



# 2021 Solid Waste Annual Report



Re

CRD

Making a difference...together

Greater Victoria  
British Columbia  
Year ended December 31, 2021

## Territorial Acknowledgement

The CRD acknowledges that it conducts its business in the territory of the Lək̓ʷəŋən (Songhees) and Xwsepsum (Esquimalt) Nations here in the core area, the W̱SÁNEĆ Nations, including W̱JOŁEŁP (Tsartlip), BÓKEĆEN (Pauquachin), STÁUTW, (Tsawout) and W̱SIKEM (Tseycum) on the Saanich Peninsula and Gulf Islands, Sc'ianew (Beecher Bay), T'Sou-ke, and Pacheedaht to the west, as well as MÁLEXEŁ (Malahat) and Pune'laxutth' (Penelekut) Nations, all of whom have lived on these lands since time immemorial.



## Terms and Abbreviations

**3Rs** - Reduce, Reuse, Recycle

**5Rs** - Reduce, Reuse, Recycle, Recovery and Residual Management

**CEC** - Compost Education Centre

**CRD** - Capital Regional District

**EPR** - Extended Producer Responsibility

**ENV** - Ministry of Environment & Climate Change Strategy

**GHG** - Greenhouse Gas

**ICI** - Industrial, Commercial and Institutional Sector

**MFD** - Multi-family Dwelling

**PPP** - Packaging and Paper Products

**RNG** - Renewable Natural Gas

**SWMP** - Solid Waste Management Plan

# Organizational Overview

The Capital Regional District (CRD) delivers regional, sub-regional and local services to 13 municipalities and three electoral areas on southern Vancouver Island and the Gulf Islands. Governed by a 24-member Board of Directors, the CRD works collaboratively with First Nations and all levels of government to enable sustainable growth, foster community well-being, and develop cost effective infrastructure, while continuing to provide core services to residents throughout the region.

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# Overview

This report summarizes solid waste management activities undertaken by the CRD in 2021 and satisfies the annual reporting requirements associated with the CRD's SWMP.

All costs associated with the CRD solid waste service are funded through tipping and user fee revenues at Hartland Landfill, collection agreements with product producers, sale of electricity and sale of recyclables.



## Regulations and Commitments

### Solid Waste Disposal

The CRD became responsible for solid waste disposal for the region in 1973 when, at the request of the CRD Board, the Province of BC established solid waste disposal as a regional function of the CRD. In 1975, the CRD acquired Hartland Landfill and subsequently assumed direct operation of the site in 1985.

The site currently operates under a Design, Operations and Closure Plan in accordance with an Operational Certificate issued by the ENV, as well as the BC Landfill Criteria for Municipal Solid Waste. There is also a provincial authorization in place for asbestos management.

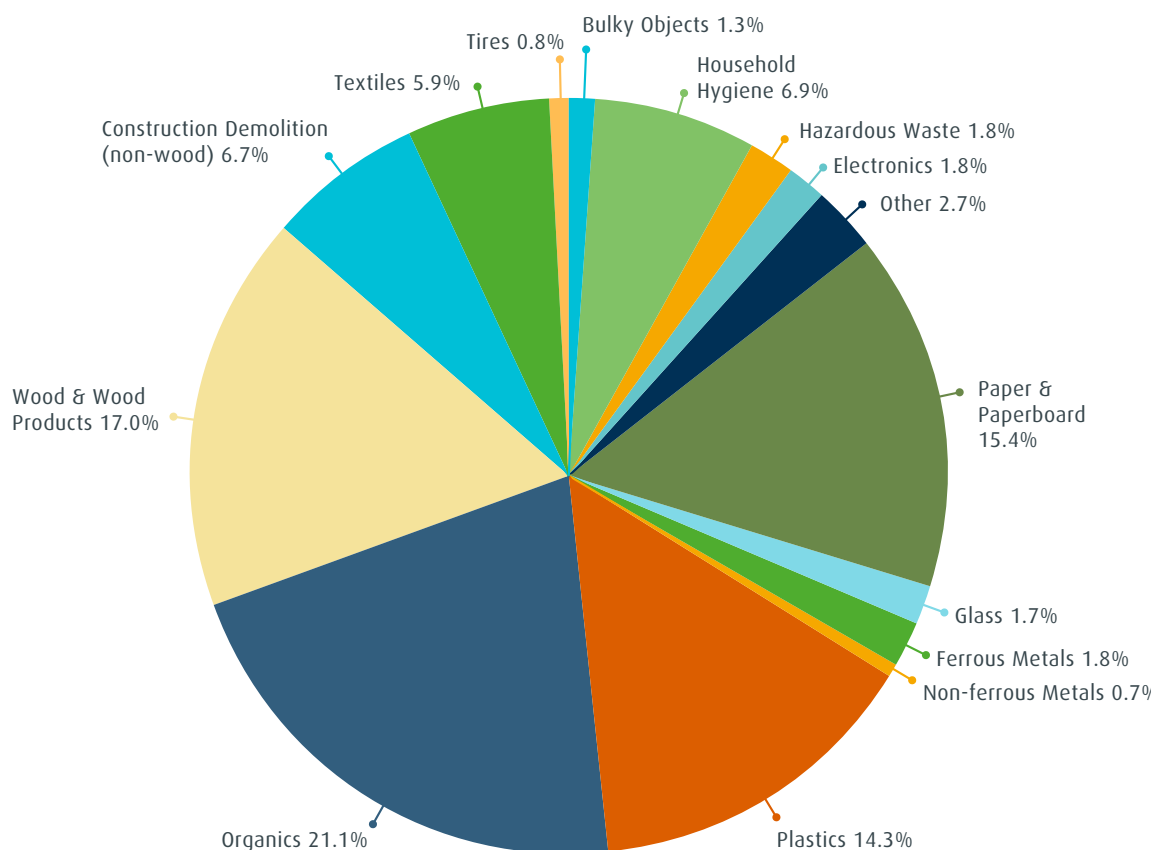


Solid waste originating from outside of Canada is managed at Hartland Landfill in accordance with the International Waste Directive under the authority of the Canada Border Service Agency and the Canadian Food Inspection Agency.

### Solid Waste Stream Composition

Since 1990, the CRD has commissioned six 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 most recent analysis took place in 2016, and the next study is scheduled to take place in 2022.

### 2016 Solid Waste Stream Composition Study Results





## Provincial Requirements

### **Solid Waste Management Planning**

The Environmental Management Act requires all regional districts in BC to develop plans for the management of municipal solid waste and recyclable materials. Solid waste management planning is a proven way to reduce the amount of solid waste requiring disposal in a region, contributing to the protection of the environment.

