SOLID WASTE MANAGEMENT PLAN UPDATE

FINAL REPORT

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DRAFT

Let's talk Less trash
REDUCE, REUSE, RECYCLE

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Acronyms & Abbreviations

2013 SWMP	Cariboo Regional District Solid Waste Management Plan
ACM	Asbestos Contaminated Materials
BSWMC	Board Solid Waste Management Committee
CBSM	Community-based Social Marketing
C&D	Construction and Demolition
EMA	BC Environmental Management Act
EPR	Extended Producer Responsibility
GHG	Greenhouse Gas
ICI	(Light) Industrial, Commercial, and Institutional
HHW	Household Hazardous Waste
Ministry	BC Ministry of Environment and Climate Change Strategy
MRF	Material Recycling Facility
MSW	Municipal Solid Waste
MURB	Multi-unit Residential Building
Organics	Kitchen scraps, food waste, yard, and garden debris
RD	Regional District
RSWMP	Regional Solid Waste Management Plan (1997)
SWAC	Solid Waste Advisory Committee
SWMP	Solid Waste Management Plan
SF RES	Single Family Residential

Acknowledgements

The Cariboo Regional District (CRD) would like to thank those who generously shared their time, ideas, and feedback during the Solid Waste Management Plan Update Process. We would like to acknowledge the contributions of the Solid Waste Advisory Committee, our member municipalities and electoral areas and the Regional Board at large.

Executive Summary

In British Columbia, regional districts develop municipal solid waste management plans (SWMPs) under the *Environmental Management Act*. This plan replaces the 2013 plan and provides a long-term vision of how the Cariboo Regional District (CRD) will manage its solid waste over the next ten years. In doing so, it will serve to guide our solid waste management related activities and policy development.

The key issues for this plan emerged through a past plan and existing system review shown in Section 2.0 and discussions with members of the Solid Waste Advisory Committee (SWAC). This assessment was informed by Sections 1.1 and 1.2 respectively. The SWMP Update strategies are intended to reduce our disposal rate from 657 kilograms (kg) per person to 562 kg per person per year. This brings our average disposal rate closer to the 2020 provincial average of 499 kg per person. The 562 kg/person/year target is more achievable given the remote geographic areas we are serving and limited programs and infrastructure for waste diversion. Because of our geography, our target does not match the provincial target of 350 kg per person per year[1].

The SWMP Update strategies are summarized below and grouped by pollution prevention hierarchy levels. These strategies are further described in Section 3.0.

1. Waste Prevention and Reduction
2. Waste Diversion
    a. Diversion and Reuse Hubs
    b. Multi-unit Building Recycling
    c. Commercial Recycling
    d. Curbside Garbage and Recycling
    e. Food Waste Prevention and Divert Food Scraps
    f. Landfill Disposal Ban
    g. User Pay
3. Resource Recovery
4. Residual Management
    a. Disaster Debris and Hazardous Waste Management
    b. Landfill Criteria Review
    c. Attended Site Development
    d. Modifications to Rural Sites

This SWMP Update identifies the broad financial and operational implications of these strategies (Section 4.0), a proposed implementation timeline and process (Section 5.0), and methods to evaluate our efforts and monitor compliance (Section 6.0).

[1] https://www2.gov.bc.ca/gov/content/environment/waste-management/zero-waste

1.0 Introduction

The Cariboo Regional District (CRD) is responsible for coordinating and administering the region's solid waste management plan. Solid waste management plans are high-level long-term visions of how we would like to manage our solid waste in accordance with the pollution prevention hierarchy. Per the BC Ministry of Environment and Climate Change Strategy (Ministry), this plan should be renewed approximately every ten years to reflect the current regional needs, market conditions, technologies, and legal requirements.

The CRD prepared its first solid waste management plan in 1997 and updated it in 2013. In 2021, the CRD initiated a process to update the 2013 Solid Waste Management Plan (2013 SWMP) to identify goals and strategies for the next 10 years. This SWMP Update process considered existing solid waste management policies and programs; identified and evaluated options for reduction, diversion, and residuals management; and addressed system financing.

This draft SWMP Update replaces the 2013 SWMP. Once it is approved by the Province (along with any approval conditions), it becomes a regulatory document and serves to guide our solid waste management related activities and policy development. Together with applicable regulations and operational certificates, this plan regulates the operation of sites and facilities that make up the region's waste management system.

1.1 Guiding Principles

Guiding principles for developing and implementing this SWMP Update were prepared by the CRD's Solid Waste Advisory Committee (SWAC) in October 2021 and are shown in Figure 1-1. They aree a slightly modified version of those recommended in the *BC Guide to Solid Waste Management Planning*.

Figure 1-1. CRD Guiding Principles for the SWMP Update

1.2 Pollution Prevention Hierarchy and Targets

This SWMP Update adopts the 5 R pollution prevention hierarchy as illustrated in Figure 1-2. The Plan's proposed strategies and actions are laid out in Section 3.0 and are presented in the order of the hierarchy.

Figure 1-2. Pollution Prevention Hierarchy
Source: BC Ministry of Environment and Climate Change Strategy, n.d.

In 2020, an estimated 41,882 tonnes of garbage were disposed at landfills and the CRD disposal rate was 657 kilograms (kg) per person. The implementation of strategies in this SWMP Update is intended to reduce the disposal rate to 562 kg per person per year. This brings our average disposal rate closer to the 2020 provincial average of 499 kg per person. The 562 kg/person/year target is more achievable given the remote geographic areas we are serving and limited programs and infrastructure for waste diversion. Because of our geography, our target does not match the provincial target of 350 kg per person per year[2]. As seen in Figure 1-3, regional districts that are in more rural and remote areas (noted in yellow) tend to have a higher waste disposal rate. For example, regional districts serving rural and remote communities with similar natural resource driven economies have the highest waste disposal rates in BC, including Regional District of Fraser Fort-George, Peace River Regional District, and Regional District of Kitimat-Stikine. Therefore, setting a target close to the current provincial average is considered an attainable goal for the CRD.

[2] https://www2.gov.bc.ca/gov/content/environment/waste-management/zero-waste

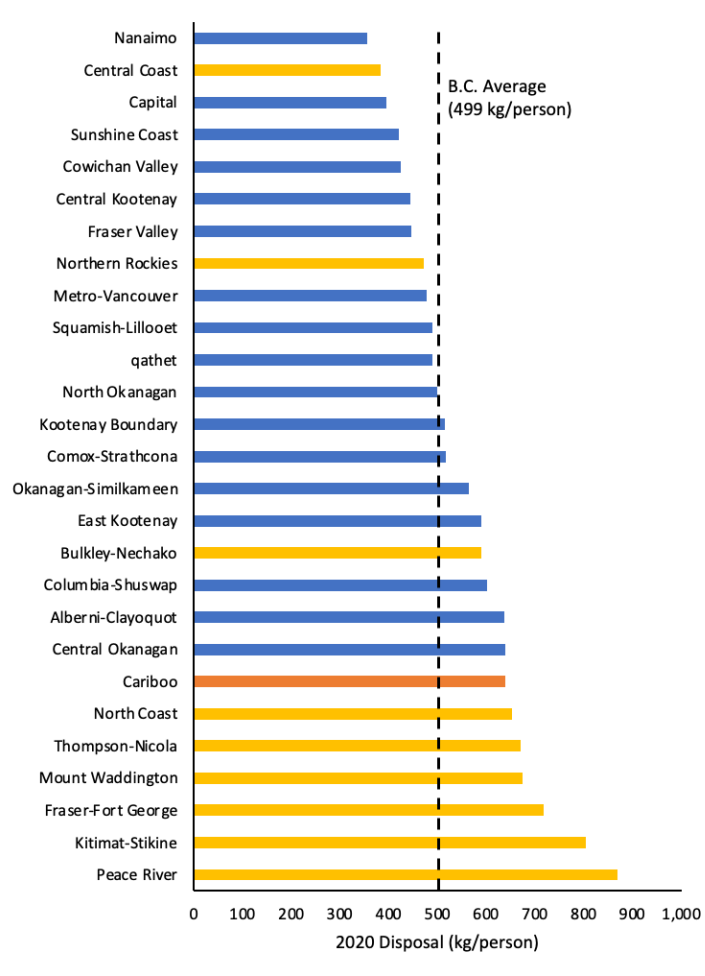

Figure 1-3. Waste Disposal Rates of Regional Districts in British Columbia
Data Source: B.C. Ministry of Environment and Climate Change Strategy, 2022

By reducing waste, the CRD is supporting a broader shift from a linear "take-make-use-waste" economy towards first a recycling economy and then a circular economy model where products can be designed and used for longer periods through reuse, repair, and repurposing as shown in Figure 1-4.

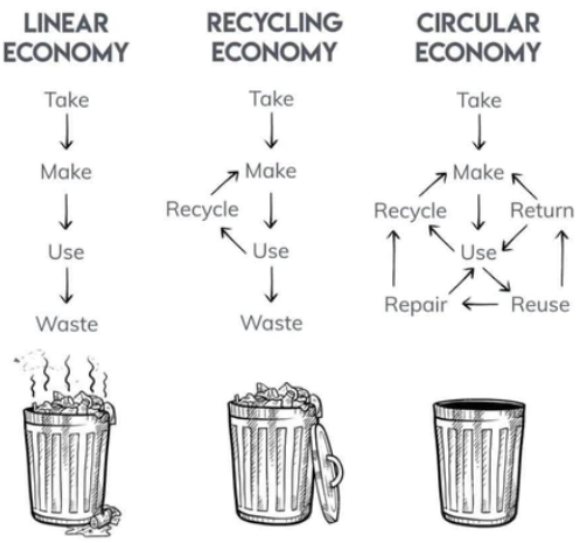

Figure 1-4. Shifting from Linear to Circular Economy
Source: Final Straw, n.d.

This approach of using our resources wisely and extending product lifespan has the added benefit of supporting greenhouse gas (GHG) emission reduction, since 45% of our total post-consumer emissions comes from the way goods are made and used, and how food is produced, as shown in Figure 1-5.

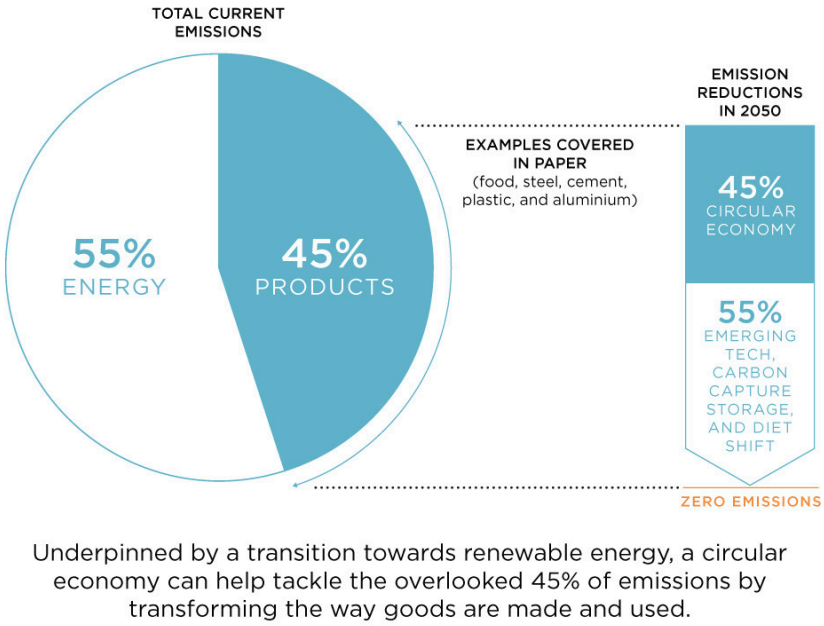

Figure 1-5. How the Circular Economy Tackles Climate Change
Source: Ellen McArthur Foundation, 2019

1.3 The Plan Update Process

The process to review and update the SWMP involved four steps, outlined in Figure 1-6. As part of Step 1, in April 2020, the CRD Board resolved to begin the SWMP Update process. A Board Solid Waste Management Plan Committee (BSWMC) and Solid Waste Advisory Committee (SWAC) were then established to initiate the project and oversee the consultation process. The members of the SWAC included technical and non-technical members representing a diversity of backgrounds, interests, and geographical locations. See Appendix A for the SWAC Terms of Reference.

Step 2 was to identify guiding principles and prepare background information (related to the previous plan implementation status, current system updates, and preliminary options for consideration). This then fed into the first phase of public consultation, which sought to inform the public about the process and obtain feedback and input on the initial direction of the plan through virtual meetings and an online survey. Step 3 involved developing and assessing the feasibility of various waste reduction options and engaging the public and key collaborators to gauge support for the options. Step 4 was to prepare the plan, seek review from elected officials and the public, assess financial and administrative implications, and gain final approval from the Ministry.

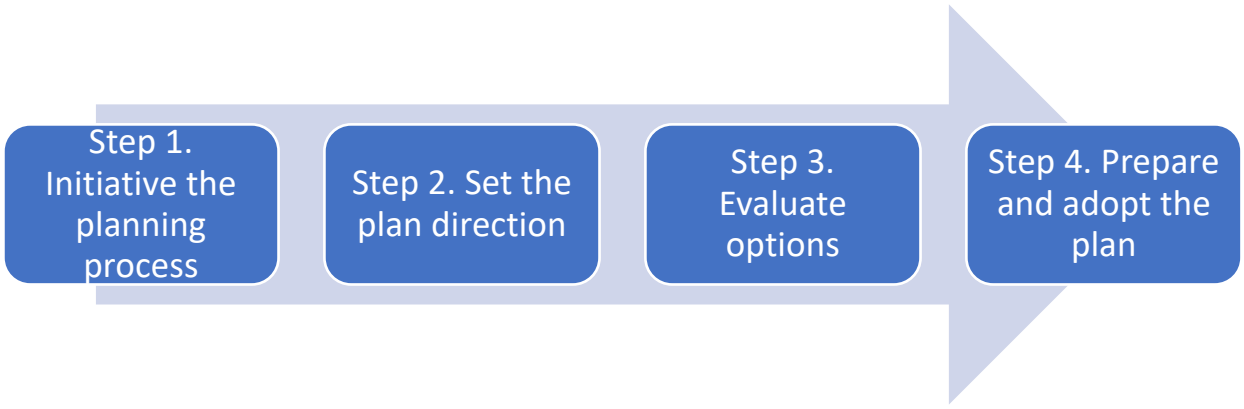

Figure 1-6. SWMP Update Planning Steps

2.0 Background

2.1 Plan History

The CRD's first Regional Solid Waste Management Plan (RSWMP) was completed in 1997. This plan included seven strategies:

1. Reduction and Reuse Program
2. Multi Material Recycling Program
3. 3R's Promotion and Education Program
4. Landfill Upgrading Program
5. Transfer Station and Marshalling Yard Program
6. Wood Waste Management Program
7. Plan Monitoring

The Landfill Upgrading Program above included closing 15 rural landfills and abandoning their associated landfill permits. Most of these locations were transitioned to transfer stations. These historic closed and "abandoned" landfill locations are presented in Figure 2-1.

