

Environmental Resource Management Annual Report

Capital Regional District | 2015



CRD

Making a difference...together

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Overview of CRD Solid Waste & Resource Management

Background

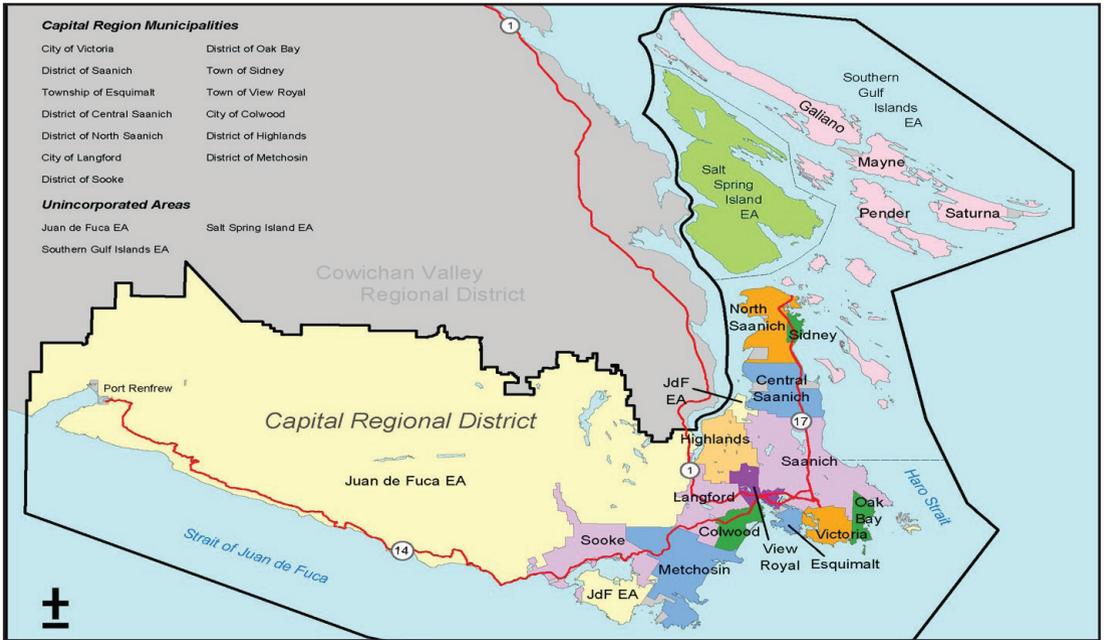
The Capital Regional District (CRD) is the regional government for 13 municipalities and 3 electoral areas on southern Vancouver Island and the nearby Gulf Islands, serving more than 378,000 citizens. There are 22 First Nations whose traditional territories span portions of the region, with 11 of those Nations holding reserve lands throughout the capital region.

The CRD became responsible for solid waste disposal for the region in 1973 when the Province of British Columbia directed all regional districts to take control of solid waste disposal within their borders.

- In 1975, the CRD acquired Hartland landfill, which had been operating as a private facility since the early 1950s. Located in the District of Saanich, the facility continued to be operated by a private contractor until 1985, when the CRD assumed direct operation of the site.
- In 2008, the Highwest Waste Management Facility (now owned and operated by Tervita Corporation) was added to the CRD Solid Waste Management Plan. The Tervita Highwest Facility is located in the District of Highlands and primarily manages construction and demolition material.

Trees for Tomorrow site reclamation at the Hartland landfill.





Solid Waste Collection

Residential garbage and kitchen scraps collection is provided by municipal programs in 6 of the region's municipalities. Private subscription services and various public and private depot drop-off locations are available to residents in the remaining seven municipalities and 3 electoral areas. The CRD provides region-wide residential recycling through a combination of curbside and depot programs under an agreement with Multi-Material BC (MMBC).

The industrial, commercial and institutional sector is serviced through private collectors and depots.

	SERVICE PROVIDER
RESIDENTIAL MATERIALS	
Esquimalt	Municipal Programs
Oak Bay	
Saanich	
Sidney	
Victoria	
View Royal	
Central Saanich	Private Sector Services
Colwood	
Highlands	
Langford	
Metchosin	
North Saanich	
Sooke	
Salt Spring Island EA	
Southern Gulf Islands EA	
Juan de Fuca EA	
BUSINESS MATERIALS	
All Areas	Private Sector Services

Solid Waste Management Plan

The Solid Waste Management Plan is a legally mandated document by the Province of British Columbia. The original CRD Solid Waste Management Plan (SWMP) was approved by the Minister of Environment in 1989. There have been two subsequent revisions to the original plan plus eight amendments. In 2012, the CRD began development of a new Integrated Solid Waste and Resource Management Plan and appointed a Public and Technical Advisory Committee.