The original plan for the CRD was approved by the ENV in 1989. There have been two subsequent revisions to the original plan plus eight amendments.

A new SWMP for the region was endorsed by the CRD Board in May of 2021 and was subsequently submitted to the ENV for approval. The new plan includes a number of actions aimed to reduce waste disposal with a measurable target of 250 kg/capita/year by 2030. The plan also includes an aspirational goal to achieve a disposal rate of 125 kg/capita/year. See the SWMP section (page 22) for more details.

### **Landfill Operating and Monitoring Requirements**

Hartland Landfill is authorized through an Operational Certificate under the BC Environmental Management Act. The Operational Certificate specifies the relevant environmental legislation applicable to the site, and sets out requirements for environmental monitoring and annual reporting. Under this regulatory framework, the CRD has established a comprehensive environmental monitoring program to ensure Hartland is not impacting the surrounding environment.

## Per Capita Disposal

In 2012, the Province of BC began using per capita disposal rates as the standard solid waste metric.

Regional districts are required to report total tonnage disposed of at all landfills operating within their boundaries. In 2008, the privately owned and operated Highest Landfill was incorporated into the CRD's SWMP at the direction of the ENV. The facility is located in the District of Highlands and primarily manages construction and demolition material generated from both within and outside of the region. In 2021, this landfill reached its approved filling capacity, stopped receiving solid waste for disposal, and is subsequently being capped while a material recovery facility continues to operate on the site. Given the rise in volumes at Hartland in the latter part of 2021, it is believed that much of the material previously being landfilled at Highest is now being directed to Hartland for disposal.



Based on the provincial government's calculation method, the disposal rate for the capital region was 400 kg/capita in 2021.

## General Refuse Disposal - Per Capita Disposal Rate for Capital Region

Year	Population <sup>1</sup>	Hartland Landfill			Tervita Highest Landfill <sup>3</sup>	Disposal Rate kg/person
		Received	Beneficial Use <sup>2</sup>	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
2016	382,645	134,167	-971	133,196	2,056	353
2017	392,046	145,285	-917	144,368	15,000	407
2018	413,406	148,551	-2,120	146,431	10,500	380
2019	418,511	146,544	-1,142	145,402	14,625	382
2020	425,503	155,014	-5,476	149,538	18,506	395
2021	432,062	167,169	-1,013	166,156	6,730	400

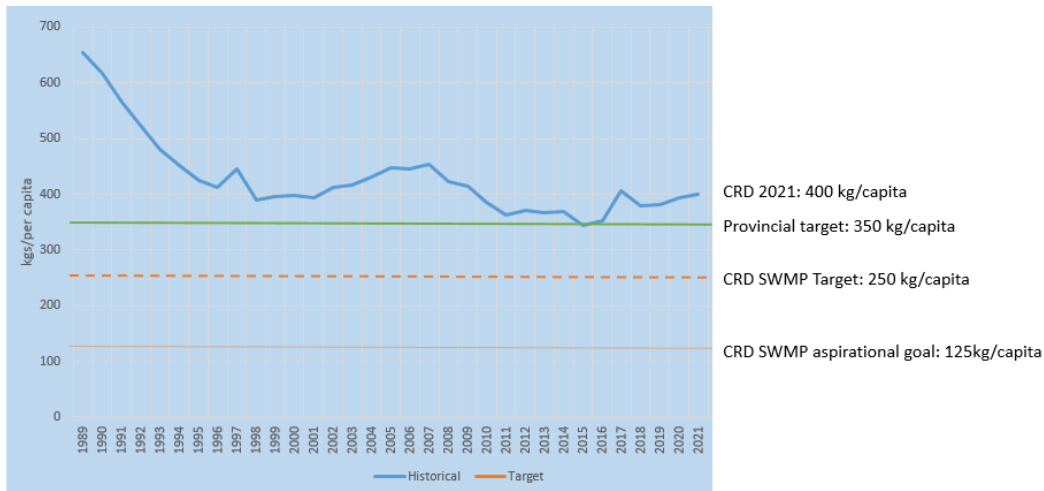
<sup>1</sup> BC Stats

<sup>2</sup> 2021 tonnage decreased due to timing of material grinds and movement of material off-site

<sup>3</sup> percentage of facility's total disposal in recognition of out-of-region waste being landfilled at site



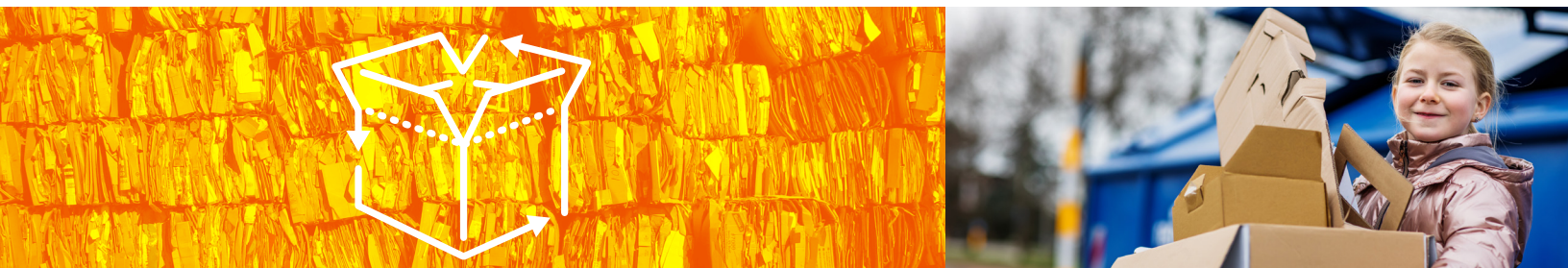
## CRD Per Capita Disposal Rate



## Extended Producer Responsibility

The BC Recycling Regulation, under the authority of the Environmental Management Act, sets out the requirements for producers of designated products to take responsibility for the life-cycle management of their products, including collection and recycling. The CRD supports the EPR model and partners with producers for the collection of their products through curbside and depot recycling programs.

