

SOLID WASTE DIVISION



2005 Annual REPORT



CAPITAL
REGIONAL
DISTRICT

Environmental Services

SOLID WASTE DIVISION

2005

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 2045, 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
2. Regulating Transfer Stations on Salt Spring Island
3. Buffering for Hartland Landfill
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 three groups – Hartland Operations (Hartland landfill, recycling depot (including household hazardous waste collection), salvage area and yard and garden waste), Waste Diversion Operations and Planning (recycling programs/waste diversion programs) and Environmental Education.

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. The disposal fee in 2005 was \$82 per tonne.

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 2005, CRD residential recycling programs consisted of the blue box curbside collection program for 103,600 households, a funding program for recyclables collection from multi-family dwellings, depots in rural areas not serviced by the curbside program and the Hartland recycling facility and salvage area. In April 2005 additional materials (rigid plastics and pizza boxes were added to the blue box curbside program.

COMPOSTING PROGRAMS

The CRD operates a yard and garden waste collection and processing facility at Hartland landfill and 1,874 tonnes of material was received in 2005. Once received, the material was ground and then sold through public tender as composting feedstock or used on-site as a soil amendment for site rehabilitation.

The CRD regional composting bylaw was finalized in 2005 and forwarded to the province for approval. In November, the bylaw received Ministerial approval and was adopted by the CRD Board in December. The bylaw came into effect immediately for new facilities and 12 months thereafter for existing facilities.

EDUCATION PROGRAMS

The Solid Waste division has a number of education programs that 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" of waste from landfill. Education services include:

- Providing education/outreach for all solid waste programs
- Communication planning and research
- Design and production of all advertising, promotional and educational materials
- Media relations (print, radio and television)
- Presentations, tours and outreach displays

The CRD hotline (360-3030) is an essential part of most education and outreach programs, receiving 50,068 calls in 2005. 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.

HOUSEHOLD HAZARDOUS WASTE

In January 2005, the Hartland recycling depot began accepting all household hazardous wastes (HHW) for safe disposal and/or recycling. This is in addition to the many HHW types under product stewardship, such as paint, pesticides, solvents and lubricating oil, that the depot already collected. The non-stewarded HHW items that were added to collection include a variety of products such as batteries, mercury, acids and photo finishing chemicals. HHW is accepted in residential quantities at no charge to the householder for recycling (where feasible) or disposal at a special waste management facility.

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). In 2005, the CRD Board approved a yard and garden waste ban for implementation in 2006.

PRODUCT STEWARDSHIP PROGRAMS

The CRD works with the Product Care Association to provide the region with waste paint and other product stewardship collection. 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 included:

- 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 for 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.
- Facilitation of event recycling

CRD SOLID WASTE DIVISION 2005 ACHIEVEMENTS

HARTLAND LANDFILL

- Conducted 50 site tours (approximately 1,200 people), including Environment Week, Earth Week and National Occupational Health and Safety Week
- Completed Phase 2 of the site rehabilitation plan by planting 4,500 trees/shrubs on 1.6 hectares
- Full implementation of automated weigh scale system
- Worked with local community associations to collectively resolve operational and planning issues
- Constructed northern section of upper level access road
- Completed a waste stream composition study
- Completed Phase 1 of ISO 14001 environmental management system
- Completed a number of capital works at Hartland (drainage blanket, gas and leachate lines, new wells and generators)
- Provided occupational health and safety training in first aid levels 1 and 2, hazardous waste management, fire safety, landfill operational safety training and transportation of dangerous goods

WASTE DIVERSION OPERATIONS AND PLANNING

- Successfully implemented the new curbside recycling contracts for seven year terms
- Finalized CRD Composting Bylaw and received approval from the Minister of Environment
- Distributed new recycling schedules to all households in the curbside program (about 103,600 homes)
- Implemented Phase 1 of household hazardous waste collection program
- Completed first Participation Rate survey in five years and confirmed a 90% participation rate among single family dwellings served by the curbside recycling program
- Administered the new funding structure and purchased reusable recycling tote bags for the apartment program
- Worked with contractors to manage and reduce contamination in the curbside program during the heavy Christmas holiday season
- Collected 84,333 Western Directories and Telus telephone books for recycling, providing a fundraising opportunity to 78 non-profit organizations
- Sold 8,019 blue boxes and 16,532 blue bags to residents for use in the curbside program



TABLE 1
2006 DIVERSION BY (TONNES)

