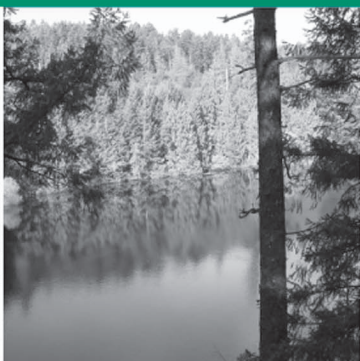
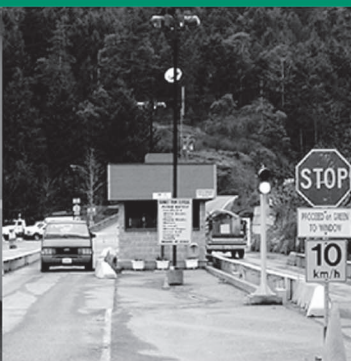


# SOLID WASTE DIVISION



# 2004 Annual REPORT



Environmental Services

SOLID WASTE DIVISION

Annual  
**REPORT**



# OVERVIEW OF CRD SOLID WASTE DIVISION

## BACKGROUND

The Capital Regional District (CRD) became responsible for solid waste disposal in 1973 when the Province of British Columbia directed all regional districts to take control of solid waste disposal within their borders. Hartland landfill, which had been operated as a private facility since the early 1950's, was acquired by the CRD in 1975. The facility continued to be operated by private contractor until January 1985, when the CRD assumed direct operation of the site.

In 1997 Phase 1 of the landfill site was closed and the filling of Phase 2 (Heal basin) was initiated. It is expected that Phase 2 will continue to be used until about 2048, at which time it will have reached its design capacity and will need to be closed.

## SOLID WASTE MANAGEMENT PLAN (SWMP)

The original CRD SWMP, which was approved in 1989, called for 10% waste diversion by 1993 and 15% by 1998. The SWMP was revised in 1991 and again in 1995 to establish a 50% solid waste diversion goal and confirm the need to develop Phase 2 of Hartland landfill.

There are now five SWMP Amendments:

1. Regulating Composting Facilities (not yet enacted)
2. Revisions Pertaining to Salt Spring Island Transfer Station Regulations
3. Buffering for Hartland Site
4. Public Review Process for Amendments to SWMP
5. Conflict Resolution Mechanisms for the Hartland Site

## CRD SOLID WASTE DIVISION

The Solid Waste division is part of the CRD Environmental Services department and consists of two groups – Hartland Operations (Hartland landfill, recycling depot (including household hazardous waste collection), salvage area and yard and garden waste) and Waste Diversion Operations and Planning (recycling programs/waste diversion programs).

# CRD WASTE DIVERSION AND RECYCLING PROGRAMS

## CRD WASTE DIVERSION STRATEGIES

The CRD follows the waste management hierarchy of reduce, reuse and recycle (the 3Rs) to work towards its 50% solid waste diversion goal. All solid waste diversion programs are funded through tipping fee revenues from Hartland landfill and from the sale of recyclable materials. No funding is drawn from the municipal tax system. Some strategies used to help divert waste from Hartland landfill include:

- Landfill disposal charges
- Residential user pay garbage collection
- Recycling programs
- Composting programs
- Education and outreach programs
- Landfill material bans/restrictions
- Product stewardship programs
- Other programs

These strategies are briefly described below:

### LANDFILL DISPOSAL CHARGES

Landfill tipping fees provide a financial incentive to reduce the quantity of solid waste being brought to the landfill for disposal. The tipping fee structure includes a reduced fee for separated yard and garden waste to encourage its diversion for composting rather than landfilling.

### RESIDENTIAL USER PAY GARBAGE COLLECTION

All the municipalities in the region that offer residential garbage collection utilize a user pay system. This system limits the amount of refuse that each household may place out for collection to the equivalent of a single can per week. Additional cans or bags are only collected if residents purchase and attach garbage tags. Households using private garbage collection are on a full user pay system.

