be disposed of according to strict guidelines. Some domestic pesticide containers and small amounts of material not designated "dangerous matters" can be disposed of as household refuse. Agricultural, commercial and industrial waste must be eliminated according to strict guidelines.

The Institute for crop protection (IPC) was set up in 1993 to recover empty agricultural pesticide containers. Clean (rinsed three times) and empty containers with their stoppers and labels removed are accepted at nearly 70 recovery sites in Québec. A majority of concentrated products (even out-of-date) can be exchanged [with the Stock Exchange quebecoise matters secondary - http://205.151.199.203/Index.html](http://205.151.199.203/Index.html) - (BQMS) of Recyc-Québec. Non-domestic unusable pesticides must be recycled or eliminated by holders of a licence from the Department of Environment and Fauna.

New Brunswick

<http://www.gnb.ca/elg-egl/index-e.htm>

The Department of the Environment and Local Government's (DOELG) legislative framework is composed of 7 statutes and 19 regulations. The **Regional Solid Waste Commissions Regulation** under the **Clean Environment Act** establishes voting procedures and conflict of interest parameters for solid waste commissions, and addresses financial management, auditing, and financial reporting requirements of these commissions. This Regulation also outlines conditions under which commissions may accept solid waste and provide services related to solid waste management. The regulation complements the framework for solid waste commissions provided for in the **Clean Environment Act**.

The **New Brunswick Tire Stewardship Regulation** under the **Clean Environment Act** provides a framework for the recycling of used tires and allows for the establishment of the New Brunswick Tire Stewardship Board. The Board essentially runs the New Brunswick tire stewardship program according to a management plan approved by the Minister of the Environment and Local Government. The Board is responsible for the collection of advance disposal levies from all tire suppliers and contracts for the reprocessing of used tires.

The **Ozone Depleting Substances Regulation** under the **Clean Air Act** establishes restrictions on substances which damage the stratospheric ozone layer, such as CFCs, HCFCs,

halons and selected solvents. The Regulation's main goal is to prevent the release of ozone depleting substances (ODS) into the atmosphere and to prohibit some non-essential uses of these compounds. Requirements are established for preventing the release of ODS, such as mandatory recovery and recycling of ODS and standards for the leak testing, operation and disposal of equipment containing such chemicals. A vital component of the Regulation is a mandatory ODS certification course for technicians who perform work on equipment containing ODS. This Regulation supports a national and international effort to eliminate the release of all ODS in order to allow for a recovery of the ozone layer. The Province controls the use of ODS, while the federal government controls the import, export, and manufacture of these substances in Canada.

The ***Environmental Trust Fund Act*** establishes a fund to be used to pay for the costs of environmental protection on restoration, promoting sustainable development, conserving natural resources, environmental education, or the maintenance and enhancement of the visual environment. Its sources are the net profits of video gaming, a portion of environmental fees collected under the ***Beverage Containers Act*** and direct contributions. The ***Environmental Trust Fund Act*** specifies the broad parameters for uses of the fund. The Act requires the Minister of the Environment and Local Government to appoint a board to advise the Minister of the Environment and Local Government on how the assets of the fund should be used.

The intent of the ***Pesticides Control Act*** and the ***General Regulation*** under this Act is to ensure that pesticides are used and disposed of in an appropriate manner. Only pesticides that are registered under the federal *Pest Control Products Act* may be considered for use in New Brunswick. Businesses involved in the sale of non-domestic pesticides are required to hold a Pesticide Vendor's License. Businesses that are involved in providing pesticide application services for fee or reward (i.e. lawn care companies) are required to hold a Pesticide Operator's License. A permit must also be obtained from the Minister of the Environment and Local Government authorizing the specific type of application in which the company provides a service, and all employees who apply pesticides must hold the appropriate level and class of commercial certification. Individuals who apply non-domestic pesticides by ground on their own land, leased land or employer's land, are required to hold a Private Pesticide Applicator's Certificate. Finally, a Pesticide Use Permit is required before anyone can apply a pesticide from an aircraft or to water.

The ***Beverage Containers Act*** establishes the framework for the Province's modified deposit/refund system for soft drink, juice and alcoholic containers. The Act and the ***General Regulation*** under this Act outline requirements for the containers themselves (labeling, size and type), registration procedures for Redemption Centres and rules for their operation, as well as responsibilities of distributors. The legislation also establishes handling fees and addresses the remittance of certain proceeds to the Environmental Trust Fund.

Beverage Container Management Program

New Brunswick's Beverage Containers Program was put in place to reduce the amount of waste that goes to landfills, or ends up being littered along roadsides and waterways. Each beverage distributor is responsible for managing their containers by refilling or recycling them. The beverages covered by the program are: soft drinks, beer, wine, and spirits, flavoured waters, fruit juices, vegetable juices, and low alcohol drinks. The containers covered by the Program include all sizes (5 liters & under) of: glass and plastic bottles, metal cans, drinking boxes, plastic cups with foil lids, plastic pouches (like "mini-sips") and cartons.

All non-alcoholic (ready-to-drink) beverages, of any size, whether purchased at a corner store or a supermarket, carry a 10¢ deposit. Products purchased at a N.B. Liquor store or outlet carry a 10¢ deposit on small containers (500ml and under) and a 20¢ deposit on large containers (over 500ml). The exception is refillable beer bottles, where the deposit is \$1.00 per dozen. There is no additional tax on the deposit. Empty containers taken to a Redemption Centre receive a full

refund on each refillable container -- if you paid 10¢, you get 10¢ back (except for refillable beer bottles, where the refund is \$1.00 per dozen.)

Recyclable containers get a 50% refund. That means if you paid a 10¢ deposit, you get 5¢ back. The beverage industry uses 2.5¢ to help pay for the cost of the recycling process. This involves sorting and transporting the containers, and processing them (i.e. crushing metal or glass, shredding plastic). The other 2.5¢ is placed in the Government's Environmental Trust Fund, which supports environmental education, conservation, and protection through both community and governmental projects. The money that the Environmental Trust Fund receives from the Beverage Containers Program is set aside for specific use in promoting programs that reduce waste.

Since its launch in June 1992, public support for the province's deposit-refund program has been consistently strong. The beverage container management system has been successful in obtaining high recovery rates in a relatively short time, posting a 77.71 percent recovery rate in 1996 after only four years of operation. The system is run by three separate agencies: Rayan Industries collects alcoholic beverage containers and beer cans; Moosehead Breweries and Labatt Breweries collect refillable beer bottles; and, Encorp Atlantic Inc. collects the largest volume of material, non-alcoholic beverage containers. According to consultant Clarissa Morawski, New Brunswick's experience suggests that where industry manages its own containers, it's able to reduce system costs resulting in an effective and efficient beverage container recovery program.