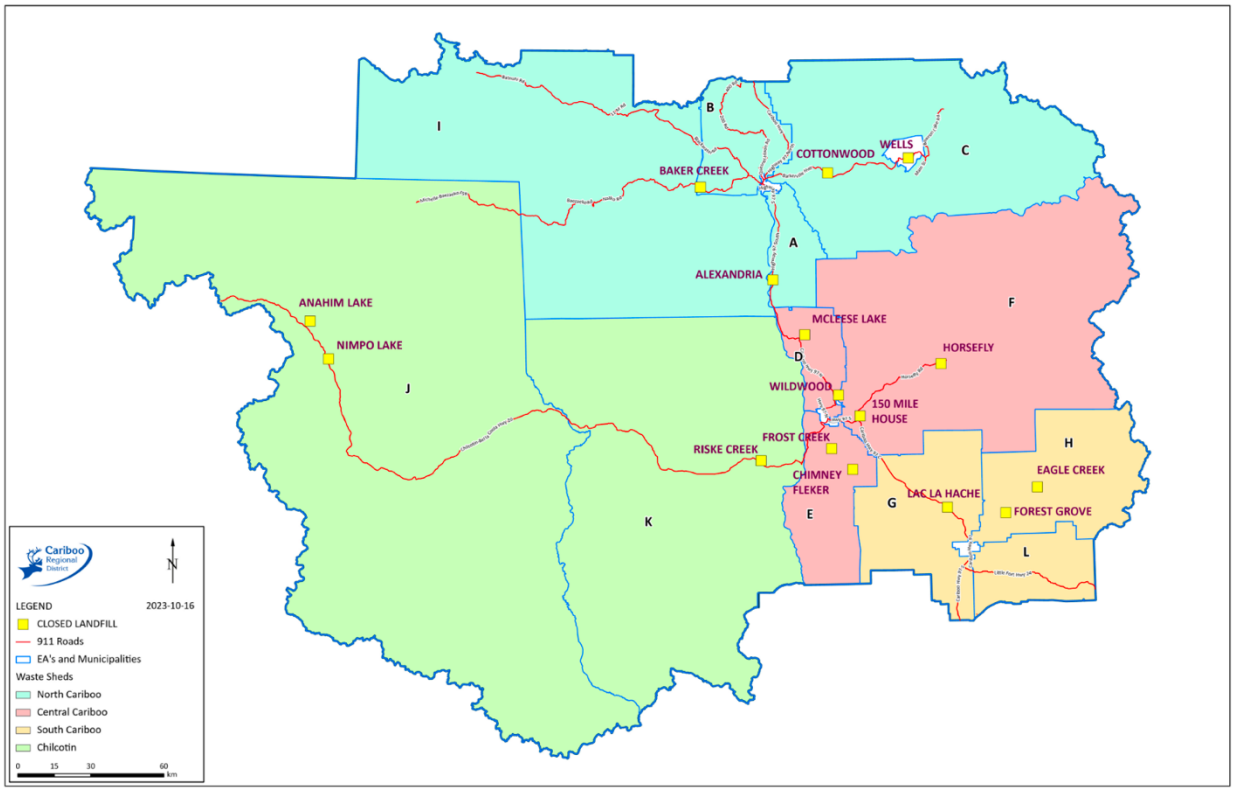

Figure 2-1. Cariboo Regional District Closed Landfill Maps
Source: CRD, 2023

Amendments to the 1997 RSWMP were made in 1998, 1999, 2000, and 2001. In 2009, a major review of the 1997 RSWMP was initiated, and an updated plan was completed in 2013. In this update, the CRD committed to ongoing systematic upgrade of the solid waste system to improve diversion, achieve greater efficiencies, and reduce environmental risk. The objectives of the 2013 SWMP were to:

- Make recycling accessible to all residents of the CRD
- Gradually increase solid waste diversion to 50% by 2021
- Reduce regional garbage generation rate to 889 kg/person/year
- Reduce per capita residuals going to landfill to 500 kg/person/year from 775 kg/person/year
- Reduce residential garbage generation rate to 296 kg/person/year (5.70 kg/person/week)
- Expand participation of ICI sector in waste diversion programs

The implementation of the 2013 SWMP was successful overall with the majority of identified initiatives completed, including:

- Providing recycling access to CRD residents
- Controlling/staffing nine of the Regions busiest rural refuse sites
- Offering subsidized composter sales every two years
- Diverting yard and garden waste from landfills
- Segregating wood waste to divert from landfills
- Eliminating air curtain incineration of wood waste
- Grinding of clean wood waste for use as fuel in local co-generation facility
- Beneficially reusing contaminated soils
- Grinding of concrete and asphalt waste for beneficial re-use
- Phasing out Transtor waste collection bins for more efficient roll-off bins and tamping at controlled transfer stations
- Completing landfill criteria conformance reviews for all landfills
- Conducting illegal dumping clean ups (near controlled sites)
- Funding waste wise education programming for schools and residents
- Partnering with Extended Producer Responsibility (EPR) stewardship agencies

The target of 500 kg/person/year for residuals to landfill was not achieved; however, the amount of residual waste did move toward the target, with a reduction from 775 kg/person/year to 631 kg/person/year in 2019. “Eco Depots”, as specified in the 2013 SWMP, were not established in member municipalities as the costs were determined to be too high, and the focus was perceived to be on EPR stewardship items - the parties involved did not want to further subsidize stewardship programs or compete with local private recycling depots. As of October 23, 2023, nine of the CRD’s remote refuse sites have been approved by the Ministry for open burning of clean wood waste; one final site approval is anticipated before the end of 2023.

2.2 Plan Area

The SWMP Update applies to the geographic area of CRD as shown in Figure 2-2.

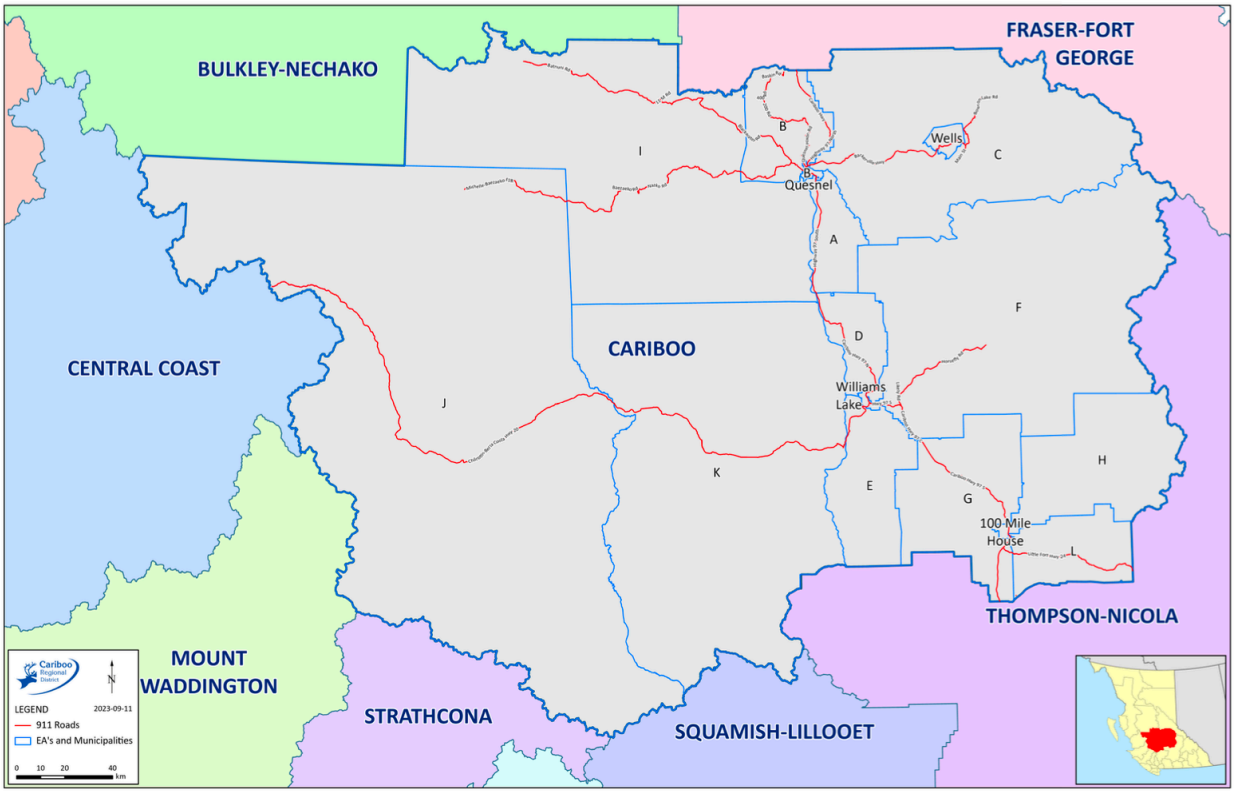

Figure 2-2. Cariboo Regional District and Adjacent Regional Districts
Source: CRD, 2023

The CRD is the second largest regional district in BC, with an area of 80,629 km^2. All strategies and actions in the plan apply to the listed municipalities and electoral areas of the CRD.

- District of 100 Mile House
- City of Quesnel
- District of Wells
- City of Williams Lake
- Electoral Area A
- Electoral Area B
- Electoral Area C
- Electoral Area D
- Electoral Area E
- Electoral Area F
- Electoral Area G
- Electoral Area H
- Electoral Area I
- Electoral Area J
- Electoral Area K
- Electoral Area L

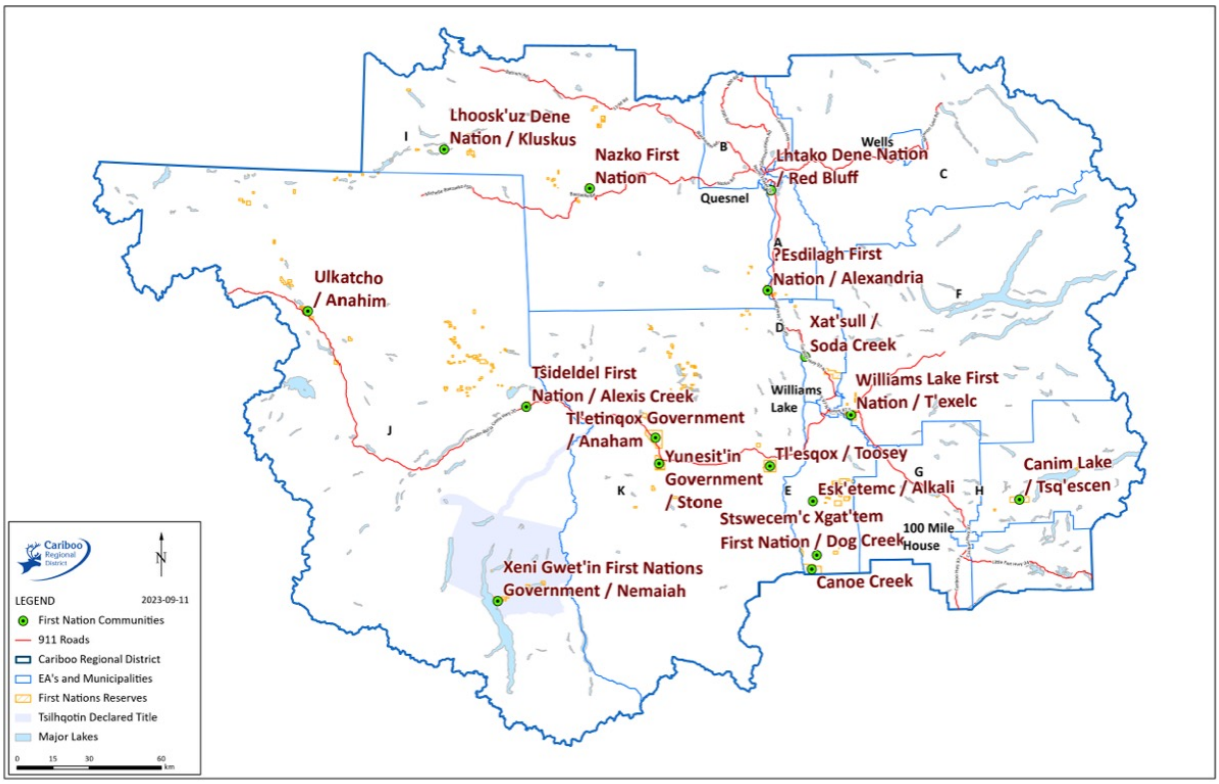

Figure 2-3. CRD Member Municipalities and First Nations Communities
Source: CRD, 2023

The following First Nations communities, as shown in Figure 2-3, are located within the CRD and contribute to the solid waste system. First Nations are listed with preferred name first and alternate name second, per the BC Assembly of First Nations website.

- ?Esdilagh (Alexandria)
- Esk'etemc (Alkali)
- Lhoosk'uz Dene (Kluskus)
- Lhtako Dene (Red Bluff)
- Nazko First Nation
- Williams Lake First Nation (T'exelc)
- Tl'esqox (Toosey)
- Tl'etinqox Government (Anaham)
- Tsideldel First Nation (Alexis Creek)
- Tsq̓éscеʼn First Nation (Canim Lake)
- Stswecem'c Xget'tem (Dog Creek, Canoe Creek)
- Ulkatcho (Anahim)
- Xatsu'll (Soda Creek)
- Xeni Gwet'in First Nation Government (Nemiah)
- Yunesit'in Government (Stone)

There are no significant projected changes over the next 10 years to the population, growth, or economic development of the CRD.