### RECYCLING PROGRAMS

In 2004, CRD residential recycling programs consisted of the blue box curbside collection program for 101,800 households, a funding program for recyclables collection from multi-family dwellings, drop boxes in rural areas not serviced by the curbside program and the Hartland recycling facility and salvage area.

## **COMPOSTING PROGRAMS**

The CRD operates a yard and garden waste collection and processing facility at Hartland landfill and approximately 2,000 tonnes of material was received. Once received, the material is ground and then sold through public tender as composting feedstock.

The CRD regional composting bylaw was finalized in 2004 and forwarded to the province for approval. It is anticipated that the CRD Board will adopt the bylaw in Spring 2005, with the bylaw being implemented immediately for new facilities and 12 months thereafter for existing facilities.

## **EDUCATION AND OUTREACH PROGRAMS**

Education and outreach services were provided by the Recycling Educators and support all solid waste diversion services in addition to promoting behaviour changes based on the 3R's in general. These behaviour changes are understood to contribute significantly to the "unmeasurable diversion" (diversion not directly attributable to CRD programs) of waste from landfill. Programs include:

- Creation and distribution of all advertising, promotion and education materials
- Media relations (print, radio and television)
- Presentations to groups and individuals
- Participation in outreach events and trade shows
- Facilitation of special event recycling
- Green Bonus award program for businesses
- Coordination of the Municipal Environmental Educator program
- Website support

The CRD hotline (360-3030) is an essential part of most education and outreach programs, receiving 45,484 calls in 2004. Callers can access an automated voice messaging service 24 hours a day or speak with a hotline clerk during office hours 8:30 a.m. to 4:30 p.m. (closed 12 noon to 1 p.m.). The CRD hotline can also be reached by e-mail at: [hotline@crd.bc.ca](mailto:hotline@crd.bc.ca).

## **LANDFILL MATERIAL BANS**

Landfill bans have been part of the CRD waste diversion strategy since 1991 and are only implemented when viable and sustainable recycling alternatives exist. Recyclable materials banned from disposal include drywall (1991); corrugated cardboard, white goods, tires, directories (1993); scrap metal, aggregate, concrete, asphalt, rubble, clean soil (1995) and paper fibres (1998).

## **PRODUCT STEWARDSHIP PROGRAMS**

The CRD works with the Product Care Association to provide the region with a waste paint product stewardship program. The CRD collects waste paint, solvents, flammable liquids and pesticides at its Hartland landfill recycling depot. Part of the paint collection program includes the region's only paint exchange. The program is 100% industry-funded.

The Product Care Association also funds paint collection at eight other depots as well as solvents, flammable liquids and pesticides collection at two other depots in this region.

The BC Used Oil Management Association (BCUOMA) also maintains an oil product stewardship program that provides financial incentives for the collection and recycling of used oil, oil filters and oil containers. These three products are accepted at the Hartland depot and are picked up for recycling by a BCUOMA registered processor at no cost to the CRD.

## **OTHER PROGRAMS**

Other CRD waste recycling programs include:

- Annual telephone book recycling campaigns in cooperation with SuperPages (Telus) and Western Directories
- Diversion funding for registered non-profit repair and reuse organizations
- Municipal environmental educators' grants
- Funding the Salt Spring Island, Southern Gulf Islands and the Port Renfrew recycling programs
- Funding to the Greater Victoria Compost Education Centre, other community associations and the Coast Waste Management Association.

# CRD SOLID WASTE DIVISION 2004 ACHIEVEMENTS

## HARTLAND LANDFILL

- Minister of water, land and air protection (MWLAP) approved Solid Waste Management Plan (SWMP) amendments for Hartland
- Purchased Killarney Lake to add to site buffer
- Expanded Hartland recycling depot to include all household hazardous waste (HHW) products
- Started collection of solvents, pesticides, flammable liquids and old gasoline at Hartland depot
- Conducted 50 site tours (approximately 1,200 people), including Environment Week, Earth Week and Waste Reduction Week
- Completed Phase 1 of the site rehabilitation plan by planting 4,500 trees/shrubs on 1.6 hectares
- Upgraded scale software/hardware to include automated system