New Brunswick Tire Stewardship Board <http://www.nbtire.com/>

The New Brunswick Tire Stewardship Board was initiated in 1996 under the Clean Environment Act. The Board is comprised of four industry directors and one government appointee. Their mission is to administer with quality and care a recycling program for tires in accordance with the Clean Environment Act. As of October 1, 1996 (TRACC), the Tire Recycling Atlantic Canada Corporation, and the New Brunswick Tire Stewardship Board have been managing the recycling of used tires. All automotive and light truck tires, with a wheel rim of 24.5 inches or smaller are included in the program. An environmental fee is collected on every new tire purchased in New Brunswick. \$3.00 for a wheel rim size up to 17", and \$9.00 for larger tires up to 24.5". There is a \$3 fee for motorcycle and moped tires. This is used to cover the cost of processing transporting the tires to the recycling plant in Minto where they are crumbed, shredded and converted into new products for sale inside and outside the Province.

Waste Oil, Car Batteries, Paint, Propane Tanks, and Flammable Liquids

The Fredericton Region Solid Waste Commission provides free disposal of waste oil, car batteries, paint, propane tanks, and flammable liquids during Household Hazardous Waste Days.

Prince Edward Island

<http://www.gov.pe.ca/>

The Environmental Protection Division of the Department of Fisheries, Aquaculture and Environment administers a wide range of programs, legislation and activities which are designed to protect the environment in the Province. These include: air quality, protection of the ozone layer, management of hazardous wastes, litter, beverage containers, petroleum storage tanks,

used oil, tires, lead-acid batteries, derelict vehicles, excavation pits, unsightly properties, and special projects.

Island Waste Management Corporation
<http://www.gov.pe.ca/tpw/iwmc-info/index.php3>

The Island Waste Management Corporation (IWMC) is a provincial Crown Corporation that manages, administers and provides solid waste management services province-wide, including the operation and maintenance of all provincial disposal sites, the East Prince Waste Management Facility and the Queen's County Regional landfill. The corporation is also responsible for the Waste Watch Program, a source separation waste management system that currently operates in Prince County and the Greater Capital Region.

The Waste Watch Program (<http://www.iwmc.pe.ca/wwwpage.htm>) treats waste as a resource by sorting into recyclables, compostables and remaining waste materials. Materials such as paper, plastics, metal and glass are recycled, organics such as food and yard waste are composted, and remaining residuals are disposed of to landfill or incinerator. Diversion from landfill rates in the East Prince area are approximately 65%. IWMC recently introduced its integrated waste management strategy that proposes to have full Waste Watch Program implementation in place by the year 2002. As of October 2001, the first component of Waste Watch - blue bag recycling - has been made available to 100% of Island households.

The Waste Watch Blue Bag Program uses a two-bag translucent blue bag system for the monthly curbside collection of recyclable materials. (See <http://www.iwmc.pe.ca/recycle.htm> for details.) Paper products and corrugated cardboard are collected in one bag. Plastics (numbers 1 through 5), metal food and beverage cans, aerosol cans, container glass, milk and juice cartons, tetra paks, and flashlight, radio and watch batteries are collected in another bag.

Organic materials are collected through a green cart program in selected areas of the Island (see <http://www.iwmc.pe.ca/sortcomp.htm>). Items that can be placed in the green cart include food waste, non-recyclable paper, boxboard, yard waste, and a number of other materials.

Beverage Container Management Program

In 1973, Prince Edward Island's Litter Control Regulations demanded that beer be sold only in refillables and banned the sale of canned beer. The ban on cans and demand on refillables was expanded in 1984 to include all carbonated flavoured beverages. Annually in PEI, 17 million soft drinks and 24 million bottles of beer are sold in refillable glass containers. Local jobs and an estimated 5 million dollars are added to the Island economy each year by the refillable policy. The refillable policy ensures that both producer and consumer together are responsible for the disposal of the product. All retail stores which sell soft drinks in Prince Edward Island will also accept empties back for refund. There are also various bottle depot operators scattered across the province who will accept refillables.

Minimum Deposits and Refunds

Product	Deposit	Refund
Soft Drink (500 ml or less)	20¢	17¢
Soft Drink (>500 ml)	40¢	34¢
Soft Drink (>1.5 L)	80¢	70¢
Beer or Cooler Containers	10¢	\$1.20/dozen or 7¢ loose
Wine (500 ml or less)	10¢	5¢
Wine (>500 ml)	20¢	10¢

Today, the return rate on PEI's soft drink and beer containers stands at close to 98%. This is the highest in North America and has not been seen elsewhere since the 1950s when local bottlers and deposit-return systems were the norm. In retrospect, cans appear cheaper for consumers to buy than glass bottles. Bottles have traditionally placed the environmental responsibility squarely on the producer and consumer. Disposal and recycling of cans in a municipal collection system have tended to be borne by the public purse. Cans, as a consequence, have been cheaper for large soft drink companies to mass produce and distribute because they do not have to include collection/disposal costs.

Used Tire Management Program

A tire levy was put in place by the PEI government prior to the 1999 incorporation of the Island Waste Management Corporation. This is a legislated, government-run program with a mission to collect and process all scrap tires on PEI in an economically and environmentally sound manner. A predisposal levy of \$2 is collected on the sale of new tires. Annual sales of just over 100,000 tires produce a levy amount of \$200,000. The annual income of \$200,000 is spent in total on collection and transport (45 percent) and processing (55 percent).

Safe Disposal of Medical Sharps

Used needles and syringes are considered biomedical waste and PEI warns individuals to treat their disposal with caution. The recommended at-home disposal method of waste sharps

is:

1. Use a container that is leak and puncture proof with a twist off cap. Old bleach bottles or peanut butter jars are good choices.
2. After dropping in used syringes, tightly cap the bottle and LABEL it with appropriate wording like: **WASTE SHARPS**.
3. If on the Waste Watch system, throw this container in the **BLACK CART** (the waste cart, see <http://www.iwmc.pe.ca/sortwast.htm>). If not on the Waste Watch system, just throw labeled sharps bottle in the regular trash or take them to the Trigen Energy from Waste Plant (EFW) in Charlottetown for incineration. Some pharmacies on the Island sell special disposal containers to clients like diabetics that are designed to hold used needles. Drug stores can provide details.