2.2.1 Population

The 2021 census population in the CRD was 63,307 residents (Statistics Canada). This total is comprised of 22,982 residents in municipalities, 37,559 rural residents residing in electoral areas, and 2,766 residents residing in First Nations communities. The population of each area is

shown in Table 2-1. Major population centres in the CRD are found along Highway 97 with Quesnel, Williams Lake, and 100 Mile House accounting for more than one-third of the region's population. The remaining population is distributed throughout the region. Given the number of residents living in rural areas, there are numerous dispersed rural solid waste facilities, which increases costs for waste management service provision.

Table 2-1. CRD Population by Area, 2021

Area	2021 Population	% of CRD Total[1]
Municipalities	**22,982**	**36.3%**
100 Mile House	1,928	3.0%
Quesnel	9,889	15.6%
Wells	218	0.3%
Williams Lake	10,947	17.3%
Electoral Areas	**37,559**	**59.3%**
A	6,169	9.7%
B	3,864	6.1%
C	1,239	2.0%
D	2,870	4.5%
E	4,112	6.5%
F	4,792	7.6%
G	5,312	8.4%
H	1,884	3.0%
I	1,485	2.3%
J	616	1.0%
K	447	0.7%
L	4,769	7.5%
First Nations Communities	**2,766**	**4.4%**
?Esdilagh (Alexandria)	40	0.1%
Esk'etemc (Alkali)	363	0.6%
Lhoosk'uz Dene (Kluskus)	38	0.1%
Lhtako Dene (Red Bluff)	110	0.2%
Nazko First Nation	81	0.1%
Williams Lake First Nation (T'exelc)	248	0.4%
Tl'esqox (Toosey)	104	0.2%
Tsideldel First Nation (Alexis Creek)	181	0.3%
Tsq̓éscenˀ First Nation (Canim Lake)	233	0.4%
Stswecem'c Xget'tem (Dog Creek, Canoe Creek)	265	0.5%
Ulkatcho (Anahim)	563	0.9%
Xatsu'll (Soda Creek)	141	0.2%
Xeni Gwet'in First Nation Government (Nemiah)	180	0.3%
Yunesit'in Government (Stone)	219	0.3%
Region	**63,307**	**100%**

[1] Due to rounding, the totals may not match the sum of the sub-populations.

The historical census population is presented in Figure 2-4. From 1996 to 2006, there was a decline in population, which may be attributed to the downturn of the forestry industry (see 2.2.3). The population of the CRD has remained relatively steady since 2006. It is unlikely that the population growth in the CRD will keep pace with the 10-year projected growth for the Province; rather it is expected to increase incrementally over the next ten years.

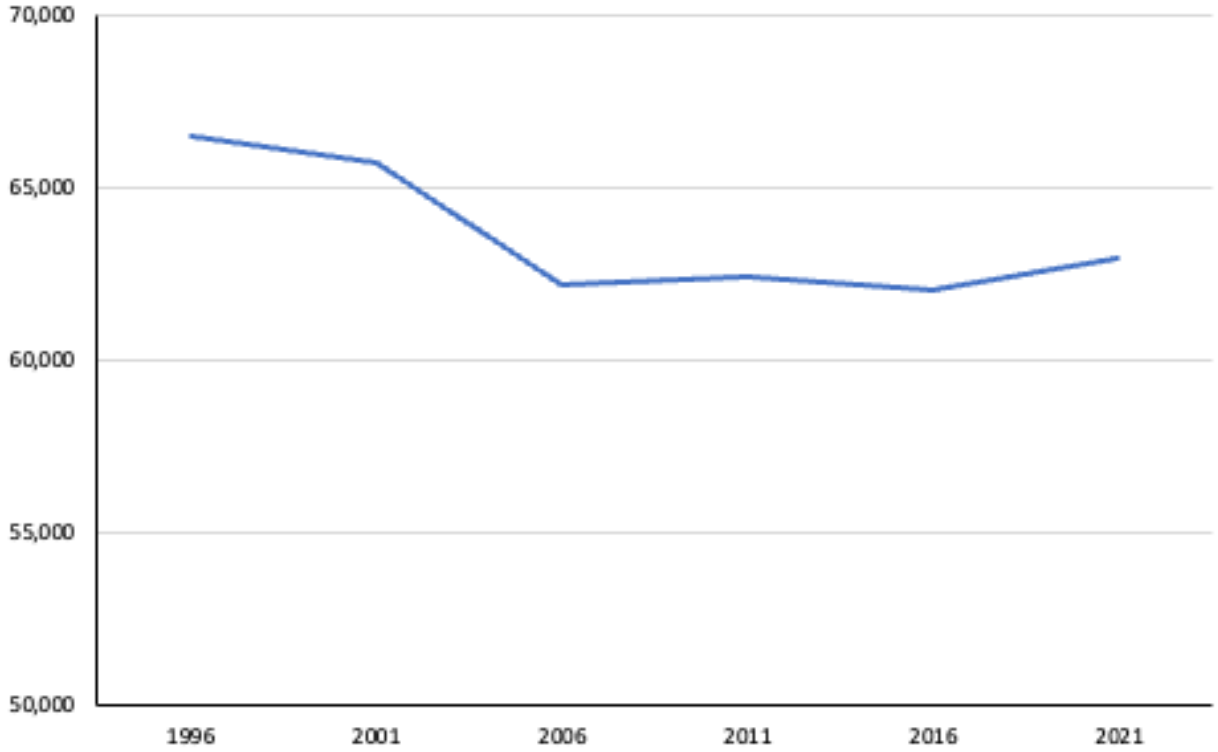

Figure 2-4. CRD Historical Population
Source: Statistics Canada, 2023

2.2.2 Geography

Geographically, the CRD is on a mid-elevation plateau. The Fraser River cuts through the middle of the region, running north to south. The main transportation corridor in the CRD is Highway 97, which connects major communities in the region. Highway 97 also serves as the primary route for goods coming from the southern coast of BC and recyclables from the CRD destined for the coast.

The topography is dominated by glacial ablation landforms that include rolling hills and hundreds of small lakes that are popular cottage destinations. Most of the land is covered with thick deposits of dense glacial till. These low-permeability glacial till deposits form suitable sub-surface conditions for construction of small natural attenuation landfill sites that continue to be operated in many of the more remote communities in the CRD.

The landscape of the CRD is dominated by coniferous forests, which include Sub-Boreal Spruce, Sub-Boreal Pine/Spruce, and Interior Douglas Fir biogeoclimatic zones. There is also a small area of Bunchgrass.

2.2.3 Economy

Forestry and ranching are the main economic activities in the CRD. Other industries include mining and mineral exploration, transportation, energy, farming, and recreational activities (e.g., fishing, hunting)[3].

Forestry has been the primary industry of the CRD, which led to the development of population centres around large pulp mill and sawmill operations. These operations were a large source of wood waste. However, the forestry sector has been in decline in the past three decades, causing several mill closures. Timber supply has been reduced by the mountain pine beetle outbreak, which damaged up to 80% of the Lodgepole Pine forests in the region. The forests were further impacted by wildfires in 2017, 2018 and 2021, with over 870,000 hectares impacted in 2017 alone.[4]

Wood waste managed at CRD refuse sites has increased by 175% since the 2017 wildfires. Most of the increase is attributed to FireSmart activities taken on by residents to help reduce the risk of forest fires affecting their private property, homes, and possessions.

Beef cattle ranching and hay farming account for most agricultural income in the CRD[5]. The growing season is relatively short, but the bench soils along the Fraser River are well-suited to hearty crops such as potatoes, cabbage, cauliflower, and root vegetables, as well as alfalfa. While agricultural waste is not a large component of the waste stream, managing agricultural waste is still nonetheless a challenge in the region due to the remoteness of many farm operations, and the increasing use of plastics.

There are several mining operations that continue to grow and employ residents from the Region. Waste management challenges have resulted from an increasing number of contractors working on mine sites but taking waste off site for disposal at CRD facilities.

2.2.4 Planning Context

Given the static population dynamic in the CRD region, it is not anticipated that there will be a significant shift in waste generation.

2.2.5 Climate Adaptation and Mitigation

As noted in Section 2.2.3, the increase in FireSmart activities is a climate change adaptation response from CRD residents. Red Cross funding was sought to cover costs related to processing the 2017 wildfire-related wood debris. Continued resiliency with disaster debris management options in response to fire, floods and other climate change-related weather events will be important for the region.

In February of 2022, methane emission reduction funding was sought from the Investing in Canada Infrastructure Grant Program to implement voluntary landfill gas (LFG) management for the Gibraltar landfill and reduce landfill emissions but was not awarded. The 2019 LFG generation assessment for the Gibraltar site estimated that less than 400 tonnes/year of

[3] https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/cumulative-effects-framework/regional-assessments/cariboo
[4] https://www2.gov.bc.ca/gov/content/safety/wildfire-status/about-bcws/wildfire-statistics
[5] https://www.bcaitc.ca/sites/default/files/resources/Grow%20BC/CaribooCentral.pdf

methane would be generated in 2023; the long-term predictions indicate that the site may never reach the 1,000 tonnes of methane/year that will trigger the BC LFG Regulation to require methane collection and management. The South Cariboo and Williams Lake Landfills are estimated to have 305 and 355 tonnes of methane/year in 2023, respectively, and therefore do not fall under the regulatory requirement to have methane collection and management. The Quesnel Landfill is estimated to have 911 tonnes of methane/year in 2023 and this figure may rise above 1,000 tonnes of methane/year during the implementation of this SWMP. The Quesnel landfill is situated within porous substrate and traditional LFG extractions wells may not be the most suitable method of managing LFG. Voluntary LFG management is unlikely without grant funding. The CRD will continue to explore grand funding opportunities to manage methane emissions and work towards climate mitigation.

Environment and Climate Change Canada (ECCC) is currently developing a new regulatory framework for LFG management using an ECCC's Landfill Methane Estimation Model which will use an annual methane generation threshold of 664 tonnes per year as the trigger for requiring landfill gas collection and control systems. This new regulation will potentially impact the Quesnel Landfill as soon as it comes into effect, which could be as early as 2026.

2.3 Existing Facilities

Municipal solid waste in the region can be directed for management to any authorized site or facility identified in the plan. As shown in Figure 2-5, the CRD's solid waste management system is organized into four operational areas or waste sheds:

1. North Cariboo (around Quesnel)
2. Central Cariboo (around Williams Lake)
3. South Cariboo (around 100 Mile House)
4. Chilcotin (Electoral Areas J and K)

There are three regional landfills in the CRD, each associated with an operational area: North Cariboo (Quesnel Landfill), Central Cariboo (Gibraltar Landfill), and South Cariboo (100 Mile House Landfill). The region has nine attended rural refuse sites: two are landfills and the remainder are transfers stations where waste is collected and hauled to a regional landfill. There are an additional 20 rural refuse sites that are non-attended, including ten landfills and ten transfer stations. None of the rural refuse sites have scales; however, all waste transported from a transfer station is scaled at regional facilities. Rural landfill tonnage is estimated based on residential per capita waste generation for the region. A list of authorized sites or facilities are shown on Figure 2-5 and listed in Table 2-2.

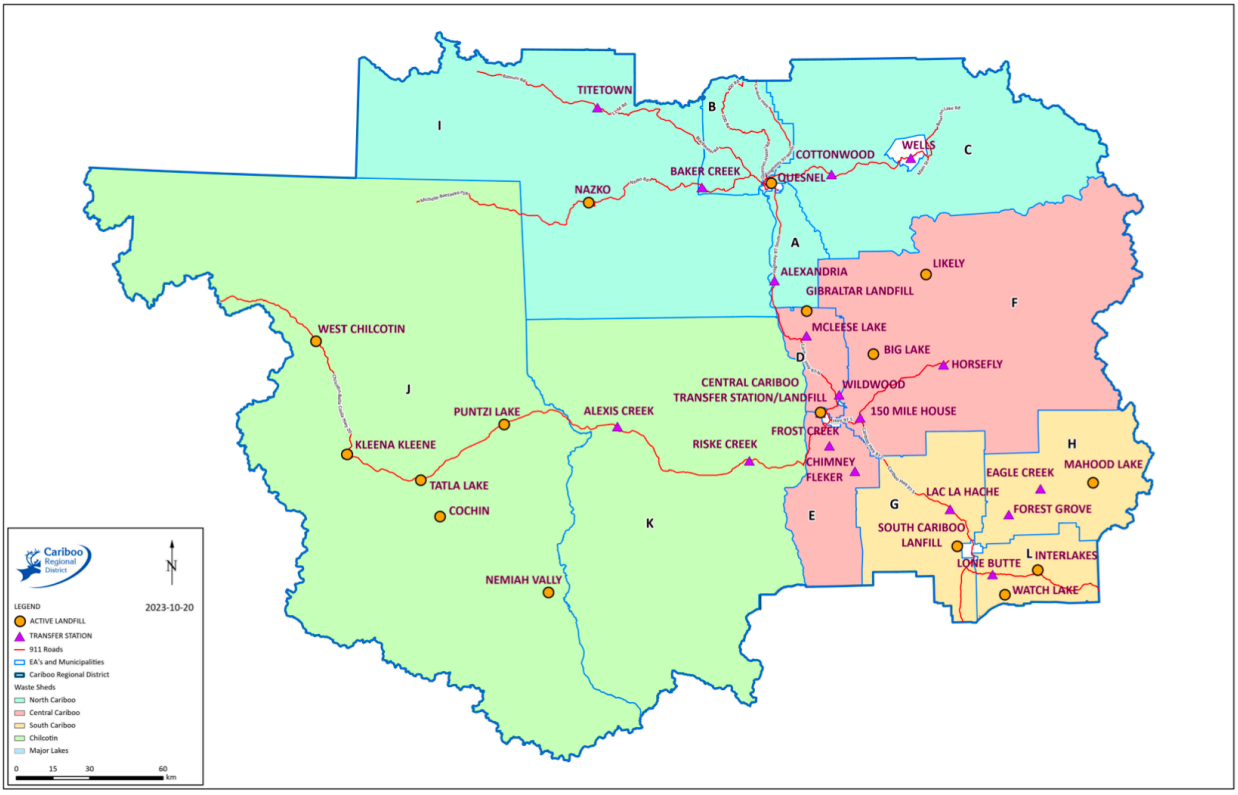

Figure 2-5. CRD Solid Waste Management Operational Areas and Facilities
Source: Cariboo Regional District, 2023