## WASTE DIVERSION OPERATIONS AND PLANNING

- Tendered and awarded new 2005 blue box contracts for seven year terms
- Developed CRD composting bylaw for minister of water, land and air protection's approval
- Conducted a waste stream analysis, including partnering with Product Care Association and BC Used Oil Management Association
- Began a participation rate survey for blue box program with a preliminary participation rate of over 90% for all single family dwellings served by the program
- Completed program review and obtained Board approval to reduce contamination levels and improve participation in apartment program
- Streamlined recycling program in all apartment buildings to ensure all residents receive equitable opportunities to recycle effectively with the use of reusable bags
- Collected 94,400 Western Phone and Telus telephone books for recycling, providing a fundraising opportunity to 88 non-profit organizations
- Sold 6,825 blue boxes and 11,060 blue bags to residents for use in the curbside program

## **EDUCATION AND OUTREACH PROGRAMS**

In 2004, the following education and outreach initiatives were provided by the solid waste education and communications program:

### WRITING, PUBLISHING AND WEBSITE SERVICES

- Produced a submission for SWANA's 2004 Landfill Management Excellence award covering Hartland's application for the award
- Designed and produced new display panels promoting blue box preparation
- Developed improved signage at Hartland
- Revised the Hartland brochure
- Prepared and produced the new Recycling Guide to the Capital Region
- Prepared PowerPoint presentations
- Coordinated aerial photography of Hartland for use in publications and presentations
- Reorganized the Hartland website
- Developed a new on-line recycling directory for the Solid Waste website
- Revised and distributed the new 2005 tipping fee insert
- Developed and implemented public outreach materials about the new automated weigh scale at Hartland

### ADVERTISING

- Prepared and coordinated ads for Hartland holiday closures, telephone book recycling and upcoming changes in rates at Hartland for 2005
- Prepared Environmental Update articles

### COMMITTEE SUPPORT

- Provided educational/communications support to the Solid Waste Advisory committee, Roundtable on the Environment and Curbside Recycling contractors
- Managed the Municipal Environmental Educators program

### COMMUNICATION PLANNING

- Developed communications plan outline for new Blue Box Curbside Recycling contract, changes to the Apartment Recycling program and Phase 1 of household hazardous waste collection at Hartland

(continued on page 9)

**TABLE 1  
2004 DIVERSION BY PROGRAM (TONNES)**

	Newspaper	Mixed Fibres <sup>1</sup>	Mixed Paper	Cardboard	Glass Containers	Metal Cans	Mixed Containers <sup>2</sup>	Plastic Containers	Ferrous Metal	Metal
<b>Blue Box &amp; Bag Recycling</b>										
Saanich		6,162					1,520			
Victoria		1,947					492			
Oak Bay		1,082					223			
Esquimalt		827					203			
Central Saanich		830					179			
Langford		800					221			
North Saanich		678					145			
Colwood		645					174			
Sidney		615					131			
Sooke		463					126			
View Royal		315					75			
Metchosin		201					58			
Highlands		102					29			
East Sooke		47					14			
Willis Point		34					8			
<b>Total</b>		<b>14,748</b>					<b>3,599</b>			
<b>Drop Boxes</b>										
Port Renfrew		22					4			
Red Barn		30					19			
<b>Total</b>		<b>53</b>					<b>23</b>			
<b>Municipal Recycling Depots</b>										
Oak Bay <sup>4</sup>			204	147				7		
<b>Total</b>			<b>204</b>	<b>147</b>				<b>7</b>		
<b>Hartland Landfill</b>										
Composting Services										
Recycling Facility		264		246			60		1,226	
Salvaging Facility										
<b>Total</b>		<b>264</b>		<b>246</b>			<b>60</b>		<b>1,226</b>	
<b>Other Recycling Programs</b>										
Salt Spring Island Depot	6		337	244	107	40		25	184	
Pender Island Depot	42		11	36	11	8		6	26	
Mayne Island Depot	22		21	22	11			6	31	
Galiano Island Depot	12		19	18	10	4		4	<1	
Saturna Island Depot	4		8	8		2		3	2	
Telephone Book Collection										
Paint Collection Program										
<b>Total</b>	<b>86</b>		<b>396</b>	<b>328</b>	<b>139</b>	<b>54</b>		<b>44</b>	<b>243</b>	
<b>GRAND TOTAL</b>	<b>86</b>	<b>15,064</b>	<b>600</b>	<b>721</b>	<b>139</b>	<b>54</b>	<b>3,682</b>	<b>51</b>	<b>1,469</b>	