Recycling Regulation Product Category	Quantity Collected through CRD Programs (tonnes)
Beverage Container	19
Residual Producers (e.g. hazardous wastes)	384
Electronics and Electrical	821
Tires	133
Packaging and Paper Products	21,874
<b>Total 2021</b>	<b>23,231</b>





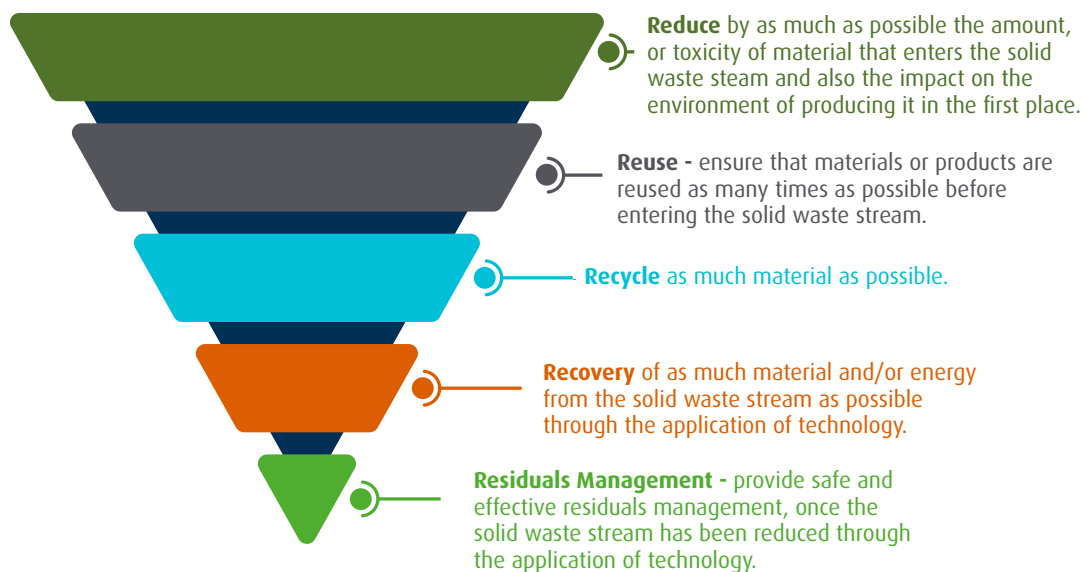
## Solid Waste Service

### Waste Reduction and the 5Rs

The roles and responsibilities for managing solid waste include a combination of government, private and non-profit sectors and consumers themselves. Consideration of the 5R hierarchy is integral for looking at opportunities to improve a solid waste management system. The order of preference is for waste management at one level to only be undertaken when all feasible options for a higher level have been explored.

The CRD views waste as a commodity, and seeks the highest and best use for these resources by applying the 5R hierarchy. The goal is to extend the life of Hartland Landfill by minimizing waste generation (reduce/reuse) and disposal needs and maximizing diversion opportunities (recycle/recovery), supporting a circular economy.

Waste reduction, reuse and recycling can reduce GHG emissions both by lowering the demand for new materials and products (reducing upstream environmental impacts), and by minimizing downstream environmental impacts, such as transporting waste over long distances and disposing of it in landfills.



## Reduce and Reuse

### Diversion funding for non-profit reuse organizations



Ten organizations participated in the program in 2021, receiving a total of \$86,000 of funding.

### Hartland Reusable Materials Program

Partnered with five non-profit reuse organizations for the redistribution of usable textiles, bicycles and large appliances.



22 tonnes of reusable items collected at Hartland Depot in 2021



## Recycle

### Curbside Recycling

Under an agreement with Recycle BC, the CRD will provide 130,364 single-family dwellings with curbside recycling service in 2021. Residents can sign up for reminders and service alerts via the Recycle CRD app, email, voicemail or Twitter.



90K+  
reminder  
subscriptions

90,027 reminder subscriptions are sent out each collection cycle  
(12,929 new subscribers in 2021)



500K+  
tonnes  
since 1989

Since the program inception in 1989, over 527,350 tonnes of  
recyclables have been collected



## Hartland Public Drop-off Depot

Over 80 items from 28 product categories are accepted at the depot, including household hazardous waste items.

Tonnes (2021)	Item
336	Appliances
56	Batteries
13	Books
418	Electronics and Electrical Items
3	Fire Extinguishers
11,772	Food Waste
52	Household Hazardous Waste
11	Light Bulbs, Tubes, Ballasts
292	Mattresses
1,348	Metals
121	Motor Oil, Filters Containers, Antifreeze
263	Paint, Solvents, Pesticides
813	Packaging and Paper Products
23	Propane Tanks
19	Refundable Containers
22	Reusable Goods
133	Tires
1,579	Yard and Garden Materials
229	Wood Waste (sent off-site)
17,526	Total



Partnered with Encorp Pacific to host a Return-it Express & Go station at Hartland Depot for beverage containers

### Gulf Islands Depots

Partnered with five local community groups to provide recycling services to residents on Salt Spring, Pender, Mayne, Galiano and Saturna Islands.



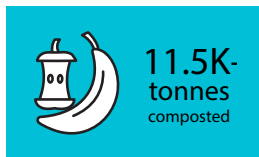
902 tonnes of residential Packaging and Paper Products collected in 2021

### Port Renfrew Transfer Station

Through the local service funded by the community of Port Renfrew, garbage and recyclables are received from residents and businesses.

### Organics Management

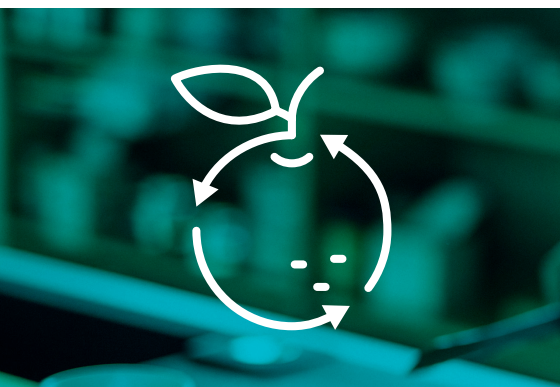
With material bans on the disposal of yard and garden material (2006) and kitchen scraps (2015) in place, the CRD provides drop-off services for source separated material at the Hartland site.



11,772 tonnes of source separated kitchen scraps received and transferred for composting in 2021



1,389 tonnes of yard and garden material were received and either ground for use on-site or transferred for composting in 2021





## Recovery

### Hartland Landfill Gas Capture and Utilization

Landfill gas is produced from decomposing garbage. This gas is mainly made up of carbon dioxide and methane. Methane is an energy source, but is also a GHG. It is flammable and explosive in certain concentrations, which is why it needs to be controlled.