Work on the new plan was put on hold in 2015 to investigate integrated resource management opportunities.

Environmental Resource Management (ERM) Division

Environmental Resource Management's mission is to efficiently and effectively manage the region's solid waste resources in an environmentally, socially and economically responsible manner. The ERM division is responsible for municipal solid waste management in the capital region, including waste reduction, recycling programs and operation of Hartland landfill.

The Environmental Resource Management division is part of the CRD Parks & Environmental Services department and consists of:

Diversification Services

- planning and policy
- recycling and composting programs

Recovery Services

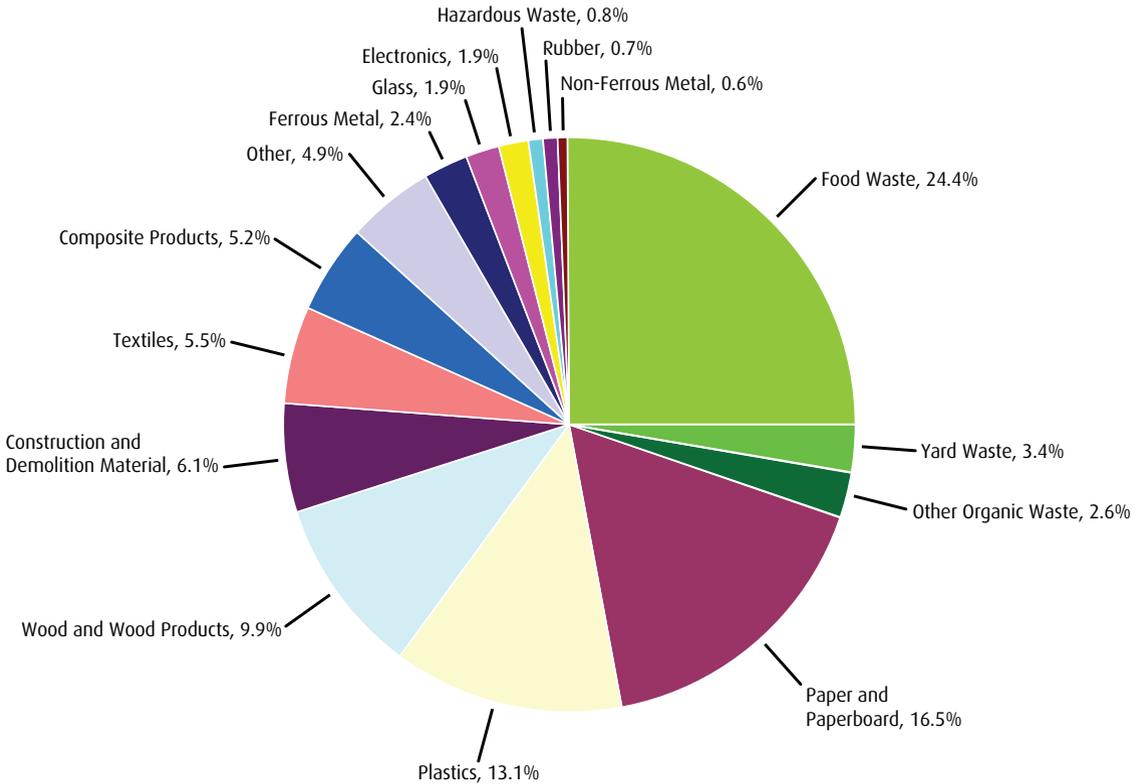
- landfill gas capture
- electricity generation

Landfilling Services

- disposal services
- environmental compliance

ERM reports to the CRD Board through the Environmental Services Committee (ESC), which also acts as the steering committee for the development of the new Integrated Solid Waste and Resource Management Plan.

2009-2010 Solid Waste Stream Composition Study



Waste Stream Analysis

Since 1990, the CRD has commissioned five studies to assess the composition of waste being landfilled at Hartland. These studies provide valuable benchmark data and analysis for evaluating the success of existing solid waste programs and planning future initiatives.