Table 2-2. CRD Waste Management Facilities

Facility	Location	Recycle BC Depot	Destination	Scrap Metal Marshalling	Wood Waste Collection	Share Shed
North Cariboo						
Quesnel Landfill	Quesnel	Yes	Quesnel	Yes	Yes	Yes
Nazko Landfill	Cariboo I	No	Nazko	Yes	No	Yes
Alexandria TS[1]	Cariboo A	No	Quesnel	No	No	Yes
Baker Creek TS	Cariboo B	Yes	Quesnel	Yes	Yes	Yes
Cottonwood TS	Cariboo C	No	Quesnel	No	No	Yes
Wells TS	Wells	No	Quesnel	Yes	Yes	Yes
Wells Recycling Depot	Wells	Yes	Quesnel	N/A	N/A	N/A
Titetown TS	Cariboo I	No	Quesnel	No	No	No
Central Cariboo						
Gibraltar Landfill	Cariboo D	No	Gibraltar	No	No	No
Likely Landfill	Cariboo F	No	Likely	Yes	Yes	No
Big Lake Landfill	Cariboo F	No	Big Lake	Yes	Yes	Yes

Facility	Location	Recycle BC Depot	Destination	Scrap Metal Marshalling	Wood Waste Collection	Share Shed
Central Cariboo TS	WL	Yes	Gibraltar	No	Yes	Yes
McLeese Lake TS	Cariboo D	Yes	Gibraltar	Yes	Yes	No
Wildwood TS	Cariboo D	Yes	Gibraltar	Yes	Yes	No
Frost Creek TS	Cariboo E	Yes	Gibraltar	No	Yes	Yes
Chimney/Felker Lake TS	Cariboo E	No	Gibraltar	No	Yes	Yes
150 Mile TS	Cariboo F	Yes	Gibraltar	No	Yes	No
Horsefly TS	Cariboo F	Yes	Gibraltar	Yes	Yes	Yes
Alexis Creek T TS	Cariboo K	No	Gibraltar	Yes	No	Yes
Riske Creek TS	Cariboo K	No	Gibraltar	Yes	No	Yes
South Cariboo						
100 Mile House Landfill	100 Mile	No	100 Mile	Yes	Yes	Yes
Mahood Lake Landfill	Cariboo H	No	Mahood	Yes	Yes	Yes
Interlakes Landfill	Cariboo L	Yes	Inter-Lakes	Yes	Yes	Yes
Watch Lake Landfill	Cariboo L	Yes	Watch Lake	Yes	Yes	Yes
Eagle Creek TS	Cariboo H	No	100 Mile	No	No	Yes
Forest Grove TS	Cariboo H	Yes	100 Mile	Yes	Yes	Yes
Lac La Hache TS	Cariboo G	Yes	100 Mile	Yes	Yes	Yes
Lone Butte TS	Cariboo L	Yes	100 Mile	No	No	Yes
West Chilcotin						
West Chilcotin Landfill	Cariboo J	No	West Chilcotin	Yes	Yes	Yes
Kleana Kleene Landfill	Cariboo J	No	Kleana Kleene	Yes	No	Yes
Tatla Lake Landfill	Cariboo J	No	Tatla Lake	Yes	No	Yes
Cochin Lake Landfill	Cariboo J	No	Cochin Lake	Yes	No	Yes
Puntzi Lake Landfill	Cariboo J	No	Puntzi Lake	Yes	No	Yes
Nemiah Valley Landfill	Cariboo J	No	Nemiah Valley	Yes	No	Yes
Nimpo Lake Store	Cariboo J	Yes	N/A	No	No	No
Tatla Lake Graham Inn	Cariboo J	Yes	N/A	No	No	No

1.Transfer Station (TS)

2.3.1 Future Facilities

It is not anticipated that any new landfills will be proposed for the CRD over the next decade. One-stop shop/drop Diversion/Reuse Hubs are proposed in this plan, as discussed further in Section 3.2.1. Currently, these “Hubs” would not include on-site waste discharge and will not require issuance of Operational Certificates or Permits. However, if appropriate location(s) were procured for these hubs, it is possible that food waste composting activities could be

carried out and the associated regulatory and legal requirements would be met. It is understood that if new sites and facilities are contemplated in this plan they will need:

- An appropriate procurement process.
- Authorizations (including OCs, licences and registration under OMRR) are obtained as necessary, and that any requirements from other levels of government are also met.
- Environmental assessment, including an assessment of human health risk acceptable to the applicable health authority and public consultation, as may be required by provincial and federal regulations.
- Public consultation on new (or amended) sites or facilities that require authorization under the EMA.
- Any additional assessment as laid out in the minister's conditions for approval of this plan.

This SWMP Update would need to be amended to add any new sites for facilities not contemplated in it.

2.4 Waste Generation and Management

This section provides an overview of the current solid waste management system, including the amount of waste disposed and diverted, reduction and reuse initiatives, collection pathways, capacity, product stewardship, and education programs.

The CRD's solid waste system services four municipalities (City of Williams Lake, City of Quesnel, District of 100 Mile House and the District of Wells), 12 Electoral Areas (A to L), and 15 First Nations communities. The four municipalities provide curbside refuse collection services for their residents. Every municipality except Wells has a form of curbside recycling collection service.

In the Electoral Areas, the CRD is responsible for all aspects of refuse collection (from transfer stations), hauling and ultimate disposal of residuals in landfills. The CRD provides curbside garbage and recycling collection for the 108 Mile Ranch (Electoral Area G) as there are approximately 1,200 homes in the community. The CRD also provides several programs to reduce the waste going into landfills, including grinding clean wood waste, waste books and non-recyclable cardboard as fuel for the co-generation facility in Williams Lake; Share Sheds to promote reuse of serviceable goods; beneficial re-use of waste concrete, asphalt, and waste soil; and operating more than 15 recycling depots.

There are many participants in the solid waste management system, as described in Table 2-3. Their representatives participate in solid waste management planning to various extents.

Table 2-3. Roles in the Solid Waste Management System

Who	Roles in Solid Waste Management
BC Ministry of Environment and Climate Change Strategy (Ministry)	• Regulates municipal solid waste through the Environment Management Act • Establishes provincial solid waste management targets • Enforces provincial regulations and conditions for discharges; authorizes discharges to the environment through permits and operational certificates • Mandates EPR in BC through the Recycling Regulation • Approves regional solid waste management plans
Regional district (Board and staff)	• Oversees regional and rural landfills and transfer stations • Maintains Recycle BC contracts • Provides education and outreach • Prepares SWMP Update and monitors implementation • Reports annual MSW disposal rate to Ministry
Municipalities (Council and staff)	• Oversee curbside collection, city facilities, Quesnel Landfill, streetscape-related litter and waste management • Provides education related to services provided • Provides land use zoning approval for facilities • Liaises with CRD on solid waste services and issues
First Nations	• Provide transfer stations, or curbside collection for garbage (and recycling in some settings) along with education for local solid waste services • Liaises with CRD on items of mutual interest
Product stewardship producers and agencies	• Provides collection services and education for EPR products, and refunds (where applicable) • Monitors and reports on recovery/diversion to the province
Private sector involved in waste management (e.g., haulers, facility operators)	• Provides collection services across sectors • Operate private facilities such as recycle or bottle depots, and compost facilities • Liaise with / educate waste generators to minimize cross stream contamination, and comply with source separation requirements for controlled waste • May be regulated by province

Who	Roles in Solid Waste Management
Non-profit organizations	• Provide education and behaviour change programs and services for the community • Operate small scale composing drop off and community gardens • Promote reuse, share, and repair activities through thrift stores and social support programs
Residents and businesses	• Participate in solid waste programs and services • Receive and use information for source separation, disposal restrictions and options to minimize garbage sent to landfill

2.4.1 Waste Disposal

From 2010 to 2020, the CRD waste disposal rate has ranged from 631 to 775 kg/person/year as shown in Figure 2-6.

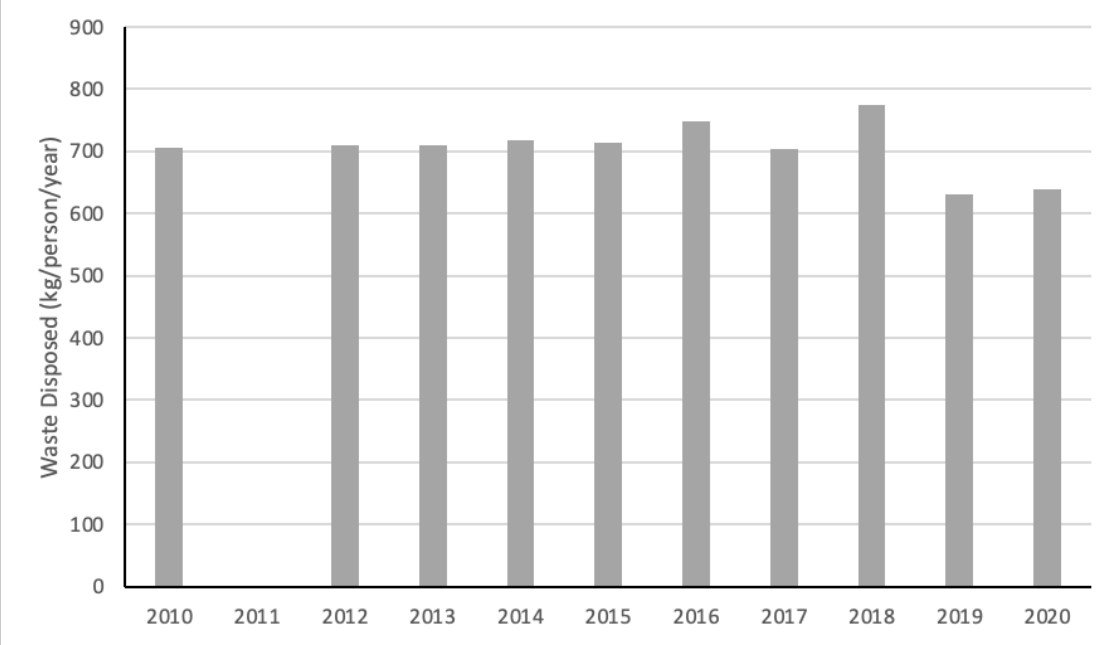

Figure 2-6. CRD Waste Disposal from 2010 to 2020
Data Source: B.C. Ministry of Environment and Climate Change Strategy, 2022[6]

As the CRD has a mix of facilities with and without scales, the total amount of waste disposed in the region was estimated using a combination of methods. 91% of waste is scaled: 17% is collected through transfer stations and weighed upon arrival at a regional landfill and 74% of waste is received directly at one of three regional landfills. The remaining 9% of waste is collected at rural landfills without scales and tonnes are estimated by multiplying the average

[6] No data reported in 2011.

amount of residential waste disposed per person for the region by the estimated population that is serviced by each rural landfill. The estimated waste disposed by operational area is provided in Table 2-4. A Sankey diagram depicting the amount of waste disposed by operational area and disposal route is included in Figure 2-7. The population numbers used below are estimated from CRD data using 2021 census data and 911 house points, rather than the 2016 Stats Canada data that was used to calculate the 2020 disposal rate by the MOE (639 kg/person).

Table 2-4. Estimated Waste Disposed by Operational Area

Operational Area	Tonnes Disposed in 2020	Service Population	Disposal per Person
North Cariboo	16,272	23,093	705
Central Cariboo	14,486	23,837	608
South Cariboo	10,014	14,286	701
Chilcotin	1,110	2,514	441
Total	**41,882**	**63,730**	**657**

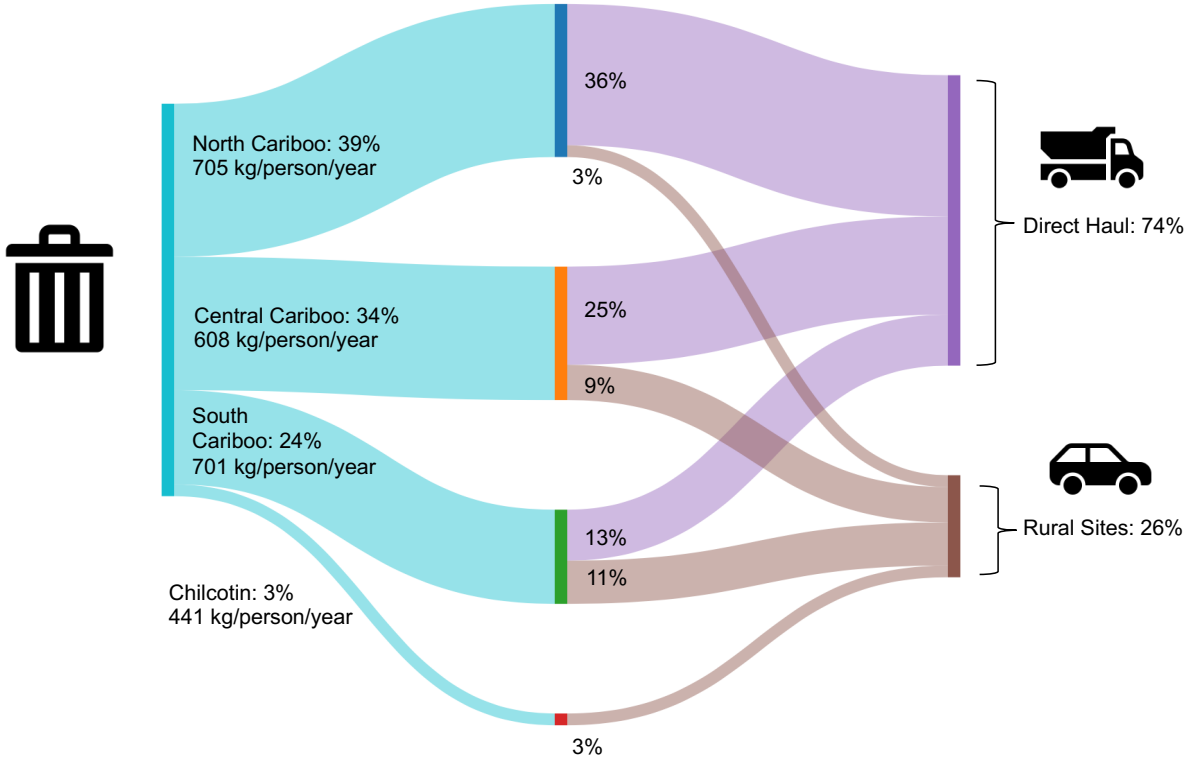

Figure 2-7. CRD Waste Disposal Sankey Diagram
Source: Cariboo Regional District, 2023

Of the 41,882 tonnes disposed in 2020, 30,782 tonnes (73%) were municipal solid waste (MSW), and 11,099 tonnes (27%) were construction and demolition (C&D). The split between residential and commercial sectors was estimated from the latest waste composition study conducted in 2019. While residential and commercial sector MSW is differentiated at the scale

for the three regional landfills, this is not the case at the transfer stations where the waste is mixed, nor for C&D. At the North Cariboo (Quesnel) landfill, 50% of MSW was commercial, 43% was residential, and 7% was from transfer stations. At the South Cariboo (100 Mile House) and Central Cariboo (Williams Lake) landfills, the MSW was 37% commercial, 39% residential, and 24% from transfer stations. It was assumed that approximately 60% of MSW is residential and 40% is commercial, as most of the transfer station materials are likely to come from the residential sector. For C&D, it was assumed 30% was residential and 70% was commercial based on anecdotal observations at waste facilities.