Program	Newspaper	Mixed Fibres ¹	Mixed Paper	Cardboard	Glass Containers	Metal Cans	Mixed Containers ²	Plastic Containers	Ferrous Metal	Metal
Blue Box & Bag Recycling										
Saanich		5,914					1,625			
Victoria		2,338					646			
Oak Bay		1,122					233			
Central Saanich		968					229			
Langford		899					246			
Esquimalt		867					233			
North Saanich		650					153			
Colwood		565					154			
Sidney		550					125			
Sooke		395					117			
View Royal		307					85			
Metchosin		161					49			
Juan de Fuca E.A.		147					42			
Highlands		100					28			
Total		14,983					3,965			
Drop Boxes										
Port Renfrew		16					3			
Red Barn		41					19			
Total		57					22			
Municipal Recycling Depots										
Oak Bay			191	129				12		
Total			191	129				12		
Hartland Landfill										
Composting Services										
Recycling Facility		223		228			56		1,213	4
Salvaging Facility										
Total		223		228			56		1,213	4
Other Recycling Programs										
Salt Spring Island Depot			341	257	109	67		48	148	
Pender Island Depot	61			31	18	7		7	26	
Mayne Island Depot	2		44	19	8			10	37	
Galiano Island Depot	15		15	11	5	3		4		
Saturna Island Depot	6		6	11				1	1	
Telephone Book Collection										
Paint Collection Program										
Total	84		406	329	140	77		70	212	
GRAND TOTAL	84	15,263	597	686	140	77	4,043	82	1,425	5

¹ Includes newspaper, cardboard and mixed paper

² Includes metal cans, glass bottles and jars, and plastic containers and packaging

Appliances	Non-Ferrous Metal	Drywall	Batteries	Yard Waste	Tires	Propane Tanks	Used Oil	Oil Filters	Oil Containers	Antifreeze	Household Haz. Waste	Books	Misc. ³	Total
														7,539
														2,984
														1,355
														1,197
														1,145
														1,100
														803
														719
														675
														512
														392
														210
														189
														128
														18,948
														19
														60
														79
														332
														332
				1,874										1,874
167	25	331	78		140	27	42	1	3	1	23	66		2,924
													<1	<1
167	25	331	78	1,874	140	27	42	1	3	1	23	66	<1	4,798
96		122	14		19									1,221
	3		3											156
	3												38	161
													28	81
														25
													151	151
													180	180
96	6	122	17		19								397	1,975
563	31	453	95	1,874	159	27	42	1	3	1	23	66	397	26,132

³ Includes beverage containers returned for deposit from Mayne and Galiano Island

⁴ Includes the areas of East Sooke, Jordan River, Shirley and Willis Point

EDUCATION PROGRAMS

In 2005, the following education and outreach initiatives were provided by the solid waste education and communications program:

- Produced a submission for the Solid Waste Association of North America's which won the Silver Landfill Management Excellence award
- Won awards for Union of British Columbia Municipalities (UBCM) Best Practices and Leadership and Innovation awards which resulted in winning two awards (a first ever in UBCM history)
- Developed and implemented the communication plan for the 2005 expanded curbside program launch, including coordination of a launch event
- Developed and implemented the recycling tips ad campaign
- Developed vehicle decals for CRD recycling van and collection contractor vehicles
- Developed and implemented the consultation strategy for the yard and garden waste ban, including coordination of two stake holder meetings and three open houses
- Designed and produced household hazardous waste ad cards and coordinated staggered distributions in six municipalities
- Developed a communication plan for the apartment recycling program and produced apartment recycling bin decals
- Designed, produced and distributed all Solid Waste division advertising, promotional and educational materials, including CRD website content
- Managed the school program, including delivery of 78 classroom presentations to 1,814 students and two teacher training work shops to 27 participants
- Delivered 12 community presentations to 249 participants
- Conducted 18 public and school tours of Hartland landfill with 545 participants
- Hosted outreach displays at 18 community events attended by over 16,000 participants
- Received 56,068 hotline calls
- Provided visual design services to other divisions of the Environmental Services department and the Greater Victoria Compost Education Centre

TABLE 2TOTAL GENERAL REFUSE BY SOURCE¹

Source Area	2004 Total (tonnes)	2005 Total (tonnes)	% Change from 2004
Victoria	54,803	60,406	10%
Saanich	46,034	46,123	0%
Central Saanich	7,877	9,509	21%
Langford	8,535	9,151	7%
Sidney	5,836	6,081	4%
Oak Bay	4,535	5,851	29%
Sooke	3,992	4,134	4%
Esquimalt	5,923	3,958	-33%
Colwood	4,312	3,927	-9%
Salt Spring Island	3,658	3,729	2%
North Saanich	2,074	2,568	24%
View Royal	1,429	1,591	11%
Pender Island	545	444	-18%
Metchosin	257	350	36%
Highlands	247	265	7%
Galiano Island	214	219	3%
Mayne Island	225	218	-3%
Port Renfrew	134	158	18%
Miscellaneous ²	120	101	-15%
Saturna Island	38	61	60%
Total	150,787	158,848	5%

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

² Mixed loads originating from more than one municipality.