The fifth waste stream analysis took place in 2009/2010, with the first phase conducted in the fall of 2009 and the second phase conducted in the spring of 2010 to allow for seasonal variance. Objectives of the study included: determining the overall waste composition by material type, characterizing the waste by source sector (residential, industrial/commercial/institutional and demolition/land clearing), and reviewing trends from different areas of the capital region.

The next study is scheduled to take place in the fall of 2016.

Solid Waste Diversion Strategy

Environmental resource management in the CRD is based on the 5R hierarchy of Reduce, Reuse, Recycle, Recovery and Residuals Management. The plan is to extend the life of Hartland landfill by minimizing waste disposal and maximizing diversion opportunities.

In 2014, the BC Ministry of Environment created the BC Waste Disposal Calculator and adopted a new service plan target of 350 kg/capita solid waste disposal by 2020. Based on the Ministry's revised calculation method, the CRD's per capita disposal rate was 345 kg/capita in 2015.



Ministry of Environment 5R Pollution Prevention Hierarchy

Reduction & Reuse

Education & Outreach Programs

The Environmental Resource Management division, with support from Environmental Partnerships and Corporate Communications, has a number of education programs that support all solid waste diversion services in addition to promoting behaviour changes based on the 3Rs in general.

Activities include:

- Education and outreach for all solid waste programs
- Communication planning and research
- Advertising, promotional and educational materials
- Media relations (print, radio and television)
- 74 Presentations, 51 tours and 32 outreach displays
- Hartland open house



Recycling tower display

CRD Hotline

The CRD Hotline (hotline@crd.bc.ca and 250.360.3030) is an essential part of education and outreach programs. An automated voice messaging service is available 24 hours a day and messages are followed-up within 24 hours. The CRD Hotline also monitors and responds to waste reduction, waste management and general Hartland landfill and recycling facility inquiries. Waste and recycling information can also be obtained on the CRD website at www.crd.bc.ca. The CRD Hotline received 33,269 inquiries in 2015.

Myrecyclopedia.ca

Myrecyclopedia.ca contains a comprehensive online listing of household products and items—from aerosol containers to zinc—and includes the environmental story behind each item, recycling facility listings and tips on how to reduce and reuse in daily living. Myrecyclopedia was developed to encourage sustainable practices and to reinforce the 3Rs of **Reduce**, **Reuse** and **Recycle**.



The Hartland Learning Centre



Hartland Learning Centre
The LITTLE HOUSE on the LANDFILL

Environmental education is of paramount importance to the CRD, and the Hartland Learning Centre allows for place-based learning, which gives our youth and communities a chance for experiential, interactive involvement in education. Place-based learning links a learner to the space around them, creating awareness of natural and social history and the relation of our community with the rest of the world. In 2015, 46 school tours were conducted with over 1,350 participants.

Holiday Campaign

Every holiday season, we launch the “Remember the 3Rs this Holiday Season” campaign to remind residents to make the 3Rs part of their holiday actions. Since 2011, in partnership with Metro Vancouver, the seasonal “Creating Memories, Not Garbage” campaign has been delivered to capital region residents. The purpose of the campaign was to engage and inspire residents to celebrate the holidays without creating unnecessary waste that will end up at Hartland landfill.

Compost Education Centre



The Compost Education Centre (CEC) was established in 1992 to educate CRD residents about composting, ecological gardening practices and soil conservation. Under contract to the CRD, the CEC annually offers presentations, workshops, educational compost demonstrations, volunteer training, monthly e-newsletter and maintains the CEC Hotline and website.

In 2015, the CEC delivered 107 school presentations to 2,726 children from preschool to Grade 12, and facilitated 35 community workshops on topics from Composting Basics to Soil Science 101 and Mushroom Garden Pathways. Over 6,500 CRD residents visited the CEC’s demonstration site or participated in one of its 44 educational community events and compost demonstrations. The CEC hosted 5 core community events in 2015, including a Spring and Fall Organic Plant Sale, Rainwater Harvesting Education Day, Soil Education Day and Mushroom Education Day. The CEC supported the first year of the region-wide kitchen scraps landfill ban by heavily promoting on-site food waste diversion using backyard composting and food waste digesters and increasing our services to the rural regions of Sooke and the Gulf Islands. The CEC reached a total of 183,785 residents in 2015 through all avenues of our educational mandate, an increase of 200% from 2011. **Since 1992, the CEC has made over 1,015,858 contacts with CRD residents!**