<sup>1</sup> Includes newspaper, cardboard and mixed paper

<sup>2</sup> Includes metal cans, glass bottles & jars and plastic containers # 1 through # 7

<sup>3</sup> Includes beverage container deposit returns from Pender, Mayne and Galiano Island

<sup>4</sup> The CRD markets recyclable materials only from the Oak Bay Depot only, no operational funding is provided.

Appliances	Non-Ferrous Metal	Drywall	Batteries	Yard Waste	Tires	Propane Tanks	Oil Filters	Books	Misc. <sup>3</sup>	Total
										7,682
										2,439
										1,305
										1,030
										1,009
										1,021
										823
										819
										746
										589
										390
										259
										131
										61
										42
										18,347
										26
										49
										76
										358
										358
				1,959						1,959
447	20	351	66		132	29	2	52		2,894
									<1	<1
447	20	351	66	1,959	132	29	2	52	<1	4,853
110		76	10		11					1,150
	2		4						16	162
	3								32	148
	<1								35	102
										27
									189	189
									168	168
110	5	76	14		11				440	1,946
557	25	427	80	1,959	143	29	2	52	440	25,580

## EDUCATIONAL PROGRAMS

- Revised and expanded the 3R educator manual and presented two 3R teacher training workshops with local elementary school teachers
- Developed a design to brand and promote the CRD 3R School Outreach program
- Delivered the school program, consisting of 96 presentations with 2,220 participants
- Developed and launched a curriculum-aligned teacher's package for Hartland school tours
- Conducted public and school tours of Hartland to celebrate Environment Week, Earth Week and Waste Reduction Week

## PUBLIC OUTREACH

- Hosted educational displays at 10 community events, providing information to 13,164 residents
- Delivered 7 community presentations to 186 participants
- Received 45,484 hotline calls
- Notified Hartland neighbours about the special hours of operation

## RESEARCH, PLANNING AND ANALYSIS

- Coordinated first blue box participation rate survey in five years
- Prepared a gap analysis to define strengths, weaknesses, opportunities and threats
- Developed a draft Solid Waste Strategic Operations plan
- Completed a review of Apartment Recycling program
- Completed site visits to all apartments currently included in the database to ensure compliance

## OTHER

- CRD representative on of the Board of Directors of the Victoria Compost Education Centre
- Developed and implemented an in-house composting collection pilot at 625/631 Fisgard Street

**TABLE 2**  
**TOTAL GENERAL REFUSE BY SOURCE<sup>1</sup>**

<b>Source Area</b>	<b>2003 Total (tonnes)</b>	<b>2004 Total (tonnes)</b>	<b>% Change from 2003</b>
Victoria	56,002	54,803	-2%
Saanich	39,595	46,034	16%
Langford	9,470	8,535	-10%
Central Saanich	7,778	7,877	1%
Esquimalt	6,030	5,923	-2%
Sidney	5,391	5,836	8%
Colwood	3,932	4,312	10%
Sooke	3,672	3,992	9%
Oak Bay	3,605	4,535	26%
Salt Spring Island	3,250	3,658	13%
North Saanich	1,917	2,074	8%
View Royal	1,380	1,429	4%
Highlands	532	247	-54%
Miscellaneous <sup>2</sup>	418	120	-71%
Pender Island	364	545	50%
Metchosin	200	257	29%
Mayne Island	184	225	22%
Galiano Island	162	214	32%
Port Renfrew	118	134	13%
Saturna Island	43	38	-12%
<b>Total</b>	<b>144,043</b>	<b>150,787</b>	<b>5%</b>

<sup>1</sup> Sources are as reported by drivers at the time of entry to Hartland landfill.

