

**COMOX STRATHCONA
WASTE MANAGEMENT
EXISTING SYSTEM SUMMARY**

2024 Solid Waste Management Plan Renewal

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1 Background

Comox Valley Regional District (CVRD) is responsible for solid waste management planning in both the CVRD and the Strathcona Regional District (SRD), and operates the service under the brand Comox Strathcona Waste Management (CSWM). The CVRD is undertaking a renewal of the 2012 Comox Strathcona Solid Waste Management Plan (SWMP) to reflect current and future waste management needs. The Environmental Management Act mandates regional districts to develop plans for the management of municipal solid waste (MSW) and recyclable materials. The purpose of the SWMP is to provide the CSWM with a guiding document that will direct the Region's solid waste management activities over the next 10 years.

The process to update the plan is being conducted in four steps, in accordance with the 2016 BC Ministry of Environment and Climate Change Strategy (Ministry) Guide to Solid Waste Management Planning (the Guide):

- The first step is the initiation of the plan process, establishment of the Regional Solid Waste Advisory Committee (RSWAC) and design of the consultation process.
- The second step sets the plan direction and includes a review of the current solid waste system and a report on the implementation status of the 2012 SWMP. It also includes the adoption of plan goals and guiding principles, after consultation with the community.
- The third step is a review of options to address the region's future solid waste management needs, and the selection of preferred management options incorporating financial and administrative needs. This includes engagement and consultation of the community on the preferred options.
- The last step is the preparation of the draft SWMP, engagement with the community on the proposed plan, and submission of the Board adopted plan to the Ministry.

This Existing System Summary Report outlines the implementation status of the 2012 SWMP, the current status of solid waste operations and important considerations for waste management in the region. The report has been prepared in accordance with the Guide by CSWM staff.

1.1 SWMP History in the CSWM

The first SWMP for the region was developed in 1995 and included a goal of 35 per cent diversion by 2000, or a disposal rate of 430 kg per capita annually. This was the early days of curbside recycling, and the opportunity for growth within municipal collection programs and through depots was tremendous at the time. Extended producer responsibility (EPR) programs were limited in the province, and revenue potential drove decision making around collecting and diverting materials.

In 2003 an update the SWMP was prepared which shifted focus to improvements to the disposal infrastructure within the system, and supported expanded diversion programs for household hazardous waste (HHW) and electronics. Support for increased diversion from the industrial, commercial and institutional (ICI) sector was identified as a need as well.

The latest SWMP update occurred in 2012, and keyed in on long term disposal capacity challenges, and liabilities associated with natural attenuation landfills. This was reflective of changing regulations

and directives from within the Ministry. The 2012 plan targeted an increase in the diversion rate from 51 per cent to 70 per cent, or a disposal rate of 380 kg per capita per year by 2022.

2 Plan Area

The CVRD and SRD were established on February 15, 2008, as part of the provincial restructuring of the Comox Strathcona Regional District. The Regional Solid Waste Management service, and its establishing bylaw, were directed to become a part of the CVRD at the time of the restructuring, and is subsequently referred to as the CSWM service. The combined CSWM area is the defined plan area for the SWMP renewal, and includes both the CVRD and the SRD.

The SRD covers approximately 18,278 km² on Vancouver Island, the Mainland as well as many other islands. It includes nine First Nations communities with a population that relies upon the CSWM service:

Mowachaht/Muchalaht First Nation	Homalco First Nation
Nuchatlaht First Nation	We Wai Kai First Nation
Ehattesaht/Chinehkint First Nation	Klahoose First Nation
Ka:'yu:'k't'h'/Chek'tles7et'h' First Nations	Tlowitsis First Nation
Wei Wai Kum First Nation	

It also includes the City of Campbell River, the Villages of Gold River, Sayward, Tahsis and Zeballos and Electoral Area 'A' (Kyuquot/Nootka-Sayward), Electoral Area 'B' (Cortes Island), Electoral Area 'C' (Discovery Islands-Mainland Inlets) and, Electoral Area 'D' (Oyster Bay – Buttle Lake).