Community Clean-Up Funding

The CRD Community Clean-up program has been supporting non-profit groups that make visible environmental improvements to their community through organized clean-ups, since 1997. Funding provided supports:

- Collection, processing and marketing of recyclables recovered during cleanup
- Container rental for transportation and disposal of non-recyclable material
- Supplies, such as rubber gloves and collection bags

In 2015, the CRD provided funding to nine non-profit groups, including the Burnside Gorge Community Association's Annual Gorge Waterway Clean-up who have been an annual recipient of funding since the program inception.

Clover Point beach clean-up volunteer

Diversion Funding for Non-Profit Recycling Organizations

Since 1992, the CRD has provided funding to non-profit organizations involved in recycling clothing and used household goods. The funding assists with their garbage disposal costs at Hartland, in recognition that some donated used goods are unusable and destined for the landfill. Eight organizations participated in the program in 2015.

Hartland Reusable Materials Program

The CRD partners with five organizations for the management of donated items received in the public drop-off area at Hartland. Goods such as textiles, books, household items and bicycles are re-distributed through a variety of networks operated by these non-profit associations. In 2015, 14 tonnes of reusable materials were collected.



Since the program's inception in 1989,
416,500 tonnes of curbside recycling
have been collected.



Recycling

Recycling Programs

Curbside Recycling

The CRD provides residents with curbside recycling service for packaging and printed paper (PPP) under agreement with Multi-Material BC (MMBC). In 2015, 123,457 households received this service, recycling 15,209 tonnes of material.

Since the program's inception in 1989, over 416,500 tonnes of recyclables have been collected.

Gulf Islands Depots

Residents in rural areas such as Salt Spring Island and the Southern Gulf Islands, are provided recycling services through drop-off programs set up at depots in their communities. The CRD, under agreement with MMBC, partners with local non-profit associations for recycling services for PPP at these depots. In 2015, 1,334 tonnes of PPP was received at the five recycling depots located on the islands. In addition to PPP recycling, these depots typically offer recycling services for additional items and in some cases also offer other services such as a free store.

2015 Achievements

- Conducted 46 Hartland school tours to over 1,350 participants
- Conducted 11 technical tours of the Hartland landfill facility
- Delivered 68 school program presentations and workshops
- Delivered 6 community presentations and 5 community tours
- Provided waste reduction messaging at 32 community displays
- Provided event recycling bins at 22 community events
- Received 33,269 Hotline enquiries

Hartland Diversion Programs (Tonnes)

Antifreeze	7
Appliances	153
Asphalt Shingles	145
Batteries	5
Books	43
Containers (metal, plastic)	45
Cooking Oil	5
Electronics and Electrical Items	321
Fibres (paper/cardboard)	436
Foam Packaging	13
Fire Extinguishers	1
Food Waste	7,300
Glass (bottles, jars)	27
HHW Orphans	55
Lead Acid Batteries	28
Light Bulbs, Tubes, Ballasts	5
Mattresses	289
Metals	654
Motor Oil, Filters, Containers	36
Paint, Solvents, Pesticides	182
Plastic (Bags & Overwrap)	14
Plastic (Large Rigid)	109
Propane Tanks	17
Reusable Materials	14
Tires	62
Wood	162
Yard & Garden Material	809

Total 2015 Hartland Recycling 10,937

Port Renfrew Transfer Station

Under a local service funded by the community of Port Renfrew, residents and businesses have access to a transfer station for drop-off of general refuse, kitchen scraps and recycling.

In 2015, the Port Renfrew Transfer Station collected:

- 100 Tonnes of recyclables
- 26 Tonnes of kitchen scraps
- 143 Tonnes of garbage

Hartland Public Drop-Off Area

The public drop-off area at Hartland receives garbage, recyclables and household hazardous waste. Over 80 items from 28 product categories are accepted for recycling. This area is intended for residential quantities only for vehicles with a maximum GVW of 5,500 kg.

2015 Recycling Fees:

- \$110/tonne for wood waste, mattresses and asphalt shingles
- \$59/tonne for yard and garden material
- \$6 gate fee for recycling area (residents)
- \$26 gate fee for recycling area (small load commercial)
- No charge for extended producer responsibility products
- No charge for household hazardous waste

Additional charges include a \$10 fee for general refuse deposited in the transfer bin and \$20 for appliances containing refrigerants.