Landfill gas is collected at Hartland using a network of wells and pipes that were first installed in the early 1990s and are expanded on a regular basis. Between 1991 and 2003, the gas collected was burned using a flare to reduce GHGs. In 2003, a landfill gas-to-electricity plant was built next to the flare station to utilize the methane in the landfill gas to produce electricity.



1,600  
homes  
powered

The electricity produced is fed into the existing BC Hydro distribution system on site. The facility produces close to 1.6 megawatts of green power — enough electricity to supply about 1,600 homes.

In 2012, a site-specific Landfill Gas Management Plan was approved, which detailed a strategy for capturing landfill gas and meeting collection targets set by the ENV, and is regulated under the Landfill Gas Management Regulation. The plan includes installation, operation and maintenance of collection infrastructure and routine reporting.



50%  
less

Collection infrastructure continues to be installed in accordance with the plan, and GHGs have been reduced by more than 50% since 2011.

Efforts to optimize the landfill gas collection and increase collection efficiency continued into 2021, and included wellfield optimization efforts to reduce nitrogen and increase methane concentrations, and activation of key wells to improve gas collection and reduce fugitive emissions.



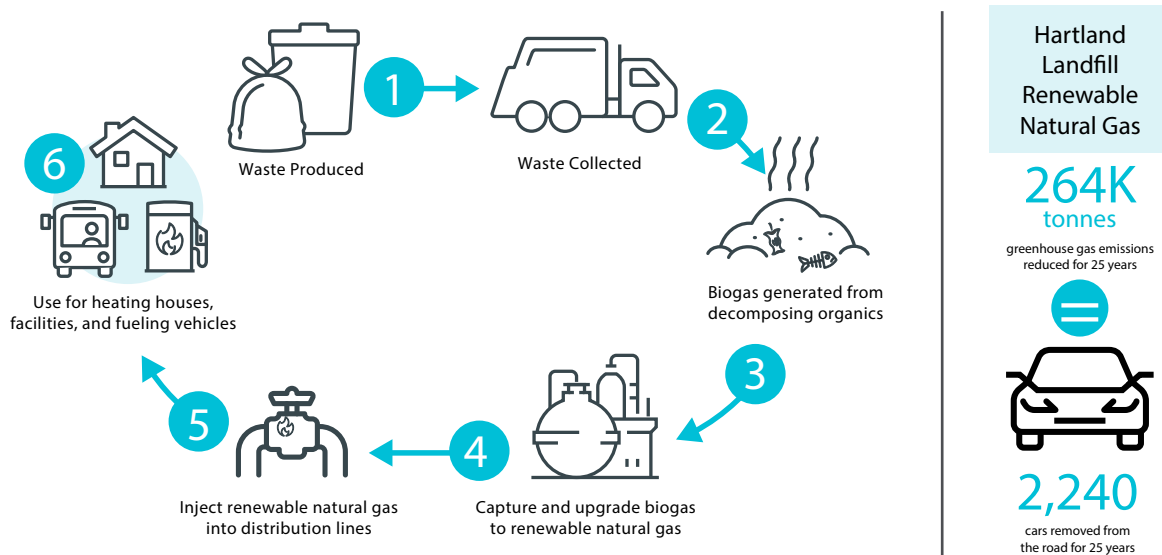
Collection efficiency for 2021 was 71%, using the required Ministry of Environment & Climate Change Strategy model.

In 2022, additional strategies will be implemented to improve landfill gas collection and mitigate fugitive emissions, including use of engineered biocover systems to mitigate fugitive emissions.

### Future of Gas Utilization

With the volume of landfill gas exceeding the electric conversion plant's operating capacity, and the equipment reaching the end of life, the CRD is pursuing a system that will upgrade landfill gas to RNG (a carbon-neutral form of biogas) for sale to FortisBC.

Blending seamlessly with conventional natural gas, RNG is carbon-neutral energy made by capturing and upgrading the biogas released from decomposing organic waste in the landfill.



Converting the biogas generated at Hartland Landfill to RNG will reduce our region's emissions by approximately 264,000 tonnes of carbon dioxide over the project's life—the equivalent to removing 2,240 cars from the road.

A lifecycle GHG assessment found that decommissioning the electricity plant, a facility nearing the end of its life, and building a new RNG facility at Hartland Landfill is a more effective, beneficial use of this resource from a climate change perspective.

The CRD and FortisBC have executed a supply contract approved by the British Columbia Utilities Commission in 2021. The CRD will continue to be responsible for the ownership and operation of the Hartland Landfill, the landfill gas collection system and the upgrade facility. FortisBC will pay a fixed price per gigajoule for the RNG, and will be responsible for the costs associated with injecting it into the natural gas distribution system. The CRD expects the RNG facility to be operational in 2023.

## Residuals Management

Hartland Landfill is a multi-purpose site that, in addition to landfill services for general refuse and controlled waste, provides drop off for source-separated recycling, EPR products, compostables and household hazardous waste at the Hartland Depot.

## Landfilling

Disposal of materials in a landfill is the least preferred management option in the waste management hierarchy. However, landfilling of materials that cannot practicably be removed from the waste stream through reduction, reuse, recycling or recovery is an essential component of the solid waste management system.

The municipal solid waste generated in the region is landfilled at Hartland using the advanced terracing method. This technique enables the management of surface runoff and leachate flow, and control of long-term settlement. It consists of advancing the filling area with vehicular access provided atop the preceding day's refuse. A landfill compactor is used to grade and compress refuse while maintaining the desired slope at a constant width.

### TOTAL REFUSE BY TYPE (tonnes)

Type of Waste Declared	2020	2021	% Change
General Refuse	149,538	166,156	11%
Controlled Waste	13,207	19,920	51%
Asbestos Containing Material	3,093	4,134	34%
<b>Total</b>	<b>165,838</b>	<b>190,210</b>	<b>15%</b>





A minimum compaction target of 850 kg/m<sup>3</sup> is set for general refuse landfilled at Hartland.

### Landfill Disposal Rates

Landfill tipping fees support user pay and provide a financial incentive to reduce the quantity of solid waste being brought to the landfill for disposal. The tipping fee structure for 2021 included:



### Controlled and Demolition Wastes

Landfilling of certain waste streams creates a potential nuisance, health and safety issues and environmental concerns beyond those expected from regular household refuse. These material streams are classified as controlled waste at Hartland, as they require special handling to protect the health and safety of employees and customers and to minimize nuisance, odours, and scavenging by wildlife.