The CVRD covers approximately 1,697 km² on Vancouver Island, Denman and Hornby Islands. It includes the City of Courtenay, the Town of Comox, the Village of Cumberland and the K'ómoks First Nation. In addition, there are three Electoral Area's: 'A' (Baynes Sound – Denman/Hornby Islands); 'B' (Lazo North); and 'C' (Puntledge Black Creek).

Thirty-eight other First Nations were identified as having treaty or established rights or, assert aboriginal rights or title within the service area through a search conducted through the BC Contacts for First Nations Consultation Areas Public Map. These nations will be consulted with, but are not profiled within this report.

2.1 Physical Description and Constraints

The area encompassed by the CSWM includes many water access communities such as Hornby Island, Denman Island, Quadra Island, Cortes Island, Read Island, Nootka Island, Kyuquot, and Walters Cove. It also includes small communities accessed only by gravel roads. The terrain includes rugged coastline, remote inlets, populous valleys, and the highest peaks of the Vancouver Island range. Constraints to be considered during the planning process relate to the terrain and waterways, and their impact on access to communities and transportation challenges.

The regions climate is one of the mildest in Canada due to moderation by the Pacific Ocean, which also contributes to the heavy precipitation sustained on the western coast of Vancouver Island. The average annual precipitation in the Gold River, Tahsis, Zeballos area is 3249 mm, compared to the

Comox Airport, which according to Environment Canada has a 30 year climate normal of 1154 mm of precipitation (1981-2010). This generalized reduction in rainfall is due to the rain shadow effect of the Vancouver Island Ranges, but can still vary greatly from place to place within the region.

The flora of the region is predominantly in the temperate rainforest biome, home to large conifers like the western hemlock, western red cedar, pacific silver fir, yellow cedar, Douglas fir, grand fir, Sitka spruce and western white pine. The fauna is similar across the service, and includes relevant species such as black bear, salmon, trout, eagles and ravens.

2.2 Complementary Strategies

The CSWM service is a function of the CVRD, and as such is a part of the larger corporate strategic initiatives for the growth, land use and sustainability within the region. Regional and local plans pertaining to growth, land use and sustainability provide guidance and constraints for the regional SWMP renewal.

2.2.1 Regional Growth Strategy

Following the creation of the CVRD and SRD, the CVRD initiated the process of preparing a Regional Growth Strategy (RGS). The 2010 RGS identifies two objectives related to solid waste.

Objective 5-E is to ‘Reduce regional solid waste and improve landfill performance’. The baseline was a waste diversion rate of 48 per cent, with a goal of 55 per cent in 2015, 65 per cent in 2020 and 75 per cent in 2030. Despite the implementation of new diversion programs, our current waste diversion rate has remained static partially as a result of population growth and redevelopment pressures.

Objective 8-C is to ‘Reduce GHG emissions in the solid waste sector’. The baseline 2007 emissions were 61,605 tonnes of CO₂e with a medium-term goal of a 33 per cent reduction by 2020. Longer term the goal is a 50 per cent reduction by 2030. Our emissions from the CVWMC landfills have decreased, and in 2023 the emissions from the CRWMC will also decrease, likely resulting in the CSWM achieving this target.

2.2.2 Comox Valley Sustainability Strategy

The Comox Valley Regional Sustainability Strategy (CVSS) calls for a reduction to Green House Gas (GHG) emissions by 80 per cent from 2007 levels with a goal of 33 per cent by 2020, legislated by the Province. The 2030 goal is a 50 per cent reduction.

The CVSS focuses on establishing specific environmental principles and related regional and municipal actions, while the RGS focuses on the overall pattern of land use and the creation of a sustainable human settlement pattern. More specifically, the CVSS helps meet goal #4 of the RGS: to minimize regional greenhouse gas emissions and plan for adaptation.