Extended Producer Responsibility Programs

British Columbia's industry-led product stewardship programs require producers of designated products to take Extended Producer Responsibility (EPR) for the life-cycle management of their products, including collection and recycling. The BC Recycling Regulation, under authority of the Environmental Management Act, sets out the requirements for product stewardship in BC.

The CRD supports industry-led product stewardship with participation in the following provincial programs:

Beverage Containers (Refundable)

Refundable glass, plastic, aluminum, metal and polycoated beverage containers are accepted at the Hartland recycling facility and Electoral Area recycling depots. Beverage bags and pouches are not included in CRD programs. Refundable beverage containers are also accepted at participating retail stores and private depots.

Electronics, Electrical Products, Batteries and Lighting Products

The CRD partners with seven stewardship agencies for the collection of various electrical items at the Hartland recycling facility:

- Encorp Pacific (computers, monitors, printers, TVs, audio visual)
- ElectroRecycle (small appliances, power tools, sewing machines, exercise equipment)
- Call2Recycle (batteries and mobile phones)
- LightRecycle (residential fluorescent lamps and CFL bulbs and lighting fixtures)
- Switch the 'Stat (thermostats)
- AlarmRecycle (smoke detectors)
- Outdoor Power Equipment (processed through metal recycler)

Lead-Acid Batteries

Lead-acid batteries have been accepted at the Hartland recycling facility since 1992, shortly after the BC Lead Acid Battery Collection program was introduced. This first generation program transitioned in 2012 to being managed under the BC Recycling Regulation. Batteries are broken down at smelters into lead, plastic and acid.

Paints, Solvents and Flammable Liquids, Gasoline and Pesticides

Since 1994, the CRD has worked with the Product Care Association (PCA) to provide the region with waste paint collection at the Hartland recycling facility. Since then, the program has expanded to include solvents, flammable liquids, gasoline and pesticides (paint plus) and a paint exchange.

Pharmaceuticals

The pharmaceutical EPR Medications Return Program is promoted regionally through the CRD Hotline, CRD website and Myrecyclopedia.ca, as well as in CRD Source Control messaging. The CRD works in partnership with the Medications Return Program and the Vancouver Island Health Authority to raise awareness about safe and proper disposal of medications. Through 2015, the CRD continues to have one of the highest medication return rates per capita (0.03kgs) amongst regional districts in the province.

Packaging and Printed Paper

In May 2011, the BC Recycling Regulation was amended to add packaging and printed paper (PPP) from residential generators. The amendment shifted the financial responsibility for managing these materials to producers as of May 2014. PPP materials are managed through a combination of curbside collection and depot drop-off which are provided locally by both the CRD and the private sector.

In 2015, a total of 17,107 tonnes of PPP were collected through CRD delivered programs in the region:

- Curbside Blue Box Program - 15,209 tonnes
- Gulf Island Recycling Depots - 1,334 tonnes
- Hartland Recycling Depot - 535 tonnes
- Port Renfrew Transfer Station - 29 tonnes

Tires

Tires have been accepted at the Hartland recycling facility since the depot opened in 1992, in conjunction with the Province's Financial Incentives to Recycle Scrap Tires ("FIRST") program. In 2007, this provincial initiative was replaced with an EPR program under the BC Recycling Regulation managed by Tire Stewardship BC (TSBC). TSBC, in partnership with the Bicycle Trade Association of Canada and the local biking community, also offer a voluntary program for the recycling of tires and tubes through bike retailers. Collection of bicycle tires and tubes at Hartland began in 2011.

Used Lubricating Oil, Filters and Containers

The BC Used Oil Management Association (BCUOMA) manages the product stewardship program that provides for the collection and recycling of used oil, oil filters, antifreeze and containers. The program strives to ensure every drop of used oil and antifreeze, every filter and container, is brought to a collection facility to be properly recycled.

Organics Management



Regional Kitchen Scraps Strategy

In January 2015, a landfill ban on kitchen scraps was implemented, saving a valuable resource, conserving landfill space and reducing greenhouse gas emissions.