All institutions must have their sharps incinerated. Often this is done at Charlottetown's EFW plant, but some send their material to Moncton, New Brunswick for burning.

Scrap Metal Disposal

Scrap metal (except for white goods) is not accepted at any PEI disposal site. Scrap metal must be taken to one of six depots run by the PEI Ferrous Metal Dealers Depot Association Inc. Maximum disposal fee chargeable by scrap metal dealers is set at \$49 per ton for the period October 15 to November 18, 2001. Oil, propane tanks up to 20 lbs., and 45-gallon drums may be delivered to the PEI Ferrous Metal Depots for no fee. (Propane tanks larger than 20 lbs. should be returned to point-of-purchase). White goods which include household appliances such as washers, dryers, fridges, dehumidifiers, freezers, stoves, dishwashers, microwave ovens and hot water tanks are accepted at most provincial disposal sites for no fee.

Household Hazardous Waste (HHW) Disposal Depots

HHW is not collected at curbside in Prince Edward Island. As part of the expanding Waste Watch Program, IWMC currently provides residential household hazardous waste drop-off depots servicing East Prince and the Capital Region Area. A HHW depot will be introduced to Kings County in 2002. HHW includes items such as: adhesives/glues, antifreeze, bleaches, household cleaners, drain cleaners, ammonia containing window cleaners, paints, solvents, thinners, wood preservatives, home pesticides and containers, photographic chemicals, propane cylinders, thermostats and mercury thermometers. Non-residential wastes, explosives, radioactive wastes, pathological wastes and PCB wastes are not accepted at IWMC's HHW depots. Once the HHW has been received by IWMC it is itemized and contained in lab packs for eventual shipping and safe disposal or recycling by a licensed hazardous wastes disposal company.

Nova Scotia

<http://www.rrfb.com/>

The Province of Nova Scotia did not develop a Solid Waste Management Strategy (<http://www.rrfb.com/Glance.html>) until 1996, well behind some other Canadian provinces. The Resource Recovery Fund Board Inc. (RRFB) was established in 1996 to administer solid waste management in Nova Scotia. RRFB Nova Scotia is a private, not-for-profit organization with a mandate to:

- oversee the deposit/refund program for beverage containers
- administer the disposal bans
- create jobs by promoting the manufacturing of new products
- negotiate industry stewardship agreements
- direct funding to municipalities, and
- educate the general public.

Nova Scotia's solid waste and resource management regulations have been legislated under section 102 of the Environment Act (see the following web site <http://www.gov.ns.ca/just/regulations/regs/envsolid.htm> for section details). Section 102 sets out the regulations for industry stewardship agreements including beverage container definitions and deposits; the used tire management program; litter abatement; composting; waste disposal; and funding programs. The province has initiated a comprehensive list of materials that are banned from municipal landfills. Although the province did not begin implementing these bans until 1996, there is considerable evidence that these aggressive bans were partially responsible for Nova Scotia being the only Canadian province to reach the 50% waste reduction goal by the end of the year 2000.

Schedule "B" of Section 102 sets out the banned designated materials and the implementation date of the ban:

- Redeemed beverage containers - April 1, 1996
- Corrugated cardboard - April 1, 1996
- Newsprint - April 1, 1996
- Used tires - April 1, 1996

- Lead-acid (automotive) batteries - April 1, 1996
- Leaf and yard waste - June 1, 1996
- Waste paint - April 1, 1997
- Ethylene glycol (automotive antifreeze) - April 1, 1997
- Compostable organic material - June 1, 1997
- Steel/tin food containers - April 1, 1998
- Glass food containers - April 1, 1998
- Low-density polyethylene bags and packaging - April 1, 1998
- High-density polyethylene bags and packaging - April 1, 1998

Beverage Container Management Program

The Deposit/ Refund Program for Beverage Containers, which came into effect on April 1, 1996, applies to all ready-to-serve beverages – except dairy products. Public participation in our Deposit/ Refund Program continues to grow. During fiscal 2000, 212 million containers were returned to over 90 Enviro-Depots® in the province. That's nearly an 80 percent rate of return. Consumers pay a 10- cent deposit on each liquor or non- liquor beverage container purchased. A 5- cent refund is given for each container returned to a Depot. The remaining five cents from each deposit is split between the Enviro-Depot (2.5 cents) and the Resource Recovery Fund (2.5 cents). The RRFB's portion of the remaining 2.5 cents is used to cover HST, regional processing costs, cartage and administration of the fund. In the case of liquor containers over 500 ml, a 20- cent deposit is paid and a 10- cent refund is applied. Refillable beverage containers are fully refundable. Since the program began, more than 678 million beverage containers have been recycled.

Used Tire Management Program

The Province established the Used Tire Management Program (UTMP) in 1997 under the Solid Waste Resource Management Regulations and appointed the RRFB as administrator of the Program. The RRFB Board consists of five government and four industry appointees. When new tires are purchased in Nova Scotia from a registered tire retailer, a \$3 environmental fee per car tire and \$9 per truck tire over 17" is charged to cover costs of collecting, processing, and manufacturing used tires into value-added rubber products for resale. Each year, Nova Scotians generate approximately one million used tires for disposal.

Residents can drop off up to 4 tires free of charge at any tire retailer that is registered with the RRFB. Wheel-barrel tires, bicycle tires, and tires larger than 24.5" are exempt from the Tire Recycling Program.

To date, the RRFB has diverted more than 2.3 million tires from landfill and incinerators. The RRFB Inc. also designated funds from the Used Tire Management Program for the clean up of old tire stockpiles throughout the province and 125,000 tires were collected in fiscal 2000. This brings the total number of stockpiled tires cleaned up since 1998 to 225,000.

Used tires are made into products such as rubber matting, manhole collars and risers, and sheet rubber to be used for the automotive industry. Tire chips from close to 500,000 old tires were used to create a road base for innovative projects in Port Hawksbury and Digby. The tire material acts as an insulator to reduce damage cause by frost.

Used Oil Management Program

Retailers who sell motor oil must either accept used oil or provide a collection depot within 5 kilometers of their business. This ensures that all Nova Scotians have a convenient place to deliver their used oil for reprocessing.

Safe Sharps Bring-Back Program

The RRFB also participates in a used sharps (syringes, needles, and lancets) program in cooperation with the Pharmacy Association of Nova Scotia and the Canadian Diabetes Association (CDA). Persons using needles, syringes or lancets can pick up a sharps container at their local pharmacy or CDA Supply Centre. Filled containers are then returned to the same location. This program does not include used sharps from medical, dental, or veterinary clinics, intravenous drug users, farms, or home care providers. A web site to educate sharps users is found at <http://www.rafb.com/Sharps.html>.