The estimated composition of waste disposed in the CRD is shown in Figure 2-8 based on findings from the 2019 waste composition study and disposal estimates in 2020. Of the waste disposed, 57% could have been diverted (25% recycling, 32% organics).

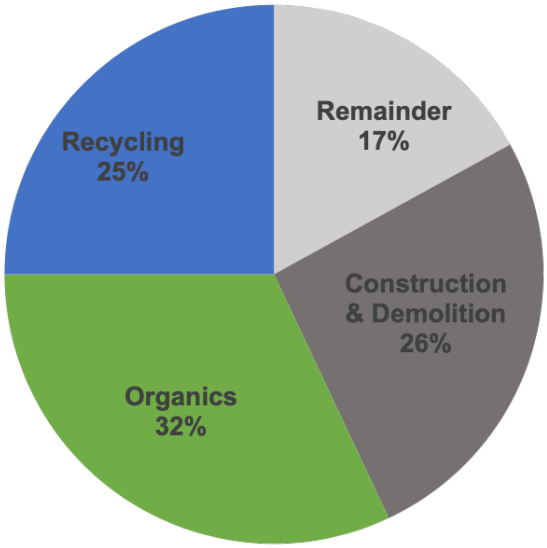

Figure 2-8. CRD Waste Composition
Source: Cariboo Regional District, 2019 and Cariboo Regional District, 2020

2.4.2 Waste Diversion

In 2020, the total amount of material generated (excluding scrap metal and waste soil) and managed by the CRD was 60,657 tonnes. It was estimated that 23,692 tonnes were from the residential sector and 36,965 tonnes were from the commercial sector. There were 17,162 tonnes diverted and 1,613 tonnes composted. This results in an overall diversion rate of 28%. A Sankey diagram of the material sources and destinations is shown in Figure 2-9.

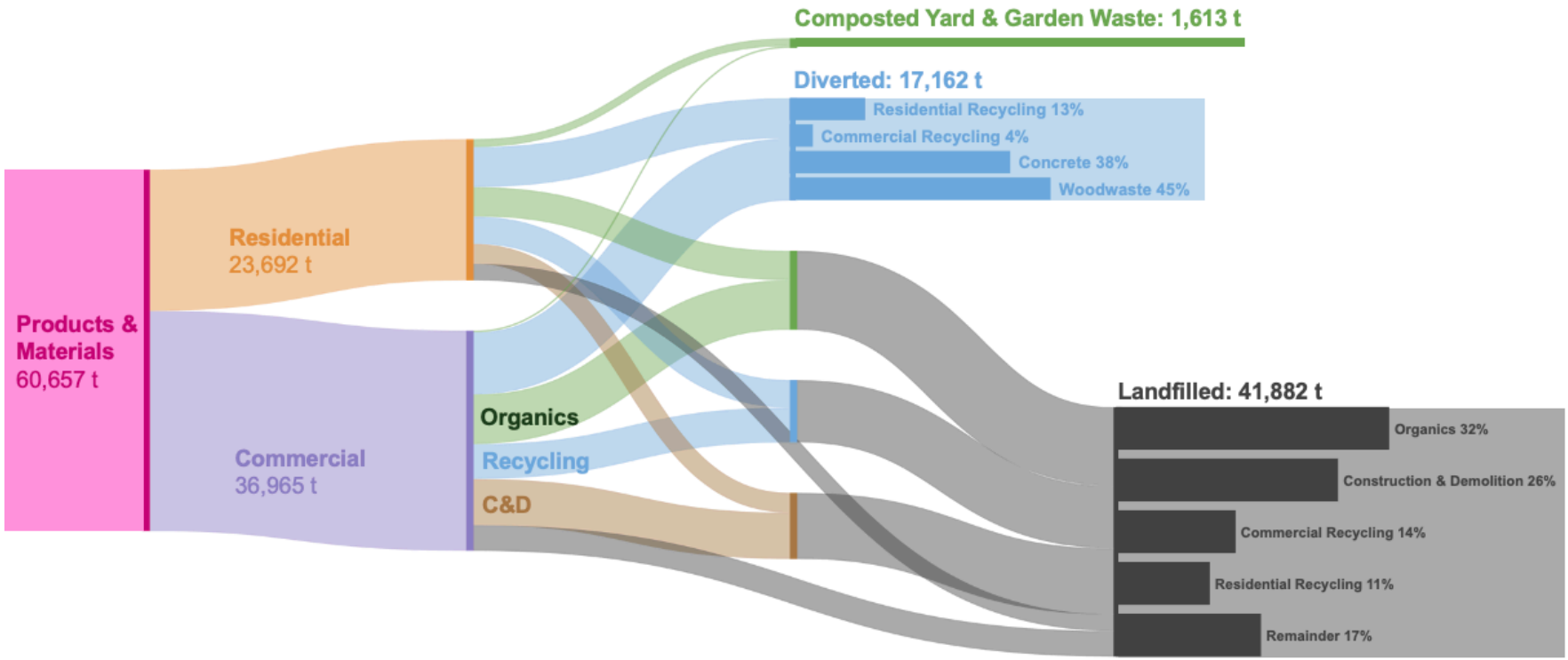

Figure 2-9. CRD Material Generation Sankey
Source: Cariboo Regional District, 2019 and Cariboo Regional District, 2020

Most wood waste is diverted through the region's co-generation facility located in Williams Lake. A small portion of wood waste is reused under permits. Pilot programs to grind waste books and non-recyclable cardboard with wood waste have been successful. Residential Packaging and Printed Paper recycling is managed by Recycle BC. Commercial recycling is handled by private collectors. Concrete and other aggregate is diverted and reused. Yard and garden waste is stockpiled in small quantities at two regional sites and numerous rural facilities.

Figure 2-9 above does not reflect the total amount of commercial recyclables diverted in the region, rather it only accounts for the material that is managed by the CRD. Other diverted materials not reflected above include scrap metal and extended producer responsibility recyclables.

2.4.3 Waste Reduction, Reuse, and Education

The CRD supports waste reduction, reuse, and education in several ways. Online information is available for recycling and waste facilities, "bear aware" waste management, composting, and other related items. The CRD also hosts Share Sheds at 27 facilities where residents can drop off and pick up items free of charge to support reuse. Subsidized home composter sales are offered every two years. Additionally, education programs are run by various community organizations in the region as outlined below.

The Waste Wise Program is run by the Cariboo Chilcotin Conservation Society (based in Williams Lake) and funded in part by the CRD. They work in schools and the community on waste reduction education and promotion. In School Districts 27 and 28, they offer free in-school presentations on topics such as composting, repair, and recycling. In the community, they broadcast messages about waste reduction through radio ads, community newspaper ads and articles, community displays, posters, workshops, and presentations. They also have a strong on-line presence through multiple social media platforms to engage with community members and businesses about waste prevention and reduction. "Talk Trash Tuesdays" are weekly videos produced to increase awareness of current waste issues.

The Baker Creek Enhancement Society has a Zero Waste program based on the 6 Rs (Rethink, Refuse, Repair, Reduce, Reuse, Recycle) and Composting. They offer presentations to schools in Quesnel and groups in the community. They also run composting workshops and help groups put on Zero Waste events.

The South Cariboo Sustainability Society runs a composting site at their community garden in 100 Mile House where residents can drop off vegetable and fruit waste. They also advocate in the community for waste reduction, such as reducing single-use plastics.

The 100 Mile Repair Café is a small non-profit organization in the South Cariboo offering repair services at the local farmers market and other venues as they become available. To date, the CRD has supported this group by connecting them with other repair cafés in BC and providing access to best practices.

The Potato House Project in Williams Lake has a compost site that accepts food scraps from residents. Their compost site also features a drive-through drop-off. They also host educational events on composting and other topics related to reducing waste.

There are several thrift and vintage clothing stores in the region offering re-use options for clothing and other household items. When clothing volumes become too much for many of these businesses the CRD will house materials until such time that an out of region business can collect them for re-distribution to larger centres.

The CRD helps to fund and readily promotes the Recycling Council of BC's (RCBC) hotline, website and Recyclepedia app in Figure 2-10 RCBC is a public information service providing information on pollution prevention, waste reduction and recycling for British Columbia.

Figure 2-10. CRD Promotional Sample for the RCBC Hotline

All CRD recycling depot staff are trained to know what can and cannot be recycled and endeavor to educate site users.

2.4.4 Waste Collection

For areas that have residential curbside collection, the services are summarized in Table 2-5. Curbside Collection Services

Table 2-5. Curbside Collection Services

Area	Garbage (Service Provider)	Recycling (Service Provider)
City of Williams Lake	Weekly cart collection (City)	Weekly cart collection (City)
City of Quesnel	Bi-weekly cart collection (City)	Bi-weekly blue box collection (Recycle BC)
District of 100 Mile House	Weekly cart collection (District)	Bi-weekly cart collection (District)
District of Wells	Weekly bag collection (District)	No collection, voluntary drop off at depot (CRD)
108 Mile Ranch	Weekly cart collection (CRD)	Bi-weekly cart collection (CRD)

Commercial collection services are provided by private haulers, except for in the District of Wells, which also collects garbage from businesses. In all other areas that are not covered by curbside collection services, residents bring garbage to a transfer station or rural landfill and recycling to a depot (see Table 2-2).

2.4.5 Solid Waste Management Residual Disposal Capacity

The CRD currently has 14 operational landfills; however, Gibraltar landfill is the only engineered landfill in the region. Based on the most recent Landfill Design Operations and Closure Plan (DOCP), there is an estimated lifespan of approximately 130 to 155 years based on current waste generation levels. The two other regional landfills, South Cariboo Landfill and Quesnel Landfill, have approximately 86 and 30 years of lifespan, respectively. The inert landfill located at the Central Cariboo Transfer Station in Williams Lake has 12 to 20 years of expected capacity left. Capacity estimates for the 14 rural landfills range between 14 and 20 years; however, some of these rural sites will be closed, as noted in Section 3.4.1.

2.4.6 Product Stewardship

Extended Producer Responsibility (EPR) is governed under provincial recycling regulation. EPR shifts the responsibility for end-of-life management of specific products from local governments to producers. All products that are under EPR in BC are collected in the CRD. A 2023 snapshot of EPR product categories and drop-off locations are summarized in Table 2-6.

Table 2-6. Product Stewardship Programs and Drop-Off Locations

Products	Drop-Off Locations
Automotive batteries	Canadian Tire, Rona, Central Cariboo Transfer Station, South Cariboo Landfill, Gold Trail Recycling
Automotive coolant	Jepson Petroleum
Tires	Any tire store
Oils, filters, containers	Four Rivers Co-op Quesnel, Jepson Petroleum, Castle Fuels, Gold Trail Recycling
Consumer batteries	Canadian Tire, Rona, Central Cariboo Transfer Station, Century Hardware Ltd, Gold Trail Recycling
Small appliances and power tools	Northern Recycling Inc, Mica Ventures, Gold Trail Recycling
Electronics	B & G Bottle Depot, Mica Ventures, Gold Trail Recycling
Fluorescent Lightbulbs	Canadian Tire, Rona, Home Hardware, D&S Electric, Gold Trail Recycling
Medications	Any local pharmacy
Communication devices	B & G Bottle Depot, CP Electronics, Gold Trail Recycling, The Source
Mobile phones	B & G Bottle Depot, Andre's Electronics, Mica Ventures, Staples, Gold Trail Recycling, The Source
Major appliances	All CRD refuse sites that accept scrap metal, Carson Pit Landfill, Williams Lake Scrap Metal
Paints and paint containers	Carson Pit Landfill, Cloverdale Paint, Rona, Central Cariboo Transfer Station, Gold Trail Recycling
Flammable liquids, pesticides, gasoline	Central Cariboo Transfer Station, Gold Trail Recycling

Regulations for EPR are being amended in BC to include more products, such as mattresses and moderately hazardous products in 2023. Moderately hazardous products include single-use compressed canisters (fuel, helium, adhesives, etc.), propane tanks under 100 pounds, handheld fire extinguishers, all aerosols, bear spray, and remaining automotive products not already managed by EPR (e.g., brake fluid and solvents) will be added. It is anticipated that these changes will be operational sometime in 2025.

2.4.7 Bylaws

Fees and Charges Bylaws are in place for the Central Cariboo (Bylaw No. 5126) and South Cariboo (Bylaw No. 5355) Landfills. These bylaws define the types of materials accepted at each facility and tipping fees. Prohibited items are also defined, which include ignitable waste or waste that is on fire/smoldering, biomedical waste, radioactive waste, reactive waste, hazardous waste, liquid waste, including solvents, lubricating oil, flammable liquids and fuels, and pesticides.

The CRD's Solid Waste Bylaw (No. 2898) regulates solid waste disposal and outlines actions that can be fined. It requires updating as there are minimal "ticketable" offences because it was developed when all rural refuse sites were non-attended. The updated bylaw will have to consider that all services in the CRD are currently overseen by a single bylaw officer.

2.4.8 Financing of CRD Solid Waste Services

The 2019 capital and operating expenditure budget for solid waste services in the CRD was $8.8 million, including the Carson Pit landfill, which is managed by the City of Quesnel. This budget covered all facility monitoring and maintenance, solid waste planning and diversion programs, and a reserve fund for post-closure monitoring and maintenance of landfill sites. Most of the budget is from taxation (57%) and tipping fees (18%), as shown in Figure 2-11.