Kitchen scraps are typically managed in one of two ways: on-site digestion or collection for transportation to composting facilities in the Cowichan Valley Regional District and on the lower Mainland. Establishment of in-region kitchen scraps processing capacity is being considered in combination with the development of the core area sewage treatment project's residuals management facility. In 2015, over 7,300 tonnes of source separated material was received at the Hartland kitchen scraps transfer station for composting.

Compost Facilities Bylaw

The CRD Board adopted the regional composting bylaw in December 2005. The bylaw regulates the operation of composting facilities to protect public health and the environment. In 2015, there were no licensed facilities under the bylaw.

Yard & Garden Material Landfill Restriction

In 2006, a yard and garden material landfill ban came into effect. A number of private facilities in the area accept the region's yard and garden material. In 2015, 809 tonnes of source-separated yard and garden material was received at Hartland where it was ground and used on site. The landfill ban excludes invasive, infectious and noxious plants which are managed at Hartland as garbage through a reduced rate of \$59/tonne in an effort to reduce their expense.

Household Hazardous Waste

The Hartland Public Drop-off Area offers residents one stop drop-off service for virtually all types of HHW and is a leading program of its kind in British Columbia. The material is accepted in residential quantities only, at no charge, for recycling (where feasible) or disposal at a special waste management facility.



Disposal of asbestos-containing materials at the Hartland landfill.

Recovery

Hartland Gas Utilization Facility

Landfill gas has been captured at Hartland since the late '90s. In 2012, a site-specific Landfill Gas Management Plan was approved which detailed a strategy for capturing landfill gas and meeting BC Ministry of Environment collection targets. The Plan includes installation, operation and maintenance of collection infrastructure and routine reporting. As a result, landfill gas collection has increased by nearly 40% since 2000, and greenhouse gas emissions have been reduced by approximately 50% since 2012. In 2004, a generator was installed to utilize the captured landfill gas. **With a 65.9% capture rate in 2015, the landfill produced enough energy to power 1,100 homes.** Staff are continually investigating other resource recovery opportunities.

Residuals Management

The following is an overview of residuals management activities for 2015, the *Hartland Landfill Operating and Environmental Monitoring Annual Report* summarizes the operational activities and monitoring program findings and is available at crd.bc.ca/hartland.

The Hartland facility is a multi-purpose site which, in addition to landfill services for general refuse and controlled waste, provides drop-off for recycling, compostables and household hazardous waste (HHW).

Landfill Disposal Rates

Landfill tipping fees provide a financial incentive to reduce the quantity of solid waste being brought to the landfill for disposal. The landfill tipping fee structure for 2015 included:

- \$110/tonne for general refuse
- \$157/tonne for controlled waste
- \$247/tonne for bulky waste

Landfill Material Restrictions

Landfill restrictions 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:

- 1991 - Drywall
- 1993 - Corrugated cardboard, white goods, tires, directories
- 1995 - Scrap metal, aggregate, concrete, asphalt, rubble, clean soil
- 1998 - Paper fibres
- 2006 - Yard and garden waste
- 2011 - Extended producer responsibility materials
- 2015 - Kitchen scraps

Bylaw Enforcement

CRD Bylaw 3881, Hartland Landfill Tipping Fee and Regulation Bylaw regulates activities at the Hartland site. CRD Bylaw Enforcement officers, as well as landfill staff, ensure Hartland customers adhere to site regulations. In 2015, 486 enforcement tickets were issued with the majority in relation to deposit of recyclable or prohibited materials.

Safety and Landfill Fires

Landfill fires happen periodically at Hartland and are typically the result of improper disposal of items such as batteries and chemicals. During North American Occupational Safety & Health (NAOSH) Week the CRD initiates a variety of safety-related training programs, activities and events across the region. One of these initiatives includes responding to landfill fires and includes a review of procedures in coordination with the Saanich Fire Department.



Replacement of commercial customer scale deck.

Landfill Capital Works

Since 1985, over \$40 million has been invested in capital works, environmental controls and general site improvements.

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 receive landfill materials until about 2049, at which time it will have reached its current design capacity.