Milk Packaging Stewardship Program

The Atlantic Dairy Council entered into an agreement with the government of Nova Scotia in February 2000 to make financial contributions to recyclers to offset the cost of managing milk packaging, including gable top cartons. While milk packaging is excluded from the provincial deposit system, the Atlantic Dairy Council has agreed to place side panel advertisements related to waste diversion on all two-litre milk cartons for a minimum of 2 to 3 cycles per year. The Nova Scotia Milk Packaging Stewardship Agreement is accessible at www.gov.ns.ca/envi/wasteman/dairy.pdf.

Paint Recycling Program

A new paint-recycling program in Nova Scotia went into effect on June 1, 2002. The program allows consumers to return surplus paint to any one of the province's 85 recycling depots at no charge. The paint will then be shipped to a paint-recycling operation in Springhill, which will turn it into new paint. There is no charge-back to the consumer. The program will be funded by all brandowners of paint products who sell paint products into Nova Scotia. All brandowners must submit a paint stewardship plan to the Minister for approval or contract this service with RRFB Nova Scotia. The program applies to all latex, oil, and solvent-based paints including aerosol paint cans but does not apply to specially formulated industrial, automotive or marine coatings.

Nova Scotians buy more than two million containers of paint every year. Under this new program, recovered and recycled paint will be used by the Springhill plant to produce about 350,000 litres of recycled paint every year. The program is expected to create new jobs at the Springhill plant and at recycling depots all around the province. The new program will be administered by RRFB Nova Scotia, formerly the Resource Recovery Fund Board. A paint recycling program fact sheet is available at <http://www.rafb.com/pages/FactSheet.html>.

Newfoundland and Labrador

<http://www.gov.nf.ca/env/>

Newfoundland and Labrador was the last province to join the Canadian federation (1949) and it is the last to develop a provincial waste management strategy. A four-person Waste Management Advisory Committee was appointed in May 2001. Their task was to meet with people across the province, seeking their views, ideas and information on the present and future waste management practices in the province. At the time of the committee's appointment, there were approximately 240 landfill sites in the province, 10 times the number of their neighbouring Atlantic provinces combined, and most were operating at unacceptable standards. There were also over 50 aging teepee incinerators that were not meeting national air emission standards and many were reaching the end of their useful life.

The advisory committee's report -- entitled **A Call to Action On Environmental Protection** -- was presented to the provincial Environment Minister on October 31, 2001. It is available at <http://www.gov.nf.ca/publicat/Waste%20Management%20report.PDF>.

Waste management is administered by the Pollution Prevention Branch (http://www.gov.nf.ca/env/Env/pollution_prevention.asp) of the Department of Environment. The mandate of the Pollution Prevention Division is to prevent and mitigate the adverse environmental effects of industrial activity, pesticide usage, hazardous products storage and handling, and the generation and disposal of solid and liquid wastes. This is accomplished through: monitoring industrial emissions and effluent; establishing and enforcing compliance agreements; licensing and training of pesticide applicators and the general public, the adoption of the concept of integrated waste management; and in the approval of innovative contaminated site remediation technology.

The provincial government established the Multi-Materials Stewardship Board (MMSB) in 1996 and it implemented the first province-wide waste diversion program, the beverage container deposit refund program, in 1997. The role of the appointed MMSB members is to develop, implement, and, where appropriate, manage waste management initiatives in the province. Members of the board represent industry, consumer stakeholder organizations, and the provincial government. The board is financially self-sustaining, with an annual budget of \$300,000. The MMSB reports to the Minister of Environment.

Since 1997, the MMSB has actively promoted recycling, with a focus on working with schools throughout the province. The schools program, with 275 schools participating, has been very successful, both in raising environmental awareness and as a source of fundraising. Most recently, the MMSB has provided funding, through the Newfoundland and Labrador Waste Management Trust Fund, for projects on regional waste management systems and waste diversion. It has plans to initiate a second, province-wide waste diversion program, for scrap tires and is completing research on the possibilities for recycling the volumes of paper, magazines, and newspaper available in Newfoundland and Labrador.

Beverage Container Management

In January 1997, the Multi-Materials Stewardship Board initiated the first province-wide waste recycling diversion program -- a deposit refund program for beverage containers. To date, this program has been successful in diverting 50 per cent of beverage containers from landfills; has led to the establishment of 37 Green Depots and more than 100 jobs; and, reduced roadside litter.

The "Beverage Recycling Program" was launched under the *Waste Management Control Act*. The province-wide program covers all ready-to-drink beverage containers excluding milk, nutritional supplements, refillables and containers larger than 5 litres in size. The province set

target recovery rates of 50 per cent in 1997, 60 per cent in 1998, 70 per cent in 1999 and 80 per cent in 2000. The program is based on the “half-back” model common to the Atlantic Provinces. Consumers pay a deposit of 20 cents on alcohol containers and 6 cents on all non-alcohol containers; they receive refunds of 10 and 3 cents respectively. Containers are returned to 37 province-wide “Green Depots” or over 50 satellite depots and sub-depots, which are set up in more remote areas and operate out of schools, small retail outlets and other community businesses. Similar to New Brunswick, Alberta and British Columbia’s beverage container recovery programs, operations are undertaken by brand owners. The MMSB has contracted the operation of all day-to-day activities of the program to Newfoundland Beverage Recovery Inc. (NewBRI). NewBRI is a non-profit consortium of beverage brand owners that manages Green Depots, refunds, and handling fees. They also oversee the collection, processing and marketing of the materials. Any decisions that NewBRI makes must go to the MMSB board for review and approval. Green Depots are privately run businesses that receive revenues of 2.75 cents per container handled. NewBRI is responsible for collecting containers from the depots and shipping them to about four material recovery facilities where they are processed and shipped to market. In 1998 NewBRI recovered 86-million containers, about 52 percent of the regulated containers sold in the province. The recovery rate lags far behind other provinces that began programs at about the same time. For instance, BC’s program has a 72 percent recovery rate and Nova Scotia’s is about 80 percent. The primary difference is in the level of the deposit. Consultants like Clarissa Morawski have argued that increasing the deposits and refunds in Newfoundland and Labrador to levels consistent with other Atlantic Provinces would probably boost recovery rates. Not one of the 12 recommendations put forward by the Waste Management Advisory Committee in October 2001 mentioned increasing deposit-refund levels.