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

Type of Waste Declared	2004 Annual Total (tonnes)	2005 Annual Total (tonnes)	% Change from 2004
General Refuse	150,787	158,848	5%
Sub-Total	150,787	158,848	5%
<u>Controlled Waste¹</u>			
Miscellaneous	1,329	1,435	8%
Liquid Waste	146	689	373%
Asbestos	837	432	-48%
Screenings	977	970	-1%
Biosolids	37	266	614%
Contaminated Soils	0	399	n/a
Sub-Total	3,326	4,192	26%
Total	154,113	163,040	6%

¹ Controlled waste includes dead animals, condemned food waste, food processing waste, liquid waste, sewage screenings (including sludge), asbestos and contaminated soils.

TABLE 4**2005 WASTE DIVERSION TONNAGES BY MUNICIPALITY**

Municipality	Recyclables (tonnes)	Kg/Capita/ Year¹	Yard Waste (tonnes)²
Central Saanich	1,197	72	276
Colwood	719	47	16
Esquimalt	1,100	64	4
Highlands	128	66	1
Langford	1,145	52	29
Metchosin	210	40	2
North Saanich	803	71	107
Oak Bay ³	1,687	90	26
Saanich	7,539	68	1,102
Salt Spring Island ⁴	822	79	0
Sidney	675	56	89
Sooke	512	51	2
Southern Gulf Islands ⁴	284	57	4
Victoria	2,984	38	188
View Royal	392	46	27
Other ⁵	268	N/A	1
Total	20,465	58	1,874

¹ Based on CRD Regional Planning Services 2005 population estimates

² Yard waste received for composting at the Hartland depot only.

³ Includes both curbside and depot collection.

⁴ Depot collection only, not curbside. Includes materials received from non-residential sources.

⁵ Includes: Juan de Fuca EA curbside collection (East Sooke, Jordan River, Shirley & Willis Point); two residential drop boxes (Red Barn & Port Renfrew).

TABLE 5**2005 SOLID WASTE DISPOSAL COSTS⁽¹⁾**

Program	Tonnage	Cost	Cost per Tonne
Landfilling of Standard Refuse	158,848	\$6,339,457	\$38.88
Landfilling of Controlled Waste	4,192		

2005 WASTE DIVERSION COSTS⁽²⁾

Program	Tonnage	Cost	Cost per Tonne
Hartland Recycling Depot & Salvaging Area	2,901	\$149,576	\$51.56
Composting Yard and Garden Waste	1,874	\$80,273	\$42.84
Blue Box Program ³	19,008	\$1,720,308	\$88.95
Oak Bay Recycling Depot	332		N/A
Gulf Islands Recycling Depot Grants ⁽⁴⁾			
Salt Spring Island	1,221	\$228,608	\$187.23
Saturna Island	25	\$14,149	\$565.95
Galiano Island	81	\$34,162	\$421.75
Mayne Island	161	\$36,397	\$226.07
Pender Island	156	\$57,309	\$367.37
Other Programs	350	\$100,819	\$288.12
Port Renfrew Recycling (19 tonnes)			
Telephone Book Recycling (151 tonnes)			
Paint Recovery Program (180 tonnes)			
Household Hazardous Waste Collection/Disposal	23	\$214,835	\$9,340.66
Total Measurable Diversion	26,132	\$2,421,601	\$92.67
<u>Diversion Support Programs</u>			
3R's Education			
Home Composting			
Solid Waste Advisory Committee			
Community Clean-up Program			
Landfill Material Bans			
Compost Demonstration Grants			
Non-Profit Organization Grants			
Municipal Environmental Educators			
User Pay Refuse Collection			
Event Recycling			
Apartment Recycling Funding Program			
Total Unmeasurable Diversion	52,693	\$1,440,831	\$27.34
Community Outreach ⁽⁵⁾	78,825	\$129,342	\$1.64
Total Diversion Costs for 2005	78,825	\$3,862,432	\$49.00
Landfill Space Savings ⁽⁶⁾			(\$61.65)
Net Benefit (Credit) ⁽⁷⁾			(\$12.65)

⁽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⁾ Includes materials received through Red Barn drop box.

⁽⁴⁾ Funding is provided to local recycling depots in lieu of blue box recycling service.