Accepted for disposal with a permit:

- Asbestos-containing material
- Controlled waste (e.g., sewage sludge, condemned food, animal carcasses)
- Clean demolition waste (commercial)
- Renovation waste (residential)



The risks associated with these regulated wastes vary and so each type is managed differently. These wastes require permits and usually an appointment for disposal. The number of permits issued has been increasing annually since 2013.

Controlled waste, such as sewage sludge, condemned food and animal carcasses, is landfilled in trenches dug in completed waste lifts and covered daily with chipped wood waste,

aggregate or clay to reduce odours. Asbestos is landfilled in segregated areas of the site and is covered daily with aggregate or soil.

### 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.

#### Banned from garbage disposal:

- Aggregate, clean soil, rubble
- Asphalt road material and concrete
- Biomedical waste
- Corrugated cardboard \*
- Drywall
- Fire extinguishers \*
- Hazardous wastes (including empty containers)
- Ignitable wastes
- Kitchen scraps (food waste and soiled paper products) \*
- Mixed paper (paper fibres) \*
- Motor vehicle bodies and farm implements
- Newspaper \*
- PCBs (Polychlorinated Biphenyls)
- Propane tanks \*
- Radioactive wastes
- Reactive wastes
- Scrap metal \*
- Waste that is on fire or smoldering
- Yard and garden material \*
- EPR products \*
  - ▶ beverage containers
  - ▶ lead acid batteries
  - ▶ PPP (residential only)
  - ▶ paint
  - ▶ pharmaceuticals (not accepted at Hartland)
  - ▶ solvents and flammable liquids, gasoline and pesticides
  - ▶ tires
  - ▶ used lubricating oil, filters, containers and antifreeze
- ▶ electronics and electrical
- ▶ batteries
- ▶ cell phones
- ▶ electronic equipment and devices
- ▶ information, technology and telecommunications equipment
- ▶ lamps, bulbs and lighting equipment
- ▶ large appliances
- ▶ outdoor power equipment
- ▶ small appliances, tools, sports and hobby equipment
- ▶ smoke and carbon monoxide alarms
- ▶ thermostats

\* Indicated materials accepted at Hartland Depot

### Bylaw Enforcement

CRD Bylaw 3881 (Hartland Landfill Tipping Fee and Regulation Bylaw) regulates activities at the Hartland site. CRD bylaw enforcement officers and landfill staff ensure Hartland customers adhere to site regulations.



In 2021, 60 written warnings and 416 enforcement tickets were issued primarily related to prohibited items in garbage

### Landfill Reforestation

The long-standing vision for the Hartland site is to restore the land to a condition that will blend in naturally with the surrounding forest. Planting of native species began in 2004 and includes Douglas Fir, Big Leaf Maple and Red Alder, as well as ocean spray, Indian plum and mock orange.

Invasive species are removed annually throughout the site. These areas are maintained through an annual invasive species removal to encourage the growth of new plant species and protect those already established. New plants were protected with deer fencing and areas equipped with temporary irrigation after invasive species removal.



Closed areas rehabilitated with over 35,000 indigenous trees and shrubs planted to date.





## Landfill Capital Works

Each year, the CRD invests approximately \$3 million in landfill construction and improvements, including rock excavation and crushing, leachate collection, gas collection and utilization infrastructure, environmental controls, roads and other 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 2047, at which time it will have reached its current design capacity.

In 2019, a new Landfill Master Filling Plan was finalized that optimizes site capacity, maximizes gas and leachate collection, and other environmental management systems.



## 2021 Engineering Achievements Include:

- Project management for the landfill's heavy equipment services
- The annual installation of new combined gas/leachate collection infrastructure
- Paving for dust control and improved stormwater management
- Completion of two new weigh scales plus design and tender for a new scale building at Hartland North
- Preparation of a new landfilling cell to receive garbage in the future
- Construction of a new water main on the landfill property
- Completion of twin RNG gas pipes from Hartland Landfill to the Residual Treatment Facility
- Additional tree planting and hydro-seeding of closed landfill areas
- Reconfiguration of existing gas and leachate collection pipes to expand Cell 3 garbage volume
- Assist Residual Treatment Plant commissioning activities with safe sewer cake disposal
- Gravel stockpile development works in the Northeast corner for landfill operation needs
- Planning and design of kitchen scraps transfer station
- Planning and technical studies for the RNG Facility
- Planning and design of fibre optic cable installation – connecting Hartland North Scale Building

## Environmental Monitoring

Extensive engineering controls are in place at Hartland to prevent or reduce landfill-related impacts on groundwater, surface water and air. The effectiveness of these controls is assessed through the CRD's environmental monitoring program. Monitoring is conducted in accordance with all regulatory requirements, including the Operational Certificate and the BC Contaminated Sites Regulation. Groundwater and surface water is regularly monitored at over 150 stations both on and off the landfill site.

Groundwater water quality monitoring data obtained in 2020/2021 was similar to previous years and indicated that landfill leachate continues to be effectively contained and controlled on-site. Surface water monitoring in 2020/2021 indicated that nearby surface water bodies, Tod Creek, Durrance Creek, Durrance Lake and Killarney Lake, are not impacted by leachate. Leachate quality monitoring confirmed that leachate discharged from the site was in compliance with CRD Bylaw 2922 (Sewer Use Bylaw), which regulates discharges to the sanitary sewer.

Landfill gas monitoring confirmed that the landfill gas collection system worked effectively to control emissions. Landfill gas infrastructure continues to be installed as part of a long-term gas management plan.



## Communications, Outreach and Education Programs

A number of communications, education and outreach programs are used to support the 5R hierarchy and promote awareness and participation in waste reduction, diversion and disposal services.

### Information phone line and email, as well as robust website resources

- Infoline - received 21,863 calls and 3,932 emails
- Myrecyclopedia.ca directory received 353,431 visits
- Ready, Set, Sort! received 7,528 gameplays

### Curriculum-linked educational workshops and tours for students from Kindergarten to Grade 12

- Delivered six 3Rs school programs to 173 participants.
- Debuted the first Hartland Landfill live-streamed virtual tours for schools on Earth Day (April 22, 2021). Two live-streamed virtual tours were delivered to 57 registered classes with approximately 1,000 participants.

### Adult educational programs and tours

- Deliver three 3Rs presentations and tours to 83 participants
- Delivered three technical tours to 104 participants

### Seasonal, research-based public education campaigns and instructive materials. Topics for 2021 included:

- End markets for recyclable materials
- Illegal dumping prevention
- Curbside glass separation
- Safe household hazardous waste disposal
- Love Food, Hate Waste
- Waste Reduction Week
- Holiday season waste reduction

### Active media relations to support public awareness of solid waste programs and opportunities

- Curbside Blue Box Recycling Program
- CRD Board approved the new SWMP
- Waste Reduction Week



### **Funding to support groups conducting clean-up events in the community**

- In 2021, the CRD provided funding for nine projects in the community.