Refillable beer bottles are exempt from the beverage recycling program and are managed by the beer industry. They carry a 10-cent deposit and a 10-cent refund. Close to 93 per cent of all beer consumption in the province is from industry standard refillable bottles sold through more than 1,600 “off-premise” retail outlets (including convenience stores and liquor stores) and about 1,200 “onsite” restaurants, clubs and bars. Beer distributors collect empties when they deliver new product and then back-haul them to centralized distribution facilities for washing and refilling. The beer container recovery program achieves a 96 per cent recovery rate.

Hazardous Waste Management

Private business and industry typically contract for specialist services to dispose of hazardous materials. The general public has no ready means of safe disposal of materials such as garden chemicals (insecticides, herbicides, fungicides, fertilizers), paint or cleaning solutions, driveway sealant, varnish and propane tanks. The MMSB has funded a three-year pilot program of Household Hazardous Waste Days at various locations and a few communities have occasional household hazardous waste days. Occasional, one-day events are not effective in reaching a large number of people or households.

Yukon Territory

<http://renres.gov.yk.ca/enviro/enactreg.html>

The Environment Branch of the Yukon Department of Natural Resources is responsible for managing solid waste in the territory. Chapter 3 of the 1999 State of the Environment report contains the most up-to-date information on waste management challenges and progress. It can be downloaded from <http://renres.gov.yk.ca/enviro/soe.html>. The Yukon’s Environment Act and the 12 sets of regulations developed since 1991 can be found on <http://renres.gov.yk.ca/enviro/enactreg.html> and all of the regulations can be downloaded in pdf format.

Beverage Container Regulations

The Yukon's Beverage Container Regulations are based on consumers paying a deposit when they purchase beverages from retailers and receiving a refund when they return the empty containers to a registered recycling depot in the territory. The following table shows the variety of deposits and refunds:

CONTAINER TYPE	DEPOSIT	REFUND
Aluminum cans \$0.05	\$0.10	
Large (glass, plastic, tin and tetrapak 1001 ml or more) \$0.25	\$0.35	
Small (glass, plastic, tin and tetrapak 1000 ml or less) \$0.05	\$0.10	
Large Liquor Containers (500 ml or more)	\$0.35	\$0.25
Small Liquor Containers (200 ml - 499 ml)	\$0.15	\$0.10
Refillable Beer and Cider Bottles	\$0.10	\$0.10

Beverage wholesalers send deposits to the Recycling Fund that then pays out contributions to registered recycling centres to help them pay for their collection, processing and shipping costs. The Recycling Fund is administered separately from the government's general revenues and is also used to promote container returns, improve recycling facilities at community depots and pay part-time wages for depot staff. Dairy beverages such as milk are exempt from the regulations. This deposit-refund system was started in 1992. There are about 25 registered recycling depots around the territory, in almost all Yukon communities, operated by non-profit groups, liquor retailers and private operators. Nearly 15 million containers were collected and processed during 1998-1999 and the overall return rate for containers was 82.7 per cent. Most of the recycled containers are sold to recycling and re-use markets in southern Canada, while glass is re-used locally in road construction projects. An advisory committee representing beverage wholesalers and retailers, recycling depots, municipalities and First Nations advises the government on the design of the recycling program.

Yukon Beverage Container Program: 1998-99 Return Rates

Container Type	Containers Sold	Containers Returned	Return Rate %
Small Non-liquor (aluminum, glass, plastic, tin and tetrapak 1000ml or less)	12,254,981	9,595,760	78.3
Large Non-Liquor (aluminum, glass, plastic, tin and tetrapak 1001ml or more)	522,231	403,500	77.3
Small Liquor	406,140	262,973	64.7

Large Liquor	521,353	449,704	86.3
Refillable beer and cider (glass)	4,158,190	4,064,449	97.7
TOTAL	17,862,895	14,776,386	82.7

Pesticide Regulations

The Pesticides Regulations are intended to prevent contamination of soil, water and air and to protect food sources, humans, and valuable plants and animals from exposure to pesticides. The primary focus of the regulations is on proper storage, handling and use of domestic, commercial, and restricted pesticides. Households using domestic pesticides and agricultural (small-scale) users of domestic and commercial pesticides will not require permits, unless they are working near an open body of water, or applying pesticides from an aircraft. Anyone, other than agricultural users, wishing to use or apply a commercial or restricted pesticide must apply for a permit. (The federal regulations ban certain dangerous pesticides from use in the Yukon.) Residents with pesticide concentrate left after an application are encouraged to take the remains and any empty containers to a scheduled Household Hazardous Waste Collection Day in their area.

Special Waste Regulations

Under the Yukon Special Waste Regulations, anyone who generates, stores, handles, mixes, transports, disposes or releases special wastes is considered a waste manager. A waste manager is legally responsible for knowing and complying with the regulations. A key element of the Special Waste Regulations is the prohibition against the unauthorized release of special waste into the environment. The prohibition is supported by a tracking and reporting system for monitoring special wastes. The Special Waste Regulations together with federal and territorial laws for transporting dangerous goods, complete a cradle-to-grave management system for dangerous goods handled in the Yukon.

Northwest Territories

<http://www.gov.nt.ca/RWED/eps/environ.htm>

The Environmental Protection Service (EPS) of the Department of Resources, Wildlife and Economic Development is the Government of the Northwest Territories' (GNWT) agency responsible for initiatives which control the discharge of contaminants and their impact on the environment.

Solid waste disposal facilities in arctic communities are often rudimentary as a result of the lack of staff and funds, climatic restrictions and the presence of permafrost which forces many communities to dispose of their wastes in open sites. These wastes take decades to degrade because of the extremely slow rate of decomposition in the Arctic environment. Recent water and sediment studies confirm that concentrations of heavy metals and organic pollutants can be found downhill of these facilities. Many communities also continue to open burn their solid waste as a means of reducing volume. This practice results in metals, organic pollutants, ash and other contaminants to be discharged directly to the atmosphere where they are distributed by wind to locations many kilometres away.

EPS (<http://www.gov.nt.ca/RWED/eps/environ.htm>) is responsible for ensuring that environmentally acceptable management procedures, emission levels and disposal methods are

maintained. Through the Waste Management Program, advice and assistance is provided to generators on pollution prevention as well as the proper way to manage, store and dispose of wastes. The Department issued a directive in 1993 outlining the dos and don'ts of open burning of waste. The geography and climatic conditions in the Northwest Territories often make landfilling waste impossible. The Department encourages composting and recycling where possible. The RWED believes responsibility for proper waste management rests with the generator and should be considered as part of the cost of doing business.