⁽⁵⁾ Community outreach programs contribute to both total measurable and unmeasurable diversion.

⁽⁶⁾ Net present value of landfill space based on \$30.67/m³ or \$61.65/tonne.

⁽⁷⁾ Net benefit of recycling versus landfilling.

TABLE 6
DIVERSION RATES (1989-2005)

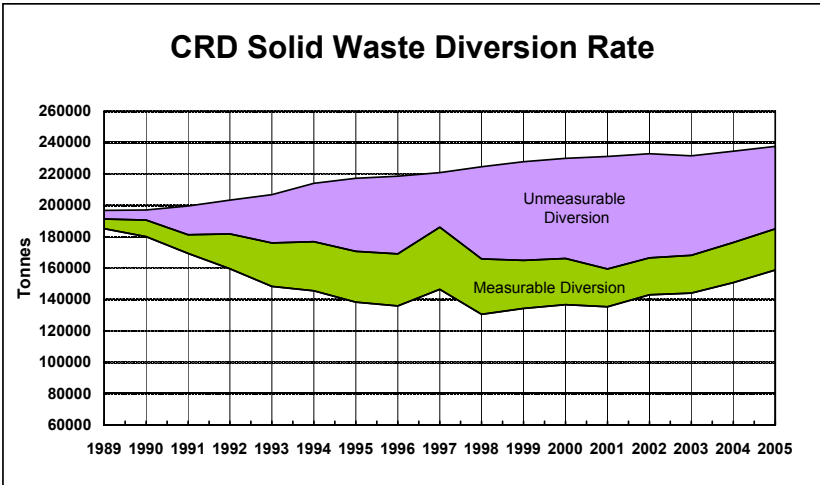
Year	Total CRD Population ¹	Projected Tonnage ²	Actual Landfilled Tonnage	Diverted Tonnage ³	Diverted Tonnes Per Capita	Percent Diversion ⁴
1989	284,730	196,763	185,128	11,635	0.041	6%
1990	291,880	197,076	180,118	16,958	0.058	9%
1991	299,133	199,608	169,419	30,189	0.101	15%
1992	304,200	203,416	159,634	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%
2005	354,206	237,672	158,848	78,825	0.223	33%

¹ Population data provided by CRD Regional Planning Services. 2003 estimates have been adjusted downward based on the results of the 2001 census.

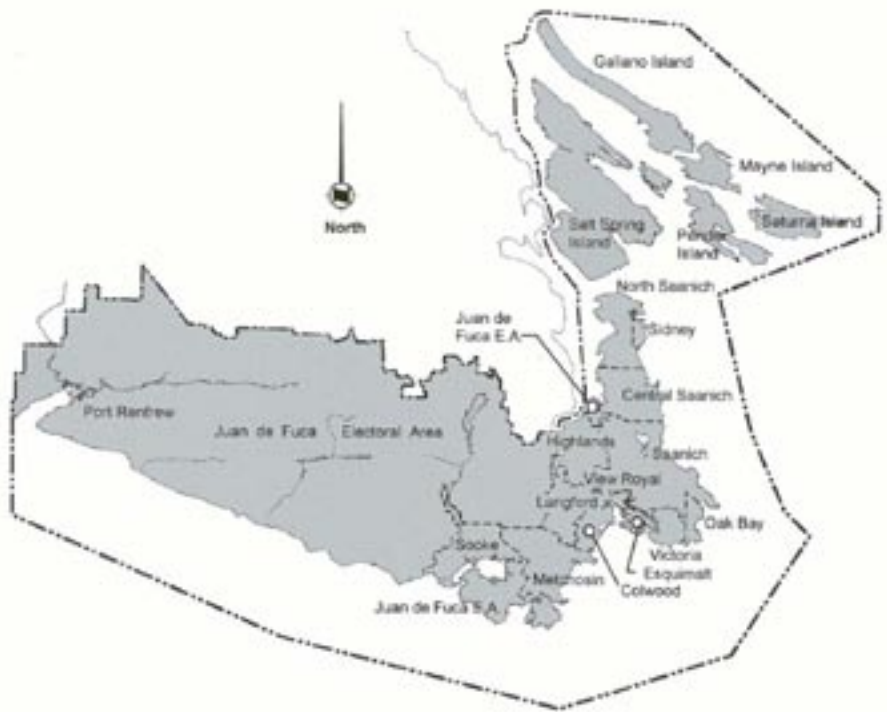
² Projected annual waste is based upon the 1989 waste generation rate of 0.671 tonnes per capita.

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





CAPITAL
REGIONAL
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