<sup>2</sup> Mixed loads originating from more than one municipality.

**TABLE 3  
TOTAL REFUSE AND CONTROLLED WASTE BY TYPE**

Type of Waste Declared	2003	2004	% Change from 2003
	Annual Total (tonnes)	Annual Total (tonnes)	
General Refuse	144,043	150,787	5%
<b>Sub-Total</b>	<b>144,043</b>	<b>150,787</b>	<b>5%</b>
<u>Controlled Waste<sup>1</sup></u>			
Miscellaneous	1,941	1,329	-32%
Liquid Waste	205	146	-29%
Asbestos	672	837	25%
Screenings	940	977	4%
Biosolids	30	37	25%
Contaminated Soils	394	0	-100%
<b>Sub-Total</b>	<b>4,182</b>	<b>3,326</b>	<b>-20%</b>
<b>Total</b>	<b>148,225</b>	<b>154,113</b>	<b>4%</b>

<sup>1</sup> Controlled waste includes dead animals, condemned food waste, sludge, food processing waste, liquid waste, asbestos, sewage screenings and contaminated soils.

**TABLE 4  
2004 DIVERSION TONNAGES BY MUNICIPALITY**

<b>Municipality</b>	<b>Recyclables (tonnes)</b>	<b>Kg/Capita/ Year<sup>1</sup></b>	<b>Yard Waste (tonnes)<sup>2</sup></b>
Central Saanich	1,009	62	289
Colwood	819	55	25
Esquimalt	1,030	60	8
Highlands	131	70	1
Langford	1,021	48	27
Metchosin	259	50	1
North Saanich	823	74	117
Oak Bay	1,305	70	33
Saanich	7,682	70	1,192
Salt Spring Island <sup>3</sup>	1,150	112	0
Sidney	746	63	67
Sooke	589	61	1
Southern Gulf Islands <sup>3</sup>	389	79	5
Victoria	2,439	31	163
View Royal	390	48	28
Other <sup>4</sup>	179	N/A	0
<b>Total</b>	<b>19,961</b>	<b>57</b>	<b>1,959</b>

<sup>1</sup> Based on CRD Regional Planning Services 2004 population estimates.

<sup>2</sup> Yard waste received at the Hartland landfill composting depot only.

<sup>3</sup> Depot collection only, not curbside. Includes materials received from non-residential sources.

<sup>4</sup> Includes: Juan de Fuca EA curbside collection (East Sooke & Willis Point), two residential drop boxes (Red Barn & Port Renfrew).

**TABLE 5**  
**2004 SOLID WASTE DISPOSAL COSTS<sup>(1)</sup>**

Program	Tonnage	Cost	Cost per Tonne
Landfilling of Standard Refuse	150,787	\$7,019,057	\$45.54
Landfilling of Controlled Waste	3,326		