Beverage Container Recovery

In May 2001, the RWED issued the Northwest Territories Beverage Container Recovery Discussion Paper (available for download from <http://www.gov.nt.ca/RWED/eps/pdfs/beverage%20container%20recycling.pdf>). The discussion paper is an excellent document for any jurisdiction contemplating a beverage recovery program. It sets out the benefits of a program, explains how a deposit/refund system works, and offers detailed elements of model program. Interviews were held with key stakeholders, while other agencies, businesses, and individuals were encouraged to submit comments by fax, phone, e-mail, mail, or in person. There was general overall agreement that the NWT should have a beverage container recovery program and that the program should be a legislated deposit/refund system. People agreed that each community should have a place to take empty containers to get a refund and that the GNWT should administer the program. It is presumed the government will introduce a beverage container recovery program in the near future, based on this positive public response.

Paint, Pesticide, and Hazardous Waste Guidelines

The Department of Resources, Wildlife and Economic Development administers two environmental protection statutes: *The [Environmental Protection Act](#) and [Pesticide Act](#)*. The regulations and guidelines proclaimed under these Acts include guidelines on industrial waste discharges, solvents, paint, batteries, antifreeze, hazardous waste, and pesticides. See the complete list at <http://www.gov.nt.ca/RWED/eps/leg.htm>. Waste paint is a contaminant under the *Environmental Protection Act* (EPA) of the NWT and must be managed as a hazardous waste. Every person who generates waste paint is responsible for the proper management of these substances. Waste paint must be safely handled, packaged, stored, transported, treated and/or disposed in accordance with this guideline and all applicable Acts and regulations. Domestic waste paint and specialty coatings may be accepted for exchange at community "Household Hazardous Waste Day" locations operated by the municipality. Businesses are encouraged to contact the Canadian Paint and Coatings Association or recycling or disposal companies to get rid of larger quantities of paint.

The Guideline for the General Management of Hazardous Waste in the NWT (<http://www.gov.nt.ca/RWED/library/eps/hw&pic.pdf>) provides information for the proper management of hazardous waste in the Northwest Territories and establishes a "cradle to grave" monitoring system for hazardous waste from generation to final disposal. The document provides guidelines for generators, carriers, and receivers of hazardous waste. It also sets out guidelines for storage and disposal, registration requirements for hazardous waste management facilities, and encourages following pollution prevention strategies like reduce, reuse and recycle. The most common types of hazardous waste found in the NWT include used lubricating oils and waste fuels, antifreeze, batteries, solvents, paint and oil filters. Recent surveys indicate that more than two million litres of waste oil and fuel, and approximately 260 tonnes of other hazardous wastes, are produced annually by northern communities.

Nunavut

<http://www.gov.nu.ca/>

The Nunavut Territory and Government came into existence on April 1, 1999. The Department of Sustainable Development is responsible for environmental protection. No regulations have yet been developed to deal with waste management or beverage container issues in the new territory. Nunavut means "our land" in Inuktitut, the language of the native Inuit. Nunavut is 1.9 million square kilometers in size, nearly one-fifth the size of Canada.

Under the Environmental Protection Act, the person who is in charge, management or control of a contaminant prior to its discharge is responsible for any subsequent clean-up measures. On becoming wastes, materials must be stored in accordance with specific government regulations and guidelines. Then, they must be properly disposed. Overall, hazardous waste treatment, recycling and disposal facilities are lacking in Nunavut. Waste generators are therefore obligated to store most materials until they can be transported South for recycling or disposal. Cold temperatures and the nature of much of the economic development in the Nunavut territory means a great deal of anti-freeze products such as glycol and methyl hydrate, combustible diesel fuels, lubricating and cutting oils, compressed gases, and stockpiles of drums containing naphtha and jet fuels are in prevalent use and can cause potential environmental hazards.

The problems of waste disposal in the high Arctic are amply illustrated by the difficulties in Iqaluit, Nunavut's capital city. In March, 2001 a paper recycling program was launched in Iqaluit. The program is a partnership between municipal, territorial and federal agencies. Environment Canada has donated 300 green boxes, which were distributed to businesses and government offices throughout Iqaluit. Clients of a local young offenders center collect the green boxes twice a week. The paper is dropped off at the Nunavut Public Works department where it is bailed for a cargo flight to Canada's capital city, Ottawa, where it will be recycled. Iqaluit is home to about 3,600 people. Garbage has always been a problem for Iqaluit. The dump is almost full to capacity and the city regularly burns garbage to reduce the heap. In January 2001, when the Nunavut Water Board granted Iqaluit a water licence, it criticized the city for its lack of a recycling program. "We know from the evidence that there are significant quantities of waste going into the landfill without being subjected to a proper recycling program or environmental sorting program," the water board said in its report. The Nunavut Water Board also stipulated that Iqaluit cut down on the open burning of garbage. A legal dispute continues to rage over whether the Nunavut Water Board exceeded its jurisdiction by putting conditions on open air burning in the Iqaluit water license. That debate is heading to the Federal Court of Canada.

The persistent organic pollutants formed when the town's wastes are burned are part of a larger problem. These toxics migrate to the Arctic from southern communities and have been measured at higher levels in the blood of Arctic residents than in the blood of their fellow Canadians in the south. As of June 1, the city has only been permitted to burn paper, untreated wood, cardboard, and food waste. It is banned from burning plastics. The mayor said that in order to meet those requirements, the council is also launching a garbage separation program. Residents will have to separate plastics from all other household garbage. Stories carried by the Environmental News Service on the waste problems in Iqaluit are available at <http://ens.lycos.com/ens/mar2001/2001L-03-19-11.html> and <http://ens.lycos.com/ens/sep2000/2000L-09-05-12.html>.

By October 2001, residents of Iqaluit were getting ready for the launch of a city-wide, blue-bag recycling program. The program's aimed at cutting back on the amount of garbage going to the local dump. The city says it also wants to weed out plastics and metals from the burn pile. "Residents will be asked to separate their garbage into two different forms," says Matthew Hough, the city's director of engineering. "One will be food and other waste, and the other will be

recyclable. The recyclables will be household metals and plastics, and residents will be given lists of products and descriptions of the plastics and metals that can be put into a blue bag." Hough says residents will get a 2-month supply of blue bags when the project gets underway. After that, he says, they'll have to buy them. Hough says recyclable items will be sent south on Canadian North airline. First Air is already flying down recycled paper. (From <http://north.cbc.ca/editorServlets/View?filename=o17bluebox>.)