### **Partnership with the Greater Victoria Compost and Conservation Education Society**

- The CEC communicated with 565,770 residents, and ran 95 community workshops/ learning events with 3,959 residents participating.
- The CEC also delivered 153 school programs to 3,149 preschool to Grade 12 students and their guardians or teachers.





# Solid Waste Management Plan

## Overview

The CRD has spent the last several years developing a new SWMP to reduce how much material is sent to Hartland Landfill and guide how the region's solid waste is managed in a safe, secure and sustainable way now, and in the future.

In 2021, the CRD Board approved a new SWMP for the region and has submitted it to the Province of BC for approval.

The final Plan includes strategies and actions for reducing and managing all streams of solid waste—including recyclables, compostable material and garbage—with an eye to extending the life of Hartland Landfill to 2100 and beyond.

## Principles, Goals and Targets

### Guiding Principles

1. Promote zero-waste approaches and influence others in support of a circular economy;
2. Promote the first 3Rs (Reduce, Reuse and Recycle);
3. Maximize beneficial use of waste materials and manage residuals appropriately;
4. Support polluter-pay and user-pay approaches and manage incentives to maximize positive behaviour outcomes;

5. Prevent organics, recyclables and household hazardous waste from going into the garbage, wherever practical;
6. Collaborate with other jurisdictions, wherever practical;
7. Develop collaborative partnerships with interested parties, both within and outside of the CRD, to achieve regional targets set in plans; and
8. Level the playing field within regions for private and public solid waste management facilities

### **Plan Goals and Targets**

The Province's guidelines for solid waste management planning require SWMPs to have goals and targets. Goals are the long-term aims to be achieved as an outcome of the plan. A goal may be achieved within the timeframe of this plan, but a goal may also be aspirational; something for the CRD to strive for beyond the timeframe of this plan. Targets are a way of measuring the plan's progress and have clear timelines.

#### **Goals:**

1. To surpass the provincial per capita waste disposal target (350kg/capita/year) and aspire to achieve a disposal rate of 125 kg/capita/year;
2. To extend the life of Hartland Landfill to the year 2100 and beyond;
3. To have informed citizens that participate effectively in proper waste management practices; and
4. To ensure that the CRD's solid waste services are financially sustainable.

#### **Targets:**

1. By the end of the 3<sup>rd</sup> year of this plan, the CRD's per capita disposal rate will be 340 kg or less.
2. By the end of the 5<sup>th</sup> year of this plan, the CRD's per capita disposal rate will be 285 kg or less.
3. By the end of the 10<sup>th</sup> + year of this plan, the CRD's per capita disposal rate will be 250 kg or less.

**Subsequently, 72 actions (see Appendix A) were developed based on the following objectives:**

- Improve participation in waste reduction activities and diversion services
- Decrease contamination levels in waste streams
- Facilitate processing and markets for organics, recyclables and wood waste, as appropriate
- Maximize local solid waste disposal capacity
- Establish a long-term sustainable financial model for the CRD's solid waste service

As the management of unwanted materials is a shared responsibility, successful implementation of the SWMP will require involvement from the entire community, including residents, businesses, institutions, First Nations, municipalities and non-profits associations, as well as the local waste management industry.

## Highlights for 2021

Following CRD Board endorsement of the SWMP and submission of the plan to the Province, six priority areas for the first three years of implementation, and a short-term work plan was prepared.

1. **Targeted material stream diversion** – Develop new programming and tools to reduce the four largest waste streams (wood waste, organics, paper and plastic) being landfilled.
2. **MFD/ICI strategy** – Build on success with SFD sector to address the 53% of waste stream generated by multi-family and ICI sectors.
3. **Municipal collaboration** – Partner with local governments to develop programming, regulations and bylaws within municipal authority that will incent diversion.
4. **Community grant program** – Provide support for community based initiatives.
5. **Technology research** – Continue to research, investigate and report out on emerging waste management technologies.
6. **Waste flow management** – Investigate policies to control movement of recyclables and waste material generated in the region.



A summary of 2021 activity is listed below. Further details and a complete list of the SWMP actions can be found in Appendix A – 2021 Plan Monitoring Update.

- Board endorsement of the SWMP and submission to the Province of BC
- Hiring for two new positions to support communications and new initiatives
- Piloting a live-streamed, virtual tour of Hartland for 1,000 students
- Expansion of reusable items collection at Hartland Depot to include appliances
- Partnered with Return-it to host an Express & Go station at Hartland Depot for beverage containers
- Expansion of on-site beneficial use of source separated material streams

## Looking Ahead to 2022

- Solid Waste Stream Composition Study
- Finalization of MFD market analysis
- Development of supports to increase diversion activity from the ICI sector
- Establishment of a Local Government Waste Reduction Working Group
- Launch of Rethink Waste Community Grant
- Advancement of policy options regulating waste flow
- Adjustment to tipping fee structure for Hartland Landfill
- Investigation into expansion of material bans from landfill
- Implementation of off-site beneficial use for source separated material streams



# Appendix A



## CRD Solid Waste Management Plan – 2021 Plan Monitoring Update

Strategies and Actions		Timing	Update
<b>Reduce &amp; Reuse Strategies</b>			
<b>Strategy #1 Continue and enhance education programs</b>			
1A.	Ensure ongoing, up-to-date promotion and education resources to enable effective participation in CRD programs and initiatives	Ongoing focus area	<ul style="list-style-type: none"> <li>• New CRD communications liaison position hired August 2021</li> <li>• New CRD solid waste initiatives position hired January 2022</li> <li>• Sponsorship of 2021 Ecostar Awards</li> <li>• Debuted live-streamed virtual tour of Hartland Landfill for schools (April 2021, 52 classes, 1,000 students)</li> <li>• Initiated MFD market research project to inform future education and engagement strategies</li> <li>• Created CRD Educators e-newsletter to expand reach and promotion of 3Rs school programs (the first issue released February 2022)</li> <li>• Participation in Coast Waste Management Association Communications/Educators Working Group</li> </ul>
1B.	Incorporate behaviour change components, wherever possible, using a variety of education and communication strategies and tools	Future focus area	
1C.	Expand and prioritize education programs for the multi-family and ICI sectors	Short-term focus area	
1D.	Enhance the K-12 school program to include concepts of zero waste and the circular economy	Future focus area	
1E.	Collaborate with stakeholders on education campaigns (in partnership with First Nations communities, municipalities and product stewards)	Ongoing focus area	
1F.	Continue supporting environmental stewardship recognition	Ongoing focus area	
1G.	Continue to engage residents on solid waste matters; using the appropriate level of consultation	Ongoing focus area	