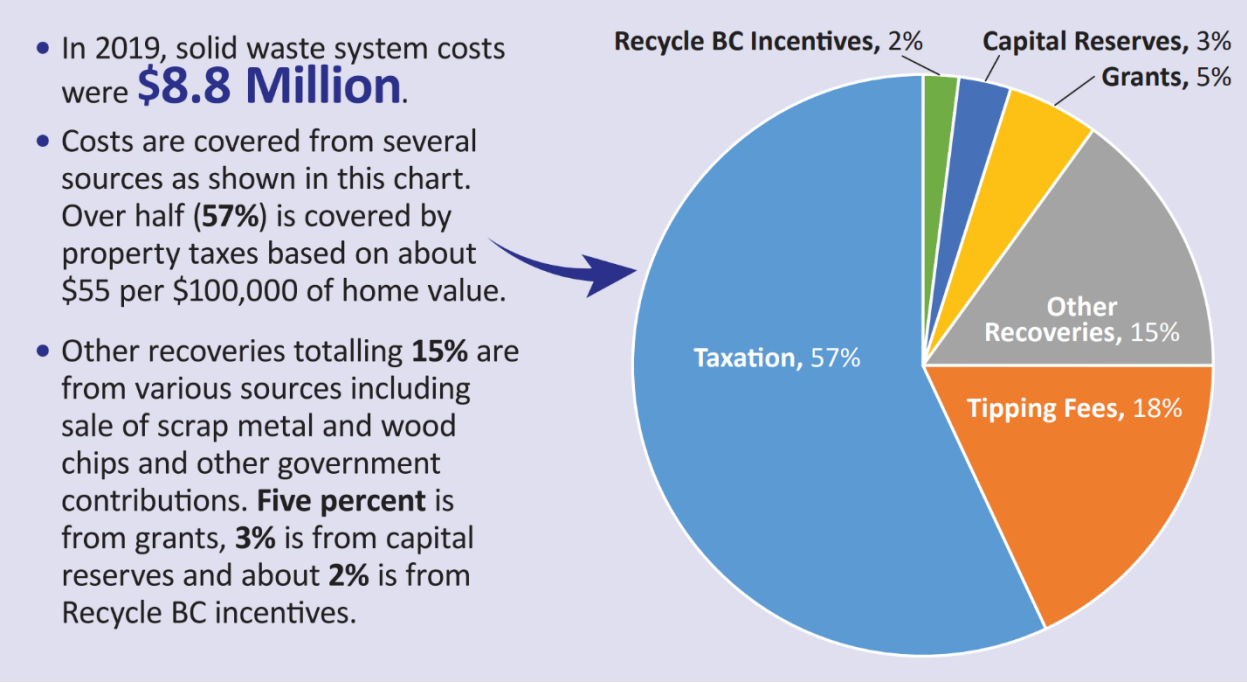

Figure 2-11. CRD Solid Waste System Budget
Source: Cariboo Regional District, 2023

2.4.9 Challenges and Opportunities

Establishing robust waste diversion systems is especially challenging for remote and rural areas. Challenging factors include low population density corresponding to a lower tax base, lack of diversion incentive given abundant disposal capacity, limited curbside collection, dispersed facilities that are challenging to maintain and subject to vandalism, wildlife impacts and other damage, longer distance to recycling markets and harsh climates. The CRD has a recent history of increased fires, flooding and landslides as climate-impacted weather events become more severe.

The CRD has many positive initiatives in place with continued opportunities to optimize waste reduction and diversion. Below is a list of challenges and opportunities specific to the current CRD solid waste system.

- **Reduction and reuse activities** – there are some challenges associated with managing share sheds given vandalism and maintenance needs. There are continued opportunities to build on 3Rs education efforts to promote waste reduction, reuse, share and repair.
- **Recycling collection** – two thirds of CRD households do not have curbside recycling available through Recycle BC. There are some opportunities to expand collection given updated eligibility parameters. However, barriers related to rural circumstances (steep and/or long driveways, snow accumulation/snowbanks, and wildlife densities) and a general opposition to the service from residents limit the likelihood of widespread curbside collection expansion.
- **Recycling drop off** – while depots are readily available in the region, there are multiple drop off locations depending on the product to dispose. There is an opportunity for diversion and reuse hubs.
- **Commercial Recyclables** – Packaging and printed paper (PPP) recyclables that are generated from ICI sources are **not** included in BC's recycling regulation. Since the producers/retailers/generators of ICI PPP are not funding or taking responsibility for ICI PPP recycling, there is no business case for private recyclers to offer collection and recycling services for ICI PPP in the CRD, as management costs are more than triple the current landfill disposal fees. The CRD's 2019 waste audit indicated that 12% of MSW in the CRD is ICI PPP. Diverting this material from the waste stream is a great opportunity to reduce waste disposal in the region.
- **Extended producer responsibility (EPR)** – the region has drop off access for current products covered under EPR and overseen by product stewards, but they are dispersed. There are opportunities to continue to align program drop off areas, optimize program engagement and incorporate new products as they are added to the BC Recycling Regulation.
- **Composting and organics** – there are currently no public in-region composting facilities given cost, feedstock need, and the region's small and sparse population. Opportunities exist for on farm composting to support initial regional processing efforts, continued home and community composting efforts, food rescue for people and animals through retail to farm connections and food waste prevention behaviour change efforts.
- **Construction and demolition debris** – wood waste, aggregate and metal waste diversion are readily available in the region. However, segregating these materials from non-recyclable demolition and construction waste before it is delivered to landfill sites continues to be challenging. Finding ways to support increased segregation of recyclables and reusable materials at demolition and construction sites will help to optimize C&D management. There is also a need to be prepared for future wood surplus from fires or demolition waste from floods and landslides as part of ongoing disaster debris management.
- **Resource recovery** – given the smaller waste generation tonnages, the region's engineered landfill, Gibraltar, is below current legislative requirements for landfill gas capture. While an earlier funding round was not granted, there is an opportunity to continue to seek funds for voluntary landfill gas management (i.e., flaring) at Gibraltar. Limited access to waste and already poor air quality in the region limits the feasibility of

waste to energy facilities. Clean wood waste received at CRD refuse sites throughout the region is managed by co-generation (generation of electricity).

- **Refuse site management –** Twenty non-attended rural and remote refuse sites create management challenges, especially as more restrictions (decreased hours of operation, disposal bans and user pay) are implemented for attended sites. More staffing will be required as disposal bans or user pay is introduced, which will increase funding requirements on an already limited tax base.
- **Household hazardous waste** (HHW) – there are still hazardous waste products not part of EPR that are challenging to divert. Seeking ways to divert these products and advocating for more items to be covered under EPR offer better future solutions. The CRD partners with private depots to provide drop off locations for non-program HHW and funding its proper disposal, rather than allowing it to be disposed of in landfills.
- **Illegal dumping** – this is a longstanding challenge in the CRD. There is no CRD budget line item to address illegal dumping, as it falls under Provincial jurisdiction. Residents concerned about illegal dump sites are directed to the provincial RAPP program (Report All Poachers and Polluters) or the Natural Resource Violations website. However, clean-up of illegal dump sites is not completed by the province and often falls on volunteers to complete. Ongoing education and advocating for more provincial support are two potential opportunities to pursue.
- **Education and outreach** – there is an opportunity to continue to build on existing education and behaviour change successes with community groups and product stewards as new programs are implemented and new products are added to EPR.
- **Diversion potential** – even with the above initiatives and those proposed, it is challenging for remote and rural regions like the CRD to meet the province's per capita disposal rate. There is still a considerable amount of recyclable, compostable and EPR products being landfilled that could be diverted. There is an opportunity to continue to reduce the per capita disposal rate to align with similar regional districts through new policies and program initiatives.
- **Financing the system** – system financing continues to be property tax based and is supplemented by tipping fees, grants, and other revenue. Opportunities exist to further balance the system by shifting to a user pay approach and increasing tipping fees; however, this is limited given the total amount of waste generated by the relatively small population. Grant funding can also support capital projects and specific initiatives.

3.0 Strategies and Actions

This section outlines the strategies and specific actions to be implemented as part of the SWMP Update. The strategies are grouped into three areas:

1. Waste Prevention and Reduction.
2. Waste Diversion.
3. Residual Management

Each primary action includes a description, defines the issue, identifies actions, and provides residential tax requisition impacts based on cost per $100,000 of property value.

These strategies and actions integrated input and ongoing feedback from the SWAC and were vetted through two phases of community consultation. Active collaboration with key players involved in the solid waste system will be essential for their successful implementation. This SWMP Update does not preclude entities including municipalities, First Nations, businesses and institutions and non-profits from pursuing waste reduction initiatives, except where those initiatives require inclusion of the regional SWMP update.

To move forward, bylaws will be updated to reflect the strategies and actions listed and are integral to implementing the SWMP Update.

3.1 Waste Prevention and Reduction

Building on the CRD's waste prevention and reduction education efforts (see 2.3.3), there are waste prevention and reduction components included in subsequent strategies and actions:

1. Diversion and Reuse Hubs – promote waste reduction programs to be developed over time related to reuse and repair.
2. Commercial Recycling – packaging and printed paper recycling pilot for businesses with capacity to participate. Explore and apply for grant funding to add support and incentive for businesses to drive waste reduction, such as the funded circular economy trailblazing program[7], or similar.
3. Food Waste Prevention and Divert Food Scraps – as part of the food recovery hierarchy, include education and behaviour change initiatives for waste prevention, and drop off locations for food waste at refuse sites.
4. Landfill Disposal Ban – educate on ways to extend the life of products and avoid waste as part of disposal ban launch.

Staffing requirements for these actions are built into the corresponding actions.

In addition to the strategies outlined below, the CRD will offer annual grants available to organizations that are actively diverting materials from the landfill or preventing waste generation as a part of their operations.

3.2 Waste Diversion

3.2.1 Diversion and Reuse Hubs

Diversion and Reuse Hubs can host multiple functions to collect, distribute and process recyclables, compostables, construction materials, commercial recyclables, re-usable household items, furniture, and hard-to-repair items. Hubs can promote reuse and offer repair training depending on the facility space. A partially taxation-subsidised facility is most likely to succeed and will require municipal partnerships as municipalities will be responsible to fund their portion of the capital (if applicable) and operating costs.

Issue: Municipalities lack a one-stop drop-off and shop for diverting reusables, furniture, recycling, and organics from landfills. Share sheds are popular but problematic to manage and

[7] See District of Squamish Circular Economy Trailblazer Program as funded through the Rural Economic Diversification and Infrastructure Program offered through the Ministry of Jobs, Economic Development and Innovation.

will be phased out on a case-by-case basis if they create additional management and safety concerns.

a. Issue Request for Proposals (RFP) for delivery of some or all of the Diversion and Reuse Hub services/deliverables.
b. If the RFPs process does not result in a contract, determine location options for a CRD facility, investigate capital funding grant opportunities, and re-visit Diversion Hub costs with Municipalities and CRD Board.
c. If applicable:
    i. Seek opportunities for partnerships with non-profits, product stewards and provincial agencies to help staff, fund and manage hubs.
    ii. Explore onsite waste reduction, repair and reuse educational programs.
    iii. Determine options for infrastructure development for onsite composting and commercial recycling management if for-profit partnerships cannot be established for these services.

Cost: CRD residential contribution of $2.50 to $4.60 per $100,000 of property assessment. Municipal contributions will be required for a portion of the overall cost.

3.2.2 Multi-unit Building Recycling

Facilitate packaging and paper recycling access for residents living in apartment buildings and condominiums in CRD member municipalities. Recycle BC will accept the collected recyclables but will not initiate or manage the collection in all the CRD's member municipalities. This strategy is for consideration by each Municipality and the final decision will be up to the municipality.

Issue: Majority of multi-unit buildings in the Region do not provide access to household recycling.

a. Provide each CRD member municipality with the information needed to assist the process.
b. Support member municipalities in developing information packages for property managers and/or bylaws if requested.
c. Support education efforts to residents for program launches.

Cost: For City of Williams Lake, costs are estimated to be an additional $25,000 per year to provide service to all City MUBRs. There may not be any operational costs to the City of Quesnel as they have "Direct Service" from Recycle BC and are not a Recycle BC collector. District of 100 Mile costs are estimated to be $19,000 per year.

3.2.3 Commercial Recycling

Pilot recycling of packaging and printed paper for Industrial, Commercial and Institutional (ICI) businesses. Many of these businesses would like to recycle but don't have access to private recycling programs.

Issue: Over half of the current waste stream is from ICI sources and limited recycling programs are in place, as there is no business case for private recyclers to succeed, particularly for plastics.

a. Establish a recycling pilot to help determine region-specific costs.
    1. Explore partnerships with Producer Responsibility Organizations (PROs), and/or their post collection service providers to process, haul and market ICI PPP.
    2. Create a materials list of items that will be included in the program.
    3. Determine if there are local reuse or recycling options for some items.
    4. Source out businesses who are willing and able to segregate the recyclable items on the materials list, ship them to a local processor and pay tipping fees towards the cost of processing and transporting materials to markets.
b. Continue to lobby senior governments for solutions for packaging and paper recycling from light industrial, commercial, and institutional (ICI) sources.

Cost: CRD residential contribution of $0.23 per $100,000 of property assessment. Municipal contributions will be required for a portion of the overall cost.

3.2.4 Curbside Garbage and Recycling Collection

Provide four to seven CRD communities with recycling and garbage collection, provided they meet Recycle BC's adjacency criteria and are accepted into an existing collection contract.

Issue: Two thirds of the CRD's population self-hauls to transfer stations or landfills and may or may not recycle. Over 7,000 households in 19 different CRD communities were identified as eligible for Recycle BC funded curbside recycling service, so long as the CRD provides curbside garbage collection.

Of the 19 communities surveyed in phase two consultation, twelve were not in favor or did not have survey participation. Four communities had between 10.8 and 32.1% participation and over 60% of respondents were in favor of the service. The final three communities had over 65% in favor of the service and between 8.4 and 10% participation.