The launch of the recycling program followed shortly after a Nunavut court judge turned down an Iqaluit man's request to stop garbage from going up in smoke at the local dump. Paul Crowley was seeking a court injunction to put an end to the burning of unsorted garbage at the local landfill site... as spelled out in the city's water license. While Judge Beverly Brown acknowledges Crowley's concerns in her seven-page judgement, she said the city is taking steps to address the garbage problem. The judge said an injunction to burn at this time would make the situation worse because there's nowhere to put the trash.

Additional Stewardship Initiatives:

The Canadian Plastics Industry Association through the Environment and Plastics Industry Council (EPIC) is committed to the responsible use and recovery of plastics resources. As part of its stewardship initiatives, EPIC has partnered on many plastic recovery strategies, undertaken feasibility studies, and published many different reports and guides that can be downloaded from http://www.cpia.ca/StaticContent/StaticPages/epic/product_stewardship.shtml.

The Rechargeable Battery Recycling Corporation (RBRC) has a Canada-wide program to help Canadians recycle portable rechargeable batteries. These batteries are commonly found in cordless power tools, cellular and cordless phones, laptop computers, camcorders, digital cameras, and remote control toys. RBRC recycles the following portable rechargeable battery chemistries:

- **Nickel Cadmium (Ni-Cd)**
- **Nickel Metal Hydride (Ni-MH)**
- **Lithium Ion (Li-ion)**
- **Small Sealed Lead (Pb)***
* weighing less than 2 lbs./1 kg.

The web site <http://www.rbrc.org/> gives consumers the ability to find their nearest battery collection site, support materials for community collections, as well a battery lesson plan for teachers. Canadian law is explicit regarding the disposal and recycling of Ni-Cd batteries. RBRC is the vehicle to facilitate this process in North America. Founded in 1994, RBRC is a non-profit, public service organization.

Appendix I

Summary of Canadian Beverage Container Recovery Programs

	Legislation	Objectives	Administration	Depots and Processing Centres	Designated Containers, Recovery Rate Deposit, Refund, Fees	Unredeemed Deposits
<p>Yukon Population 31,768</p>	<p>Beverage Container Regulations</p> <p>Recycling Fund Regulations</p> <p>Started 1992</p>	<p>Reduce waste volume, reduce litter, conserve resources.</p>	<p>Yukon Territorial Government, with an Advisory Committee.</p>	<p>25 registered depots. (non-profits, liquor retail, business). 3 processing centres. Raven Recycling is the biggest.</p>	<p>All containers except milk. Recovery: 83% overall Deposit: \$. 10, \$. 15, \$. 35 Refund: \$.05, \$.10, \$.25 Fees: difference between deposit and refund.</p>	<p>To Recycling Fund. Pays for program and other recycling projects.</p>
<p>British Columbia Population 3,668,400</p>	<p>Beverage Container Stewardship Program Regulations</p> <p>Started 1970</p>	<p>Product stewardship. Owners collect and refill or recycle containers. 85% recovery by 2000.</p>	<p>Encorp Pacific (represents 180 brand owners). Liquor Distributors. Brewers Distributors.</p>	<p>160 depots and retail. Encorp Pacific processes non-alcohol. Alcohol and beer collection and processing contracted to Wastetech Holdings Ltd.</p>	<p>All containers except milk. Beer and alcohol separate. Recovery: 80% non-alcohol, 93% refillable beer. Deposit and full refund: \$. 05, \$. 10, or \$. 20 Fees: Encorp calculates annual cost per type of container. Industry pays.</p>	<p>Kept by Encorp Pacific. Used to reduce the cost per container for brand owners.</p>
<p>Alberta Population 2,944,923</p>	<p>Beverage Container Recycling Regulations</p>	<p>Provide leading, innovative, accessible, and cost-effective beverage container management system.</p>	<p>Beverage Container Management Board (BCMB, a legislated body that represents industry, consumers, government).</p>	<p>207 depots and retail. Retail only take refillables. Alberta Beverage Container Recycling Corporation does</p>	<p>All containers except milk. Recovery: 78% overall. Deposit and full refund: \$. 05, \$. 10, or \$. 20 Fees: Set by BCMB bylaws. Range from</p>	<p>Kept by industry.</p>

				transport and processing.	\$. 03 to \$. 05. Industry pays.	
Saskatchewan Population 1,025,595	Litter Control Regulations Litter Control Designations Regulations	Increase recycling, employ disadvantaged people, collect and recycle non-refillable containers.	Saskatchewan Government.	Exclusive contract with SARCAN. They manage 72 depots and 3 processing centres.	All containers except milk. Recovery: 94% overall. Deposit: \$. 10, \$. 20, \$. 40, \$. 80 Refund: \$. 05, \$. 10, \$. 20, \$. 40 Fees: Difference between deposit and refund.	To government general revenue. Pays for the program.
Manitoba Population 1,140,964	Manitoba Product Stewardship Program. No deposit/refund. Started 1995	Industry responsible to minimize waste from their products.	Manitoba Product Stewardship Corp. manages depots and curbside collection. Beer separate.	Curbside system collects beverage containers with other recyclables. Beer deposit/refund managed by beer industry.	Recovery: 95% beer, 30- 40% other containers. Beer deposit and refund: \$. 10 Fees: \$. 02 per non-refillable container. Money goes to municipalities for curbside collection.	Beer only. Kept by beer industry.
Ontario Population 11,404,750	Soft Drink Regulations 1985 (not enforced) 3 Rs Regulations 1992	30% containers should be refillable. It's really less than 2%. Municipalities over 5,000 set up curbside collection.	Waste Diversion Organization. To find options for 50% of net operating costs for curbside collection. Beer separate. Soft drinks separate.	Beer and soft drinks return to retail. Other containers no deposit/refund, collected by Blue Box, curbside collection system.	Recovery: 98% beer, 35- 50% others through curbside collection. Deposit and refund: \$. 10 beer, \$. 40 refillable soft drink. Fees: No fees. Recovered aluminum cans provide 30-40% total curbside collection revenue.	Kept by industry.
	Law 87. Law on	Deposit/refund for non-	Recyc-Quebec (Quebec's	All return to retail (about	Recovery: 76% overall for non- refillable	Go to Recyc-Quebec.