Strategies and Actions		Timing	Update
<b>Reduce &amp; Reuse Strategies</b>			
<b>Strategy #2 Encourage waste prevention</b>			
2A.	Promote less consumption and advocate for consumer responsibility	Future focus area	<ul style="list-style-type: none"> <li>• Reduce/Reuse webpage and resources added to the website</li> <li>• In October 2021, the CRD promoted Waste Reduction Week with daily social media posts, press releases and Hartland Landfill tours.</li> <li>• CRD Waste Reduction Grant – pilot, launched in January 2022</li> <li>• The Province of BC granted municipal authority for regulating the distribution of single-use items</li> <li>• Proposed Federal Single-Use Plastics Regulation for 2022-2023 – straws, stir sticks, ring carriers, food service ware, cutlery, check out bags</li> <li>• Participation in the Coast Waste Management Association’s single use plastics working group</li> </ul>
2B.	Establish a community-based waste reduction grant program	Short-term focus area	
2C.	Support municipal, provincial and federal single-use item reduction efforts	Ongoing focus area	
2D.	Promote sustainable and/or packaging-free purchasing options	Future focus area	
2E.	Advocate provincially and federally to limit or eliminate the manufacturing, distribution or sale of single-use items and non-recyclable materials	Future focus area	
2F.	Advocate provincially and federally for sustainable product and packaging design	Future focus area	

Strategies and Actions		Timing	Update
<b>Reduce &amp; Reuse Strategies</b>			
<b>Strategy #3 Support reduction of avoidable food waste</b>			
3A.	Continue to support residential food waste reduction through campaigns and composting promotion	Ongoing focus area	<ul style="list-style-type: none"> <li>Renewed a three-year contract with the national Love Food Hate Waste (LFHW) campaign.</li> </ul>
3B.	Continue to encourage the donation of edible food and support food recovery organizations	Ongoing focus area	<ul style="list-style-type: none"> <li>Fall LFHW education campaign, which featured bus shelter ads, radio sponsorship, social media contests, local print and digital media ads.</li> </ul>
3C.	Advocate for regulations that support avoiding food waste	Future focus area	<ul style="list-style-type: none"> <li>The CRD staff worked in collaboration with Saanich to design LFHW branded signs for its municipal garbage trucks.</li> <li>Focused the annual Make Memories, Not Waste campaign for 2021 on reducing the amount of holiday kitchen waste produced. Advertorials were written for Victoria Buzz, Used Victoria and BlackPress Impress, as well as weekly social media posts throughout December.</li> <li>Provided \$93,338 in funding to the CEC to deliver a wide variety of programs about composting and gardening in the capital region.</li> </ul>



Strategies and Actions	Timing	Update
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#### Reduce & Reuse Strategies

##### Strategy #4 Support reuse activities in the region

4A.	Continue to provide funding to non-profits to help offset garbage tipping fees for unusable donated items	Ongoing focus area	<ul style="list-style-type: none"> <li>• Provided \$86,000 of funding to non-profit reuse organizations</li> <li>• Participated in Restore donation event</li> <li>• Expand reusable items collection at Hartland Depot to include appliances for Restore</li> </ul>
4B.	Continue to support and promote donations to reuse establishments	Ongoing focus area	
4C.	Support reuse, renting and sharing programs and other materials exchange activities	Ongoing focus area	
4D.	Investigate free store at Hartland or other facilities	Future focus area	

Strategies and Actions		Timing	Update
<b>Reduce &amp; Reuse Strategies</b>			
<b>Strategy #5 Support local governments in working towards zero waste and a circular economy</b>			
5A.	Develop model language for bylaws, best practices, official community plans, and economic development strategies for use by local municipalities using research and collaboration to guide this process	Future focus area	<ul style="list-style-type: none"> <li>Established a Local Government Waste Reduction Working Group with the first meeting to take place in February 2022</li> </ul>
5B.	Work with local municipalities to identify the need for solid waste facilities and zoning for waste management activities	Short-term focus area	
5C.	Use policy tools to enable local recycling infrastructure	Future focus area	
5D.	Investigate 'pay-as-you-throw' principles to use as tools to incent less waste disposal	Future focus area	
5E.	Investigate the use of clear bags for garbage or recyclables collection to encourage proper recycling of materials, where practicable and enforceable	Future focus area	

Strategies and Actions		Timing	Update
<b>Reduce &amp; Reuse Strategies</b>			
<b>Strategy #6 Continue and enhance policy development</b>			
6A.	Develop model procurement policies for use by local governments, non-profits, etc.	Future focus area	<ul style="list-style-type: none"> <li>Identified as a priority, staff are exploring the diversion of specific material streams from the landfill through regulations and service changes.</li> </ul>
6B.	Continue to expand material bans when viable alternatives exist	Short-term focus area	
6C.	Investigate licensing waste management facilities in the region to encourage transparency, consistency, and a requirement that all facilities protect public health and the environment	Short-term focus area	
6D.	Investigate regulatory mechanisms to manage municipal solid waste and recyclable materials in the region	Short-term focus area	
6E.	Investigate options for debris from extreme weather	Future focus area	

Strategies and Actions		Timing	Update
<b>Recycling Strategies</b>			
<b>Strategy #7 Increase residential diversion</b>			
7A.	Continue to promote the diversion of recyclable materials (including organics), ensuring that education strives to minimize contamination in these streams	Ongoing focus area	<ul style="list-style-type: none"> <li>• Conducted an education campaign to reduce the amount of co-mingled glass in the residential recycling stream.</li> <li>• On November 18, 2021, the Hartland Express &amp; Go station opened at Hartland's recycling depot. With a collaboration between the CRD and Return-It, residents now have the opportunity to receive a refund for beverage containers at Hartland</li> </ul>
7B.	Collaborate with municipal and private sector service providers to support depot diversion efforts in the region for non-curb-side materials	Short-term focus area	
7C.	Encourage local processing and markets for residential recyclables	Future focus area	
7D.	Develop tools, such as a guide, to support event recycling	Future focus area	