Following are achievements for 2015:

- Installation of new horizontal gas wells and leachate collectors in the west half of the 175m landfilling lift and the east half of the 179m landfilling lift
- Design of 2016 aggregate production (start of main quarry)
- Planning for Phase 2, landfilling Cell 3 (leachate underdrain, Cell 3 bottom liner, filling plans, gas collection system)
- Upgrades to food waste transfer station
- Replacement of commercial scale decks
- Landfill capacity and aggregate stockpile study in progress
- Upgrade of water supply system at the front end of landfill
- Upgrade of south leachate collection system (forcemain, valve and meter chamber)
- Design of interim cover system for south/east cell 2 slopes
- Seismic upgrade of the upper lagoon retaining wall

Site Reclamation

Since the Phase 1 closure, significant efforts have gone towards site rehabilitation. A long-standing vision for Hartland landfill is to restore the land to a condition that will blend in naturally with the surrounding forest. Planting began in 2004 and includes Douglas Fir, Big Leaf Maple and Red Alder, as well as Ocean Spray, Indian Plum and Mock Orange (all of which are native to the area). Phase 1, Cell 1 final closure design was completed in 2010, which included a final cover complete with a new wetland sedimentation pond in addition to gas, leachate and road upgrades.

In 2008, Hartland landfill received a \$50,000 Trees for Tomorrow grant to plant thousands of native trees, seedlings and bushes over top of Phase 1. This area of the landfill has been capped and sealed with a plastic liner and layer of soil, allowing vegetation to grow as a top cover. Because landfill areas can settle and shift over time, a green space or a park is an ideal end use for a closed landfill. Over 22,000 trees and bushes have been planted over Phase 1 of Hartland landfill.

Leachate Management

Leachate is liquid that is produced from decomposing refuse and includes any precipitation that comes in contact with the refuse. To minimize the leachate generation area, impermeable covers are installed on the landfill and perimeter ditches are lined to divert more clean surface water away from the landfill. In 2011, the north face of Phase 2 Cell 1 was closed (final closure) and plans are underway for progressive closure of the east and south faces of Phase 2 Cell 2. These closures reduce the total leachate generation area of the landfill.

Environmental Monitoring

Hartland landfill employs a number of control measures to prevent or reduce potential effects on groundwater, surface water and air. After nearly 40 years of engineering controls, groundwater and surface water quality at Hartland landfill has improved. An environmental monitoring, assessment and management program is conducted in accordance with BC MOE requirements. The monitoring program measures water quality at and near the landfill and assesses the effectiveness of control measures. Water quality monitoring results in 2015 were similar to previous years and indicated that landfill leachate is



Seismic upgrade of upper lagoon retaining wall.

effectively contained and controlled on-site prior to discharge to the sanitary sewer. Leachate quality monitoring confirmed that leachate discharged from the site was in compliance with the CRD's Sewer Use Bylaw, which regulates discharges to the sanitary sewer. Surface water monitoring in 2014/2015 indicated that nearby surface water bodies, Tod Creek, Durrance Creek, Durrance Lake, and Killarney Lake are not impacted by leachate. Surface water issues associated with runoff from aggregate stockpiled on the Hartland North site continue to improve after stormwater control measures were implemented in 2012.

Landfill gas monitoring confirmed that the landfill gas collection system worked effectively to control emissions from Phase 1. Additionally, new gas wells installed in Phase 2 as part of a long-term gas management plan, resulted in increased collection efficiency.

Information regarding Hartland landfill environmental programs can be found at crd.bc.ca/hartland.