The RGS is also a mandated regulatory document, whereas the CVSS is a guidance document for long-term community sustainability. The CVSS has a global sustainability target for a ‘zero waste’ approach and to achieve a 90 per cent diversion of waste from landfills. Waste reduction and recycling is important for protecting ecosystems from pollution and reducing our use of natural resources. Zero waste encourages the redesign of resource-use systems. However, some waste is inevitable, thus the target is set at 90 per cent diversion of waste from landfills. There are two accompanying goals:

Goal 3.3: Waste diversion and recycling programs approach zero waste targets.

- Objective 3.3.1: Develop a regional Zero Waste strategy, including promotion of recycling that is aimed at waste reduction and diversion from landfill disposal.
- Objective 3.3.2: Product stewardship practices are supported and promoted by businesses.
- Objective 3.3.3: Zero waste principles are applied in civic facilities and operations.

Goal 3.4: The waste stream associated with construction, demolition, and land clearing (DLC) is reduced.

- Objective 3.4.1: Develop and implement a regional construction waste management program.
- Objective 3.4.2: New multi-residential and commercial buildings have 3-stream separation supportive design (garbage, recycling, organics).

2.2.3 Corporate Energy and Emissions Plan

In 2023, the CVRD Board approved an updated Corporate Energy and Emissions Plan (CEEP) that aligns GHG emission reduction targets with Provincial, Federal and Global requirements. The goals of the new Corporate Energy and Emissions Plan are to:

- Adopt a net-zero corporate emissions target by 2050
- Aggressively work towards reducing corporate GHG emissions as the primary means of taking action, with a focus on phasing out corporate fossil fuel use.

Based on CVRD Board direction an addendum was prepared to address the fugitive landfill GHG emissions from the Comox Valley Waste Management Centre (CVWMC) and the Campbell River Waste Management Centre (CRWMC). Because solid waste management matters are dealt with through the CSWM Board, the CVRD does not have full operational control over the CVWMC and the CRWMC. On this basis, the addendum recommended that the CVRD's CEEP not include the fugitive landfill GHG emissions, and other solid waste related sources under the purview of the CSWM Board. The CEEP was referred to the CSWM Board on September 1, 2022 who subsequently directed staff to develop a GHG reduction strategy for CSWM's corporate emissions.

For fully controlled CVRD assets and sites, two solid waste initiatives were identified to contribute towards the regional GHG reduction:

- **Work with Third-Party Waste Hauling Companies to Pilot New Fuel Technologies.** Partner with solid waste collection service providers to investigate pilot projects utilizing electric vehicle and other heavy truck hybrid technologies as they become available.
- **Encourage the Adoption of Zero Waste Principles.** Reducing the amount of waste created is a critical first step to reduce the burden on local landfills and reducing GHG emissions throughout a product's lifecycle from extraction to disposal.

Within the Solid Waste Addendum, four suggested initiatives for consideration were proposed:

LFG1: Investigate Renewable Energy Sources for Stationary Assets, such as solar photovoltaic systems.

LFG2: Explore the Feasibility of Refining LFG Generation Estimates, using site-specific models and or direct surface emissions monitoring.

LFG3: Explore More Efficient Waste Hauling Systems at Waste Depots, such as waste compaction or larger trailer systems.

LFG4: Incorporate Landfill GHG Reduction Targets and Actions into the CSWM SWMP Renewal

2.3 Community Population

According to Statistics Canada 2021 census data, the combined population estimate for the CVRD and SRD in 2021 was 120,595, with 72,445 and 48,150 people, respectively. This represents a 13 per cent growth rate for the region between 2011 and 2021 (1.3 per cent per year); higher than the previous period between 2003 (98,885) and 2011 with a growth rate of 8 per cent (1 per cent per year). Looking to the future, the annual population growth rate anticipated by BC Stats for the CSWM region over the next 20 years beyond this plan is about 1.2 per cent.

Table 1 BC Stats Population Projections Online Application for CVRD and SRD

Year	CVRD	SRD
2024	78,665	52,207
2034	89,699	57,685
2044	99,567	62,419

The following table shows the population of each community *according* to the 2021 Statistics Canada census data, this is the latest year available.