Strategies and Actions		Timing	Update
<b>Recycling Strategies</b>			
<b>Strategy #8 Increase multi-family diversion</b>			
8A.	Allocate resources to support MFD recycling, for example, by developing standardized education materials	Short-term focus area	• New CRD solid waste initiatives position hired in January 2022
8B.	Work with local governments and private sector service providers to develop MFD waste source separation requirements	Short-term focus area	
8C.	Develop policy guidelines and recommendations for recycling, composting and garbage space and access in MFD developments	Future focus area	
8D.	Collaborate with stakeholders (e.g. private haulers, property managers) to implement support for MFD recycling	Future focus area	

Strategies and Actions		Timing	Update
<b>Recycling Strategies</b>			
<b>Strategy #9 Increase diversion from industrial, commercial and institutional (ICI) facilities</b>			
9A.	Allocate resources to increase ICI diversion, for example, a business waste reduction liaison	Short-term focus area	<ul style="list-style-type: none"> <li>• New CRD solid waste initiatives position hired in January 2022</li> <li>• Province has listed 'Evaluating opportunities and policy options for ICI materials in their EPR Five-Year Action Plan 2021-2026</li> <li>• National Zero Waste Council has published a Circular Economy Business Toolkit</li> </ul>
9B.	Advocate to expand the packaging and paper product EPR program to the ICI sector	Ongoing focus area	
9C.	Create a business waste reduction toolkit, including education about how to apply circular economy principles	Future focus area	
9D.	Encourage municipalities to require waste management plans with business licenses	Future focus area	
9E.	Develop a policy guide for ICI waste management space and access requirements	Future focus area	
9F.	Work with local governments and private sector service providers to develop ICI waste source separation requirements	Short-term focus area	
9G.	Investigate shifting disposal ban enforcement to the ICI generator rather than hauler	Future focus area	

Strategies and Actions	Timing	Update
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### Recycling Strategies

#### Strategy #10 Support existing and new extended producer responsibility (EPR) programs

10A.	Advocate to the Province to expand EPR programs	Ongoing focus area	<ul style="list-style-type: none"> <li>Province has listed a number of products in their 2021-2026 action plan for EPR expansion, including mattresses, propane tanks, fire extinguishers and additional battery types (EPR Five-Year Action Plan)</li> <li>The province is working with other jurisdictions toward national EPR consistency</li> </ul>
10B.	Collaborate with stewards to increase consumer awareness about EPR programs	Ongoing focus area	
10C.	Advocate for increased return-to-retailer opportunities	Ongoing focus area	
10D.	Advocate federally to standardize EPR programs across Canada	Ongoing focus area	

Strategies and Actions		Timing	Update
<b>Recycling Strategies</b>			
<b>Strategy #11 Increase organics diversion and processing capacity</b>			
11A.	Continue to promote organics waste diversion	Future focus area	• Increased kitchen scraps tipping fee to \$140 per tonne
11B.	Continue to utilize existing private sector organics processing capacity and seek to develop a facility at the Hartland site should processing capacity not meet the region's requirements	Future focus area	
11C.	Support compost markets by purchasing back materials	Future focus area	
11D.	Collaborate with service providers and users to develop guidelines for the use of compostable products and packaging	Future focus area	



Strategies and Actions		Timing	Update
<b>Recycling Strategies</b>			
<b>Strategy #12 Increase construction, renovation and demolition (CR&amp;D) material diversion</b>			
12A.	Develop a comprehensive strategy, including characterization of materials, best practices, and pilot projects	Future focus area	<ul style="list-style-type: none"> <li>• Identified as a priority, staff are exploring the diversion of specific material streams from the landfill through regulations and service changes</li> <li>• Participation in the Coast Waste Management Association's construction and demolition working group</li> </ul>
12B.	Develop educational tools to support CR&D material diversion (e.g., create an industry toolkit, a deconstruction guide, and/or guidelines for diverting and utilizing reused materials)	Future focus area	
12C.	Promote green building standards	Future focus area	
12D.	Continue collaboration with local governments to develop and use policy tools to maximize diversion and to align management plans (e.g., construction permits, building codes)	Future focus area	
12E.	Investigate beneficial uses of CR&D waste, including a clean wood waste ban	Short-term focus area	
12F.	Investigate banning or surcharging mixed CR&D loads at the landfill to encourage source separation	Short-term focus area	
12G.	Further, develop programs for managing hazardous materials (e.g., asbestos)	Future focus area	

Strategies and Actions		Timing	Update
<b>Recycling Strategies</b>			
<b>Strategy #13 Encourage proper public space waste management activities</b>			
13A.	Develop educational materials to prevent and reduce litter and abandoned materials in our neighbourhoods and public spaces	Future focus area	• Supported District of Saanich's campaign to reduce illegal dumping activity
13B.	Continue promoting alternatives to abandoned materials and illegal dumping by educating about proper management and disposal	Ongoing focus area	
13C.	Collaborate with stakeholders, including local governments and private sector facilities, to develop a regional approach to the prevention of illegal dumping	Future focus area	
13D.	Investigate developing regionally-aligned litter bylaws	Future focus area	
13E.	Develop and pilot methodologies to 'observe, record, and report' on abandoned materials and illegal dumping incidents throughout the CRD	Future focus area	
13F.	Investigate options for large bulky item disposal, (e.g. free drop-off days or large item pick-up days)	Future focus area	

Strategies and Actions		Timing	Update
<b>Recovery &amp; Residuals Management Strategies</b>			
Strategy #14 Optimize landfill gas management			
14A.	Continue to maximize and optimize the capture of landfill gas for beneficial use	Ongoing focus area	• Analysis to optimize landfill gas management is underway in conjunction with the RNG initiative
14B.	Investigate collaboration opportunities with educational institutions to research new beneficial uses and technologies	Short-term focus area	

Strategies and Actions		Timing	Update
<b>Recovery &amp; Residuals Management Strategies</b>			
Strategy #15 Enhance Hartland disposal capacity			
15A.	Review Hartland tipping fee structure and ban enforcement levels, subject to recycling market conditions	Short term focus area	<ul style="list-style-type: none"> <li>• The opportunity to use beneficially on site material streams previously being directed to active face is underway. Unusable books are being shredded and used to displace rock as cover material for some areas.</li> </ul>
15B.	Continue to operate Hartland Landfill using best practices	Ongoing focus area	
15C.	Develop design options to maximize the disposal capacity of Hartland Landfill to 2100 and beyond	Future focus area	
15D.	Continue to conduct research, investigate and report out on emerging waste management technologies	Short term focus area	





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