<p>Quebec Population 7,334,094</p>	<p>selling and distribution of beer and soft drinks in 1-way packaging. Started 1985</p>	<p>refillables, research, market development, tire stewardship, environmental promotion and education.</p>	<p>Society for Recovery and Recycling).</p>	<p>10,000 places). Trucks deliver new product, pick up refillable beer and non-refillable soft drinks. Recycan collects non-refillable beer. Other containers – curbside collection.</p>	<p>beer and soft drinks, and 98% for refillable beer. Deposit and full refund: \$. 05 and \$. 20 non- refillable, \$. 10 refillable. Fees: \$. 02 recovery 'incentive' fee for non-refillable containers.</p>	
<p>Nova Scotia Population 936,700</p>	<p>Beverage Container Regulations Waste Management Regulations</p>	<p>Part of overall waste reduction strategy. Target 50% by 2000. Container bans – steel, aluminum, and glass (reuse or recycle).</p>	<p>Resource Refund Recovery Board (RRFB – legislated industry group).</p>	<p>RRFB partners with municipalities 90 Enviro-depots, regional processors, truck companies, Liquor Commission retail. Breweries do refillable beer.</p>	<p>All containers except milk. Recovery: 76% overall. Deposit: \$. 10 Refund: \$. 05 Fees: \$. 025 per container paid to depots.</p>	<p>50% to municipalities to offset diversion costs. 50% for education, staff, to develop markets.</p>
<p>New Brunswick Population 759,300</p>	<p><i>Beverage Container Act</i> and Regulations</p>	<p>Reduce litter, divert beverage containers from waste stream, encourage sound use of energy and resources.</p>	<p>Department of Environment and Local Government.</p>	<p>Encorp Atlantic – non-alcohol. Rayan Industries – alcohol and beer cans. Breweries do refillable beer. 89 depots.</p>	<p>All containers except milk. Recovery: 78% overall. Deposit: \$. 10 Refund: \$. 05 non- refillable, \$. 10 refillable. Fees: \$. 03 paid to depots. \$. 02 for refillable beer.</p>	<p>Environmental Trust Fund – used for environmental programs.</p>
	<p>Beverage</p>	<p>Develop,</p>	<p>Multi-</p>	<p>Newfoundla</p>	<p>All containers</p>	<p>Some money</p>

<p>Newfoundland Population 543,249</p>	<p>Recycling Program Started 1997</p>	<p>implement, and manage waste diversion. Target recovery rates for beverage containers: 50% to 80% in 4 years.</p>	<p>Materials Stewardship Board (industry, consumer organizations, and government). Beer managed by industry.</p>	<p>and Beverage Recovery Inc. (industry) manages 37 Green Depots and over 50 satellite depots (schools, retail, business). 4 processing centres.</p>	<p>except milk, refillables, and > 5L. Recovery: beer 96%, others 52%. Deposit: \$. 06 and \$. 20 Half- back refund: \$. 03 non- alcohol, \$. 10 alcohol. Full refund refillable beer: \$. 10 Fees: \$. 0275 per container.</p>	<p>goes to "Waste Management Trust Fund" – used to close and establish new landfills, and waste diversion.</p>
<p>Prince Edward Island Population 130,000</p>	<p>Deposit/ return Legislation Ban non-refillable beer and soft drink containers. 1973 and 1977</p>	<p>Product stewardship. Owners collect and refill.</p>	<p>Seamans Beverages and Coca-Cola. PEI Liquor Control Commission. Brewers industry.</p>	<p>15 depots and retail. Beer and liquor separate system. Waste Watch program (curbside collection) to be expanded to include other, non-refillable containers in 2001.</p>	<p>Soft drinks and alcohol. Recovery: 60% wine and liquor, 98% soft drinks, 95% beer. Deposit: \$. 20, \$. 40, \$. 80 Min. refund: \$. 17, \$. 35, \$. 70. Half-back alcohol: \$. 05 and \$. 10. Beer: \$1 per doz., \$. 07 each. Fees: \$. 03, \$. 05, \$. 10. \$. 02 for beer and alcohol.</p>	<p>Kept by industry for beer and soft drinks. Kept by government for alcohol.</p>
<p>Northwest Territories Population 43,000</p>	<p>No legislation or regulations</p>	<p>Litter control for alcohol beverage containers. No requirement to recycle.</p>	<p>Liquor Commission. Brewers Distributing separate program.</p>	<p>Depots in 5 communities – local business. No centralized processing. Glass and plastic to landfill.</p>	<p>Spirits, wine and beer. Recovery: 70% (2000) Deposit: \$. 10 and \$. 25 Full refund. Fees: \$. 02 per container hidden in retail.</p>	<p>Kept by the Liquor Commission.</p>

Note: The above table is taken from the "**Northwest Territories Beverage Container Recovery Discussion Paper**" issued in May 2001 by the Government of the Northwest Territories, Department of Resources, Wildlife and Economic Development.

Appendix 2

Product Stewardship Programs in Canada

Province/Territory	Beverage Container Deposits	Lead-Acid Batteries	Medications	Paint	Electronic Equipment Recycling	Scrap Tires	Solvents/Flammable Liquids, Gas, Pesticides	Used Motor Oil
British Columbia	✓	✓	✓	✓		✓	✓	Return-to-seller
Alberta	✓		Sharps			✓	Voluntary (HHW)	CPPI Model
Saskatchewan	✓			Not province wide		✓	Agricultural Pesticides and Containers Only	CPPI Model
Manitoba	2-cent tax on all containers	Proposed	Proposed	Proposed	Regulation Proposed by September 2002	✓	Proposed	CPPI Model
Ontario	Only beer			Voluntary			Voluntary (HHW)	No Program
Quebec	✓			Voluntary		✓	Voluntary (Pesticides)	CPPI Model
New Brunswick	✓			Voluntary		✓	Voluntary	Return-to-seller
Nova Scotia	✓		Sharps Bring Back Program	✓		✓		Return-to-seller
Prince Edward Is.	✓		Sharps	Voluntary		✓	Voluntary (HHW)	Return-to-seller
Newfoundland	✓			Voluntary			Voluntary (HHW)	Return-to-seller
Yukon	✓			Voluntary			Voluntary	
Northwest Territories	Proposed			Voluntary			Voluntary	
Nunavut								

Notes: CPPI Model - Canadian Petroleum Products Institute stewardship model (For more on used oil recovery programs in Canada see the article by Clarissa Morawski at www.hazmatmag.com/library/articles/0600.html).

HHW - Household Hazardous Waste.

✓ - Indicates legislated government and/or industry stewardship program.