**2004 WASTE DIVERSION COSTS<sup>(2)</sup>**

Program	Tonnage	Cost	Cost per Tonne
Hartland Recycling Depot & Salvaging Area	2,894	\$218,664	\$75.55
Composting Yard and Garden Waste	1,959	\$112,539	\$57.45
Blue Box Program	18,396	\$1,819,835	\$97.03
Oak Bay Recycling Depot	358		N/A
Gulf Islands Recycling Depot Grants <sup>(3)</sup>			
Salt Spring Island	1,150	\$183,490	\$159.56
Saturna Island	27	\$11,329	\$419.61
Galiano Island	102	\$36,529	\$358.12
Mayne Island	98	\$35,028	\$357.43
Pender Island	162	\$58,378	\$360.36
Other Programs	383	\$35,576	\$92.78
Port Renfrew Recycling ( 26 tonnes )			
Telephone Book Recycling ( 189 tonnes )			
Paint Recovery Program ( 168 tonnes )			
<b>Total Measurable Diversion</b>	<b>25,530</b>	<b>\$2,511,369</b>	<b>\$98.37</b>
<b>Diversion Support Programs</b>			
3R's Education			
Business Waste Reduction Education			
Home Composting			
Solid Waste Advisory Committee			
Community Clean-up Program			
Landfill Material Bans			
Compost Demonstration Grants			
Non-Profit Organization Grants			
Municipal Recycling Co-ordinators			
User Pay Refuse Collection			
Special Event Recycling			
Apartment Recycling Funding Program			
<b>Total Unmeasurable Diversion</b>	<b>58,290</b>	<b>\$1,467,457</b>	<b>\$25.18</b>
Community Outreach <sup>(4)</sup>	83,820	\$184,016	\$2.20
<b>Total Diversion Costs for 2004</b>	<b>83,820</b>	<b>\$3,978,826</b>	<b>\$47.47</b>
Landfill Space Savings <sup>(5)</sup>			-\$61.65
Net Benefit (Credit) <sup>(6)</sup>			-\$14.18

(1) Cost per tonne of landfilling including operating, administration, overhead and debt amortization costs.

(2) net of revenues received from the sale of recyclables and compost and includes administration and overhead costs.

(3) Funding is provided to local depots in lieu of blue box recycling service.

(4) Community outreach programs contribute to both measurable and unmeasurable diversion.

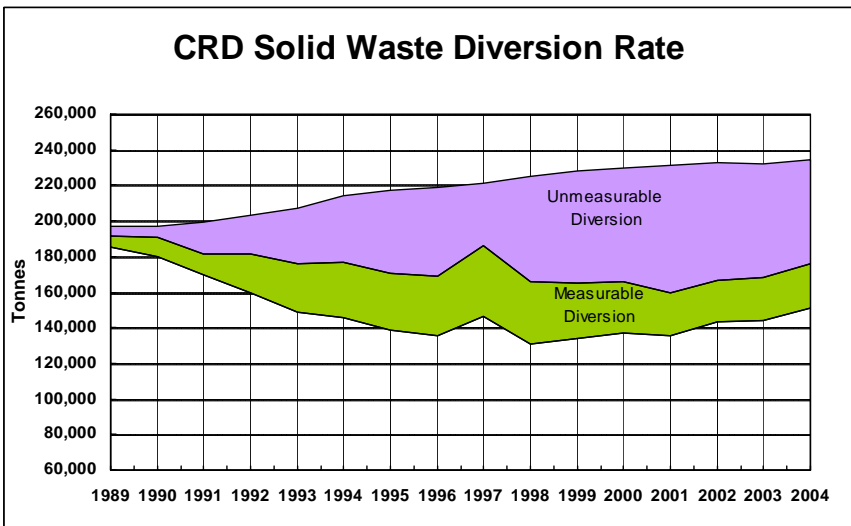
(5) Net present landfill space based on \$30.67/m<sup>3</sup> or \$61.65/tonne.

(6) Net benefit of recycling versus landfilling.