Opposition to the service was due to long or steep driveways, high snow accumulation in winter at the point of pick-up (none of the rural areas have sidewalks or "curbs"), concerns about attracting bears, not generating enough waste to be worthwhile, cost being too high, wanting to stay with current collection service providers, and lack of trust that the costs would remain between $9 and $14 per month.

a. Engage with Recycle BC to confirm that communities being considered meet the adjacency criteria.
b. Work with Recycle BC and City of Williams Lake to draft contract terms agreeable by all parties to include the new service areas to: 1) Recycle BC's direct service (for areas adjacent to Quesnel); 2) The City of Williams Lake's collection contract (for areas adjacent to Williams Lake; and 3) to the CRD's collection contract for the 108 Mile Ranch (for areas in the south Cariboo).

c. Issue RFPs for collection of both garbage and recycling for Williams Lake and south Cariboo adjacency areas; coordinate with Recycle BC for timing to issue RFP for garbage collection for areas adjacent to Quesnel.
d. Secure grant funding for curbside collection totes/containers as required.
e. Consider quarterly or bi-annual collection of depot only items.
f. Future provision of organics collection may be offered to optimize diversion over time using three stream collection.

Cost: Utility charge for each household receiving service of between $9 and $14 per month. Consider lower rate options for seniors or for homeowners with income below a determined amount.

3.2.5 Food Waste Prevention and Divert Food Scraps

Use the food recovery hierarchy to prevent wasted food, support source reduction via home and community composting, and explore options for centralized facilities and curbside collection. Prioritize multiple ways to collect and manage food scraps depending on population density, geography, cost, and other factors.

Keeping food scraps out of the landfill avoids methane production, a potent greenhouse gas.

Issue: Over 32% of what we currently send to landfill as regular garbage (not including demolition and construction waste) could be composted; 14% of those organics are made up of avoidable food waste that could have been eaten instead of wasted.

a. Actively promote food waste prevention tools and emphasize links to cost-savings and reducing carbon footprints.
b. Continue to expand home and community composting education, support food rescue donation programs, and commercial to farm animal feed partnerships.
c. Explore organics collection pilots for refuse site drop off.
d. Apply for grant funding to pilot curbside collection and/or “door step” collection in rural communities with sufficient density that do not have curbside collection services.
e. Issue RFPs to contract processing with on-farm composting facilities; if unsuccessful, explore regional compost facility funding and options over time.
f. If needed, develop an Organics Diversion Strategy once pilots have run and scale and participation can be forecasted.

Cost: CRD residential contribution of $0.37 per $100,000 of property assessment, for pilots only, does not include CRD owned and operated composting facility. Municipal contributions will be required for portion of the overall costs. Municipalities can choose to pilot curbside collection at their own expense.

3.2.6 Landfill Disposal Ban

Focus on enforcement of existing disposal bans and add new material bans as diversion options and increased staffing becomes available. The initial focus will be on readily recyclable, prohibited and operationally hazardous materials. Food waste bans may be implemented if access to compost facilities becomes available. Disposal bans are shown to decrease waste sent

to landfills, shift more materials to recycling and composting, support economic development opportunities for diversion-related industries and local jobs, reduce greenhouse gases, and make better use of resources by society.

Issue: Over 70% of what we currently send to landfill could be recycled or composted.

a. Target recyclable, prohibited and hazardous items that are banned in existing fees and charges bylaws for regional facilities.
b. If current staffing levels are not sufficient to enforce bans, increase staffing by at least one position at each regional facility.
c. At rural attended sites, utilize existing staff supported by a mobile inspector to enforce disposal bans.
d. If additional diversion options are pursued, such as organics programs, consider additional disposal bans and increase staffing levels as needed.
e. All new enforcement of disposal bans will be preceded by education and promotion transitioning to a window of warnings before fines are applied to loads with banned items.

Cost: CRD residential contribution of up to $2.18 per $100,000 of property assessment. Municipal contributions will be required for portion of the overall cost.

3.2.7 User Pay

User pay exists at regional facilities and will continue to be utilized for these facilities. User pay for residential loads will not be implemented at attended rural refuse sites so long as waste generation rates at these facilities trend downward to help meet the overall target of 540 kg/person/year. This evaluation will occur halfway through the plan. Implementation of user pay at non-attended sites is not being contemplated; however, a number of these sites may transition to attended sites as outlined further in Section 3.4, to support safety, environmental protection, and operational efficiencies.

Issue: Without user pay systems in place there is limited incentive for residents to change habits and take action to reduce their waste by reusing, recycling, or composting. Currently the infrastructure is not in place at attended or non-attended rural refuse sites to implement user pay.

Phase two consultation results showed that the “User Pay” option had less support compared to other options with “Do Not Support” (42%) and “Strongly Support” (27%).

a. Continue to utilize user pay at three regional facilities (Quesnel, Williams Lake and 100 Mile House sites) including increasing per tonne rates, reducing thresholds for residential loads that are not charged for, and/or implementing new scale software features that will track residential load weights by vehicle rather than by load.
b. Provide waste diversion promotion and education materials for rural refuse site users to inform that if waste diversion does not increase, user pay will be implemented in the last phase of the SWMP to provide the incentive to reduce, reuse, recycle and compost.

c. If user pay is implemented at rural refuse sites and debit/credit options are not feasible, determine other payment systems options to charge by the bag or load at attended sites without scales.
d. If user pay is implemented at rural refuse sites, implement an illegal dumping campaign and strategy for the remainder of the SWMP.

Cost: Any costs incurred to implement user pay will be recovered through user fees.

3.3 Resource Recovery

Wood waste continues to be used for energy recovery through the region's co-generation facility. In the previous SWMP, a study was conducted on options for resource recovery, and waste-to-energy for municipal solid waste, and it was not considered financially viable. However, waste-to-energy from wood waste was considered viable and was therefore pursued.

3.4 Residual Management

3.4.1 Disaster Debris and Hazardous Waste Management

A Disaster Debris Management Plan (DDMP) is needed to provide guidance on the management and handling of residual waste (including hazardous materials) resulting from natural disasters.

Asbestos Containing Material (ACM) is hazardous waste permitted for landfill disposal at the Quesnel, Williams Lake, Gibraltar and 100 Mile House regional landfills, provided it is properly contained and delivered by a licenced carrier. ACM generated from natural disasters will be addressed in the above noted DDMP; however, a "day-to-day" ACM screening policy and/or bylaw is required to ensure all loads of demolition, renovation and construction waste received at any CRD facility are free of undeclared ACM. This task will include engagement with member municipality building inspection departments.

3.4.2 Landfill Criteria Review

Landfill criteria conformance reviews were completed for CRD landfills by Golder Associates Ltd. in 2019 and submitted to the Ministry in March of 2020. Of the 16 landfills in the CRD, only one (Gibraltar) is compliant with BC's 2016 *Landfill Criteria for Municipal Solid Waste* as it is the only engineered landfill in the region. The remaining landfills are natural attenuation landfills. Eight of these landfills meet the conditions for base liner requirement exemption requests due to their low precipitation (less than 500 mm per year), low amount of waste received (less than 5,000 tonnes per year and less than 100,000 tonnes in place), and remote locations (greater than 100 km from an engineered landfill), as shown in Table 3-1. Most landfills that qualify for base liner exemption requests are planned to remain in operation.

The Kleena Kleene, Nazko, and Watch Lake landfills qualify for exemption requests; but all have other factors to consider before determining if continued operation will be pursued, or if they will be closed.

The Likely, Big Lake, and Mahood rural landfills do not meet the base liner requirement exemption criteria and will be closed and converted to transfer stations, or alternate locations will be developed for transfer station operations if the existing parcels do not meet the development requirements.

Due to the growing population in the south Cariboo, the future of the Interlakes and Watch Lake landfills will be evaluated further to determine the best path forward (base liners, transfer station, or other options yet to be determined).

The regional landfills that do not currently meet landfill criteria are planned to continue operations within their existing footprints and the Design, Operations and Closure Plans (DOCPs) for each of these facilities will address future compliance with the landfill criteria.

Table 3-1. Landfill Criteria Summary

Site	Meets Landfill Criteria	Meets Base Liner Requirements Exemption Conditions	Estimated Tonnes per Year	Estimated Tonnes in Place (2021)	Distance to Engineered Landfill (km)	Annual Precipitation (mm)
Rural Landfills						
Likely	No	No	355	< 100,000	96	610
Interlakes	No	No	1,103	< 100,000	185	596
Watch Lake	No	Yes	235	< 100,000	181	477
Big Lake	No	No	377	< 100,000	58	536
Mahood	No	No	89	< 100,000	216	588
Kleena Kleene	No	Yes	30	< 100,000	317	319
West Chilcotin	No	Yes	481	< 100,000	369	319
Puntzi	No	Yes	77	< 100,000	239	367
Tatla	No	Yes	84	< 100,000	281	367
Cochin	No	Yes	68	< 100,000	300	367
Nemaiah	No	Yes	20	< 100,000	241	436
Nazko	No	Yes	113	< 100,000	193	499
Managed Landfills						
Williams Lake	No	No	3,000	> 100,000	63	428
South Cariboo	No	No	9,000	> 100,000	161	477
Gibraltar	Yes	No	11,000	> 100,000	0	490
Quesnel	No	No	17,000	> 100,000	94	536

3.4.3 Attended Site Development

Ten of the CRD's rural landfills and ten of the rural transfer stations are non-attended. As some rural landfills transition to transfer stations there will be opportunities to introduce attendants,

or at a minimum to restrict access so only local residents are using the sites. This will aid in waste diversion and environmental protection.

Several non-attended transfer stations have been identified as problem sites, where commercial waste, waste from outside of the community, or prohibited waste is being disposed of. These are priority to switch to attended sites.

The largest barrier for transitioning from 24/7 non-attended access to attended is the hours of operation, as the CRD does not have the taxation requisition needed to provide full time attendants to oversee the operation of the sites. This means that hours of operation will be limited.

3.4.4 Modifications to Rural Sites

Where possible, attended sites will be upgraded with power and later with internet access, if needed for user pay.

Three rural landfills will be closed and transitioned to transfer stations.

Up to ten non-attended refuse sites will transition to attended sites with hours of operation or automated access for local resident use only.

Issues: Seven of the nine controlled rural refuse sites do not have power or reliable lighting which could cause safety concerns when operating during non-daylight hours. Lack of systems and attended sites to implement "user pay" for residential waste disposal limits the tools available to encourage waste reduction and diversion. Many non-attended refuse sites have seen dramatic increases in the amount of legal and illegally dumped materials over the last five years.

a. Review and determine which attended sites have access to power and compare with the cost of solar options. Proceed with most cost-effective options, providing grant funding can be acquired.
b. Review hours of operation for all attended refuse sites and compare to tonnes generated. Identify high, medium, and low use sites and set hours of operation schedules reflective of use. Consider offering "self-serve" access to local residents if reliable monitoring methods become available (by way of power, internet or other).
c. Engage with First Nation communities using CRD rural landfills to gauge level of support for continued operation of the landfill each Nation uses.
d. Transition to attended sites for those receiving dramatic increases in waste or repeated non-compliance issues such as arson or illegal dumping.
e. Determine transfer station locations and grant funding source(s) for replacement of Big Lake, Likely and Mahood Lake landfills.

Cost: CRD residential contribution of $1.90 per $100,000 of property assessment. Closure reserves and grant funding contributions will also be required.

4.0 Finance and Administration

The costs associated with strategies and actions to meet disposal reduction targets, as reviewed in Section 3. 0, represent significant changes and improvements to the solid waste management system in the CRD. This section of the plan presents a summation of the estimated costs (in 2023 dollars) to the CRD for the proposed solid waste management system and addresses options for how the implementation of the SWMP Update will be financed.

Table 4-1 provides a 10-year financial overview of the existing 2013 SWMP budget and the addition of the proposed updated SWMP programs. The annual five-year budget adopted by the CRD Board may utilize surplus funds and implement a 7.5% increase to solid waste management tax requisition in year one and two of the SWMP followed by annual increases of 5%, rather than the erratic increase in tax requestion, as depicted in Table 4-1. It should be noted that Federal and Provincial grants and funding programs will be pursued wherever possible and practical to reduce the cost-burden to local taxpayers.

Table 4-1. 2024-2033 10-Year Financial Plan

Budget Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Existing Revenues										
Tax Requisition	$4,855,990	$4,855,990	$4,855,990	$4,855,990	$4,855,990	$4,953,110	$5,052,172	$5,153,215	$5,256,280	$5,361,405
Tipping Fees	$1,070,000	$1,105,000	$1,105,000	$1,105,000	$1,105,000	$1,125,000	$1,147,500	$1,170,450	$1,193,859	$1,217,736
Recycle BC Incentives	$290,000	$290,000	$290,000	$290,000	$290,000	$290,000	$295,800	$301,716	$307,750	$313,905
Grants	$410,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
Reserve	$7,325	$7,325	$205,100	$551,924	$2,128,938	$0	$300,000	$0	$0	$0
Other Revenue	$839,675	$814,675	$1,291,900	$2,128,776	$2,397,879	$856,469	$873,598	$891,070	$908,891	$927,069
CURRENT TOTAL REVENUE *(existing SWMP)*	**$7,472,990**	**$7,072,990**	**$7,747,990**	**$8,931,690**	**$10,777,807**	**$7,224,578**	**$7,669,070**	**$7,516,451**	**$7,666,780**	**$7,820,116**
Current Expenses										
Consulting	$807,147	$428,221	$430,991	$432,991	$436,991	$450,000	$450,000	$450,000	$450,000	$450,000
Operating Expenses	$5,577,240	$5,545,915	$5,706,332	$5,792,534	$5,827,541	$5,944,092	$6,060,643	$6,177,193	$6,293,744	$6,410,295
Salary, Wages and Benefits	$467,896	$484,272	$501,222	$511,246	$521,471	$531,901	$542,330	$552,760	$563,189	$573,618
Admin and Overhead	$583,420	$584,270	$635,271	$636,156	$637,058	$647,487	$657,917	$668,346	$678,775	$689,205
Capital Expenses	$0	$150,000	$700,000	$2,383,000	$4,225,490	$0	$300,000	$0	$0	$0
CURRENT TOTAL EXPENSES (*existing SWMP)*	**$7,435,703**	**$7,192,678**	**$7,973,816**	**$9,755,927**	**$11,648,551**	**$7,573,480**	**$8,010,889**	**$7,848,299**	**$7,985,709**	**$8,123,118**
PROPOSED Revenue										
Tax Requisition	$191,320	$739,934	$752,706	$876,469	$921,469	$966,469	$966,469	$966,469	$966,469	$966,469
User Fees	$11,760	$373,128	$373,128	$373,128	$373,128	$373,128	$373,128	$373,128	$373,128	$373,128
City of Williams Lake	$12,763	$220,387	$220,387	$220,387	$220,387	$220,387	$220,387	$220,387	$220,387	$220,387
City of Quesnel	$6,430	$56,430	$196,979	$217,236	$217,236	$217,236	$217,236	$217,236	$217,236	$217,236
Grants	$352,800	$733,040	$840,000	$800,000	$900,000	$0	$0	$0	$0	$0
Closure Reserves	$0	$150,000	$0	$500,000	$500,000	$600,000	$0	$0	$0	$0
Transfer from SWMP Function	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000
PROPOSED TOTAL REVENUE *(updated SWMP)*	**$600,072**	**$2,297,919**	**$2,408,200**	**$3,012,220**	**$3,157,220**	**$2,402,220**	**$1,802,220**	**$1,802,220**	**$1,802,220**	**$1,802,220**