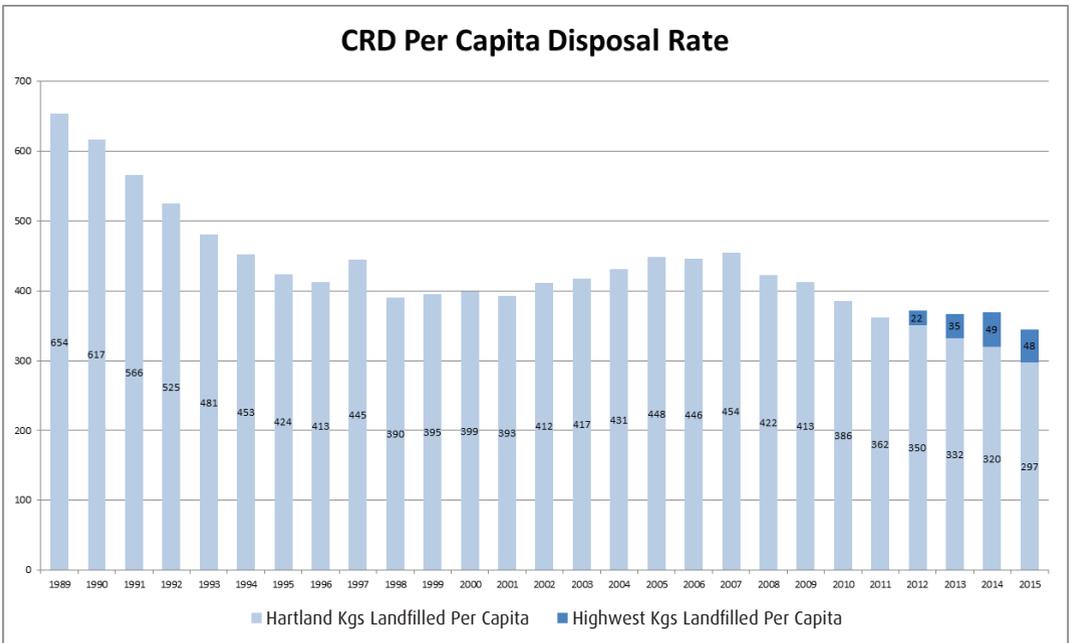
2015 Summary

Environmental resource management in the capital region consists of a complex and mature materials management system that is constantly evolving. The Environmental Resource Management division uses its mandate to educate, facilitate and regulate to minimize waste and maximize resources. A number of successful programs have been implemented over the years that have resulted in a per capita disposal rate of 345 kg.

Total Refuse by Type (tonnes)

Type of Waste Declared	2014	2015	% Change from 2013
General Refuse	119,306	112,442	-6%
Controlled Waste			
Miscellaneous	849	735	-13%
Liquid Waste	611	698	14%
Asbestos	1,572	3,441	119%
Screenings	5,707	6,065	6%
Sub-Total	8,739	10,939	25%
Total	128,045	123,381	-3%

- Miscellaneous includes food processing, surface coating and health hazard wastes, fibre optic cable, spoiled food, animal feces, dead animals, contaminated drywall, soot and contaminated soil
- Liquid waste includes pumpings from catch basins, car wash sumps and other sumps containing non-hazardous waste
- Asbestos also includes material from outside of the region



CRD Per Capita Disposal Rate

In 2012, the Province of British Columbia began using per capita disposal rates as the standard solid waste metric and is targeting 350 kg/capita by 2020. Based on the Ministry of Environment’s new calculation method, the CRD’s disposal rate for 2015 was 345 kg/capita.

Year	Population ¹	Hartland landfill			Tervita Highest Landfill ²	Disposal Rate (kg/person)
		Received	Beneficial Use	Landfilled		
2012	368,935	129,279	n/a	129,279	7,880	372
2013	371,265	123,210	n/a	123,210	13,025	367
2014	372,463	120,942	-1,636	119,306	18,000	369
2015	377,810	114,476	-2,034	112,442	18,000	345

¹ BC Stats

² 80% of facility’s total disposal in recognition of out-of-region waste being landfilled at site

Financial Management

A sustainable financial business model is essential for the provision of solid waste services. In the CRD, the majority of funding has traditionally been drawn from landfill tipping fees, with a new significant funding source from EPR programs being added in 2014. This form of financing has practical limits as diversion increases and landfill volumes decline. The deficit is currently covered from a sustainability reserve fund that was established in 1998. Long-term financial sustainability of the CRD solid waste function will form a critical part of the new Integrated Solid Waste and Resource Management Plan.

Revenues	
Tipping Fees	\$15,937,056
EPR Programs	\$4,916,171
Power Plant	\$396,722
Recycling Program Revenues	\$114,189
Permits, Fines & Misc	\$164,807
TOTAL	\$21,528,945
Costs	
Recycling Collection Programs	\$5,533,230
Landfill Operations	\$5,462,410
Capital Spending	\$2,290,000
Kitchen Scraps Contracts	\$1,442,511
Closure & Post-Closure Fund	\$570,000
Debt Charges	\$645,955
Hartland Recycling	\$451,047
Household Hazardous Waste	\$457,203
SW Initiatives & Enforcement	\$692,963
Planning	\$158,879
Equipment & Vehicle Fund	\$326,750
Power Plant Costs	\$237,533
Community Support Programs	\$224,508
TOTAL	\$18,492,989
Surplus	\$3,035,956

Did you know:
The CRD kitchen scraps program diverted
over 10,000 tonnes of kitchen scraps
from the landfill in 2015.