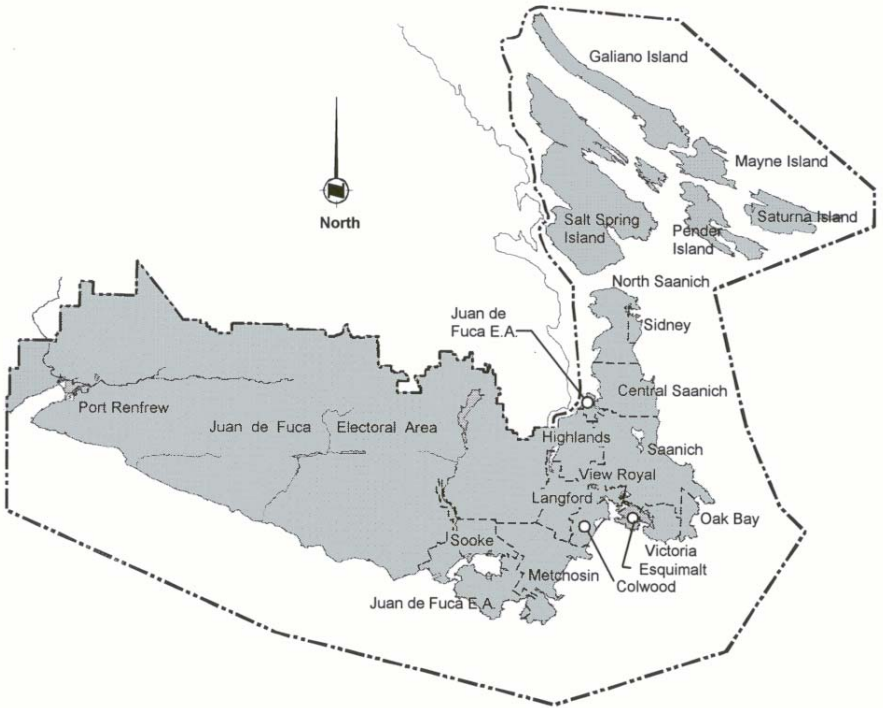
**TABLE 6  
DIVERSION RATES (1989-2004)**

Year	Total CRD Population <sup>1</sup>	Projected Tonnage <sup>2</sup>	Actual Landfilled Tonnage	Diverted Tonnage <sup>3</sup>	Diverted Tonnes Per Capita	Percent Diversion <sup>4</sup>
1989	284,730	196,763	185,128	11,635	0.041	6%
1990	291,880	197,076	180,118	16,958	0.058	9%
1991	299,133	199,608	169,419	30,189	0.101	15%
1992	304,200	203,416	159,634	43,782	0.144	22%
1993	308,720	206,826	148,341	58,485	0.189	28%
1994	321,585	214,017	145,585	68,432	0.213	32%
1995	326,010	217,310	138,303	79,007	0.242	36%
1996	328,880	218,643	135,869	82,774	0.252	38%
1997	329,135	220,850	146,442	74,408	0.226	34%
1998	334,871	224,698	130,604	94,094	0.281	42%
1999	339,643	227,900	134,257	93,643	0.276	41%
2000	342,718	229,964	136,654	93,310	0.272	41%
2001	344,567	231,204	135,425	95,779	0.278	41%
2002	347,095	232,901	142,940	89,961	0.259	39%
2003	345,223	231,645	144,043	87,602	0.254	38%
2004	349,638	234,607	150,787	83,820	0.240	36%

- 1 Population data provided by CRD Regional Planning Services. 2003 estimates have been adjusted downward based on the results of the 2001 census.
- 2 Projected annual waste is based upon the 1989 waste generation rate of 0.671 tonnes per capita.
- 3 Represents the difference between the projected and actual waste disposed at Hartland landfill.
- 4 The 1997 reduction in the diversion rate was due to an increase in general refuse as a result of the winter blizzard of December 1996.

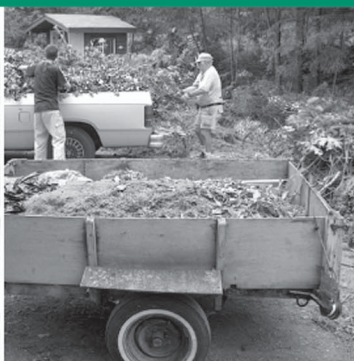


# CAPITAL REGIONAL DISTRICT



This paper contains 30%  
post-consumer recycled fibre





CAPITAL  
REGIONAL  
DISTRICT

## Environmental Services

625 Fisgard Street PO Box 1000  
Victoria BC V8W 2S6

For additional information contact the CRD Hotline 360-3030  
[hotline@crd.bc.ca](mailto:hotline@crd.bc.ca) | [www.crd.bc.ca](http://www.crd.bc.ca)



Printed on 100% post-consumer  
recycled paper