Budget Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Proposed Expenses										
Diversion/Reuse Hubs	$25,000	$621,647	$762,196	$762,196	$762,196	$762,196	$762,196	$762,196	$762,196	$762,196
Commercial Recycling	$13,505	$27,010	$27,010	$81,030	$81,030	$81,030	$81,030	$81,030	$81,030	$81,030
Food Waste Diversion	$59,507	$59,507	$59,507	$59,507	$59,507	$59,507	$59,507	$59,507	$59,507	$59,507
Landfill Disposal Bans	$0	$38,587	$51,359	$51,359	$51,359	$51,359	$51,359	$51,359	$51,359	$51,359
Modify Rural Refuse Sites	$392,500	$420,000	$270,000	$860,000	$905,000	$450,000	$450,000	$450,000	$450,000	$450,000
Curbside Garbage and Recycling Collection	$42,560	$906,168	$373,128	$373,128	$373,128	$373,128	$373,128	$373,128	$373,128	$373,128
SWMP Goal Grant funding	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000
CAPITAL EXPENSES: Modify Rural Refuse Sites	$42,000	$200,000	$840,000	$800,000	$900,000	$600,000	$0	$0	$0	$0
PROPOSED TOTAL EXPENSES	**$600,072**	**$2,297,919**	**$2,408,200**	**$3,012,220**	**$3,157,220**	**$2,402,220**	**$1,802,220**	**$1,802,220**	**$1,802,220**	**$1,802,220**

5.0 Plan Implementation

5.1 Plan Implementation Schedule

Table 5-1 provides the planned implementation schedule for the Solid Waste Management Plan from 2024-2034. The strategies and actions will be phased in over time, as shown in the table.

Table 5-1. Plan Implementation Schedule

Proposed Implementation Schedule	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
WASTE PREVENTION AND REDUCTION											
Diversion and Reuse Hub Promotion (during operation)											
Food Waste Prevention Outreach (during pilot and initial roll out)											
Landfill Disposal Ban Education (part of launch)											
WASTE DIVERSION											
Diversion and Reuse Hubs											
Preparation											
Operation											
Multi-unit Building Recycling (Led by municipalities)											
Set-Up											
Full Roll Out											
Commercial Recycling											
Pilot											
Roll Out											

Proposed Implementation Schedule	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
WASTE PREVENTION AND REDUCTION											
Curbside Garbage and Recycling											
Set-Up											
Roll Out											
Food Waste Prevention and Divert Food Scraps											
Pilot Refuse Sites											
Pilot Curbside (funding dependent)											
SYSTEM EFFICIENCIES											
Modifications to Rural Sites											
Landfill Closure											
Landfill Post-Closure											
Transfer Station Design											
Transfer Station Construction											
Site Control											
User Pay (if necessary)											
Set-Up and Testing Software											
Roll Out											
RESIDUAL MANAGEMENT											
Landfill Disposal Ban											
Initial Roll Out with Existing Staff											
Operation with Additional Staff at Regional Landfills											
Operation with Additional Rural Staff											
PLAN MONITORING											
Five Year Review											
Waste Composition study											

6.0 Plan Monitoring and Compliance

Many parties will contribute to the achievement of the plan goals and objectives and work closely with CRD staff. The strategy outlined below for promoting compliance with the plan takes into consideration the roles and responsibilities of both those providing the compliance actions and those receiving the compliance actions.

- RD, municipality, haulers, product stewardship producers and agencies can provide generator targeted education regarding materials restricted from disposal facilities.
- RD or municipality can levy fines on contaminated loads at disposal facilities.
- RD can develop voluntary agreements with haulers and facilities to get better disposal data for the region.
- RD can implement waste stream management licensing.
- RD + partners can deliver strategies for reducing illegal dumping (e.g., distribute information).
- RD + municipalities can enforce bylaws (e.g., with respect to illegal dumping).

6.1 Annual Reporting

Reporting helps keep the plan current and focuses attention on whether the plan is achieving its goals and targets.

The CRD will provide waste disposal data to the ministry via the ministry's municipal solid waste disposal calculator.

In addition, the CRD will prepare an annual SWMP implementation report to the Regional District Board and provide links on the CRD website to the report.

6.2 Five-Year Effectiveness Review

The CRD will carry out a review and report on the plan's implementation and effectiveness in 2029. A link to the report will be provided on the CRD website. The review will include:

- Overview of all programs or actions undertaken in first five years to support the plan goals and objectives—status (started, progress, complete); actual budget for each.
- Description of all programs or actions not yet started and reason (delayed start and why, initiation planned for next five years, circumstances or decisions affecting the need for or feasibility of undertaking the actions at all); budget allocated for each.
- Five-year trend information for waste disposal per person.
- Five-year summary of economic development related to plan implementation.
- Five-year trend of landfill gas capture and reuse (if applicable).
- Any significant changes related to the regional growth strategy or changes to large industry and businesses operating in the area that might impact the solid waste management system over the next five years.
- Based on the plan data from the first five years, an analysis of what's working well (strengths) and challenges to meeting plan goals and targets.

- Based on the analysis, any recommended changes that the regional district would like to make to the plan and next steps regarding seeking those changes (consultation and ministerial approval for changes).

6.3 Plan Amendments

This plan represents the current understanding and approach to the solid waste management challenges being faced by the CRD. The plan is a "living document" that may be amended to reflect new considerations, technologies, and issues as they arise.

Due to changing circumstances and priorities that may evolve over time, all major actions identified in the plan will be reviewed for appropriateness before implementation. This will generally occur on an annual basis. The plan's implementation schedule will be flexible enough to reflect the availability of technologies that may arise over time, as well as the potential changes in regional issues and priorities. In addition, it will also consider the financial priorities of the CRD, its member municipalities and other partners, the availability of funding to undertake plan activities, and the availability of contractors and service providers.

The plan amendment procedure applies to major changes to the solid waste management system which would include:

The opening (or changes to the location or status) of a site or facility:

- That is included in this regional district's solid waste management plan and requires an authorization under the EMA; or
- or any other facility that could have an adverse impact to human health or the environment.

b) Waste import / export options which would significantly impact the regional district's or neighbouring solid waste systems, or not conform to provincial legislation, goals and / or targets.

c) Changing disposal targets or reductions in programs supporting the first three Rs in the pollution prevention hierarchy.

d) A change in the physical boundary of the plan, which would significantly change the amount of solid waste to be managed under the plan or significantly change the population of the plan area.

e) The addition, deletion or revision of policies or strategies related to the conditions outlined in the minster's approval letter.

f) Major financial changes that warrant seeking elector assent.

If a plan amendment becomes necessary, the CRD will undergo a public consultation process and submit an amended plan to the Minister of Environment for approval, along with a detailed consultation report.

The schedules identified as part of this plan contain information that is not considered a major change listed above but could change during the 10-year lifespan of the plan. Each schedule includes a process for engaging the public, ranging from notification to a robust public

consultation process. Schedule amendments may require approval from the minister but may not require submission of the entire plan for review and approval. Schedules that contain purely administrative provisions are identified as not forming a part of the plan and updates to these provisions do not require ministerial approval.

6.4 Plan Flexibility and Risk

The parties will make all reasonable efforts to attempt to resolve any potential dispute related to the SWMP Update in an amicable manner without outside intervention. The Ministry of Environment does not become involved in resolving or making a decision in a dispute.

This dispute resolution procedure may apply to the following types of conflicts:

- Administrative decisions made by CRD staff.
- Interpretation of a statement, bylaw, policy, or provision in the plan.
- The manner in which the plan or an OC is implemented.
- Any other matter not related to a proposed change to the wording of the plan or an OC.

See Appendix B for Plan Dispute Resolution Procedures.

7.0 APPENDICES

APPENDIX A. Solid Waste Advisory Committee Terms of Reference

APPENDIX B. Plan Dispute Resolution Procedures

APPENDIX A. Solid Waste Advisory Committee Terms of Reference

Terms of Reference
CRD Solid Waste Advisory Committee

Name

Solid Waste Advisory Committee (SWAC) (mixed Public and Technical committee)

Purpose and scope

The purpose of the committee is to provide input, from a variety of perspectives, on the development and updating of the Cariboo Regional District's Solid Waste Management Plan (plan).

Tasks will include the following:

- Providing input on design and implementation of public surveys and consultation processes
- Reviewing current programs and identifying issues and opportunities
- Assisting in developing and evaluating a variety of options and strategies for the proposed plan
- Participating in public consultation, as required (for example, attendance at open houses, or virtual meetings)
- Representing a balance of community interests
- Reviewing and providing input on reports and technical memoranda developed as part of the planning process
- Contributing to the development of the plan principles, goals and targets
- Reviewing information provided by staff and consultants and providing comments and suggestions as well as highlighting information gaps in the proposed plan
- Reviewing public consultation results and providing input on the final plan
- Participating in smaller ad-hoc committees dealing with specific issues or tasks, as required
- Ensuring that proposed programs and policies are in the best interests of all residents of the region, balancing both community and industry needs and technical requirements

Authority

The committee makes recommendations on the proposed plan to the CRD Board via the Board Solid Waste Management Committee. The Board is the final decision-making authority.

Membership

The committee shall consist of no more than 25 members representing a diversity of backgrounds, interests and geographical location. Membership shall include representation as follows:

Voting Members:

- One representative from the Board Solid Waste Management Committee
- Up to 13 members representing a diversity of community interests such as from the following groups:
    - Private sector waste management service providers
    - Private sector solid waste facility representatives

- Non-profit group with an interest in solid waste management (e.g., reuse organization)
- Large institutional solid waste generator
- Business representatives, including one focused on the 3 Rs
- Members at large for the community (community association, youth, senior)
- Urban / rural geographic mix

Non-Voting Technical Advisors:

- Up to 11 members representing agencies including:
  - Regional District Staff
  - Municipal Staff
  - First Nations
  - Provincial Agencies
  - Federal Agencies

The committee will serve until the completion of the updated plan.

Meeting arrangements

- The Chair and Vice-chair are elected from amongst the voting membership.
- The committee will meet as needed (maximum once per month, minimum once every two months). Meetings will take place at the CRD Williams Lake Boardroom unless otherwise specified (virtual and call in options will also be provided). Members are expected to attend in person unless other arrangements are made due to a variety of circumstances such as pandemics or hazardous road conditions.
- Quorum shall be a minimum of 50% plus one of voting members.
- Staff are responsible for taking minutes. Draft minutes are approved by the committee at its next meeting, and then forwarded to the Board Solid Waste Management Committee for information.
- Staff will prepare agendas in consultation with the Chair and Vice-chair. Agendas will be posted on the CRD website.
- All committee members are equal and have equal opportunity to contribute at meetings, and must respect the opinions of others.
- Members are encouraged to work collaboratively and to be committed to reaching consensus where possible, taking into account the best interests of the community. Any members unable to agree with the decision may have their objections noted in the minutes.
- Members who miss three consecutive Committee meetings may have their membership revoked at the Board's discretion.
- Members must declare any real or perceived conflict of interest. The member involved should excuse themselves from proceedings that relate to the conflict unless explicitly requested to speak, on a majority vote to do so. Any subsequent information provided by the individual will clearly be identified in the minutes as coming from a source perceived to be in a conflict of interest.

- Regular communications between meetings will be by email.
- Members of the public may observe meetings but will not have voting rights or speaking rights unless invited to speak by the Chair.

Reporting

The committee reports to the Board Solid Waste Management Committee. Meeting minutes will be provided to the Board Solid Waste Management Committee and the Board Solid Waste Management Committee liaison is expected to provide regular updates to that Committee.

Resources and budget

CRD provides the meeting space and staff to take minutes.

Participation in the committee is voluntary and there is no remuneration for members' time. Travel assistance, if required, will be provided for members travelling more than 20 km to meetings, at a rate in accordance with current provincial public employee travel rates ($0.55 as of Dec 2020).

Deliverables

The Committee shall provide:

Advice on matters pertaining to solid waste management planning, such as: the consultation process, the development of guiding principles, terms of reference for any planning studies, review of reports from each planning step and the draft plan.

Review

The terms of reference will remain in place until the task is completed.

APPENDIX B. Plan Dispute Resolution Procedures

The parties will make all reasonable efforts to attempt to resolve the dispute in an amicable manner without outside intervention. The Ministry of Environment does not become involved in resolving or making a decision in a dispute.

This dispute resolution procedure may apply to the following types of conflicts:

- Administrative decisions made by CRD staff.
- Interpretation of a statement, bylaw, policy, or provision in the plan.
- The manner in which the plan or facility Operational Certificates implemented.
- Any other matter not related to a proposed change to the wording of the plan or Operational Certificate.

Collaborative Decision Making and Dispute Resolution Procedure

Negotiation	Parties involved in the dispute make all efforts to resolve the dispute on their own. Parties may make use of a facilitator.
Regional Solid Waste Advisory Working Group (if appropriate)	Parties involved in the dispute will have opportunity to speak to the group. Group will review, consider, and provide recommendations to the Board.
Board	Parties involved in the dispute will have opportunity to speak to the Board. Board will receive recommendations from the Committee and settle the dispute; or, recommend mediation.
Mediation	Parties involved in the dispute agree on a mediator. If the parties cannot agree on a mediator, the matter shall be referred to the BC Mediation Roster Society of equivalent roster organization for selection of a mediator. All efforts will be made to reach an agreement throughout mediation. Costs for mediation are shared by the parties in dispute.
Independent Arbitrator	If the dispute cannot be resolved by a mediator, the matter will be referred to arbitration and the dispute will be arbitrated in accordance with the *Local Government Act* or *BC Commercial Arbitration Act.* The arbitrator shall make a final, binding decision. Costs for arbitration shall be apportioned at the discretion of the arbitrator.