Table 2 Canadian Census Population of CSWM Communities

CSWM Community	2021 Census Population	Population Change 2016-2021
Municipality	47,673	
City of Courtenay	28,420	10.8%
Town of Comox	14,806	5.5%
Village of Cumberland	4,447	18.5%
Electoral Area	24,476	
A - Baynes Sound - Denman/Hornby Islands	7,926	9.9%
B - Lazo North	7,392	4.2%
C - Puntledge Black Creek	9,158	6.8%
CVRD	72,445	8.9%
Municipality	37,618	
City of Campbell River	35,519	7.6%
Village of Gold River	1,246	2.8%
Village of Sayward	334	7.4%
Village of Tahsis	393	58.5%
Village of Zeballos	126	17.8%

Electoral Area	8,813	
A - Kyuquot/Nootka - Sayward	864	13.1%
B - Cortes Island	1,059	2.3%
C - Discovery Islands - Mainland Inlets	2,737	12.6%
D - Oyster Bay - Buttle Lake	4,153	4.4%
SRD	48,150	7.8%
TOTAL	120,595	8.5%

For First Nations communities the population provided is as reported by the First Nation themselves for in community members. These values can change from year to year and are provided as representative values to convey community size. Anecdotally, many First Nations communities stressed that the current housing inventory are insufficient; it is a general sentiment that additional housing would allow more community members would return home and populations were more likely to increase than to decrease. Many First Nations members also live within the municipalities. Overall, the population of identifying indigenous peoples within the CSWM is increasing, from 7,265 indigenous identifying in the 2006 census as compared to 11,350 in the 2021 census (56 per cent increase).

Table 3 First Nation Communities Self-Reported Population and Housing

First Nation Community	Self-Reported in Community Population	Self-Reported in Community Homes
Wei Wai Kum First Nation	371	163
We Wai Kai First Nation	334	222
Mowachaht/Muchalaht First Nation	223	70
Homalco First Nation	218	88
Ka:'yu:'k't'h'/Chek'tles7et'h' First Nations	164	55
K'ómoks First Nation	110	87
Ehattesaht/Chinehkint First Nation	104	20
Klahoose First Nation	67	40
Nuchatlaht First Nation	23	13
Tlowitsis First Nation	5	0

2.4 Community Profile

The median age of the population is 50 years old, with the population in the SRD slightly younger than that of the CVRD. The average household size is reflective of the seniors demographic and smaller family sizes, at 2.2 persons per household. The breakdown by household type is shown below, and shows a preference for single family homes in the region at 67 per cent of all households, but growth of apartments is exceeding single family homes between 2016 and 2021 with emphasis on densification and rising costs of housing.

The strong representation of seniors is also reflected in the employment statistics, with a 55.5 per cent participation rate in employment in the region (BC is 63.3 per cent), and just an 8.5 per cent unemployment rate, aligned with the provincial average.

Employment income was affected due to the COVID-19 pandemic in 2020 and 2021, so statistics on income from 2019 are more representative of normal rates. The average employment income for full time workers in 2019 was about \$63,450, slightly lower than the provincial average of \$72,800. Per the 2021 Census, the main industries identified within both the SRD and CVRD were health care and social assistance (15 per cent) and retail trade (13 per cent), followed by construction (10 per cent), education (6 per cent), and accommodation and food services (7 per cent). In the CVRD, public administration as well as professional services were slightly higher compared to the SRD, while agriculture, forestry, fishing and hunting were higher in the SRD.

Knowledge of English within the community is high, with 99.7 per cent of the community speaking either English, or English and French.

3 Waste Stream Characterization

This section provides a broad description of the type and sources of waste that are coming into the CRWCM and the CVWMC, where scale data and waste audits are available. The waste entering these two facilities make up 98 per cent of waste in the CSWM, and are representative overall.

3.1 2017 Waste Audit Composition

AET Group Inc. was contracted by the CSWM service to complete a two-week audit of the waste streams coming into the CRWMC and the CVWMC between September 25 to October 6, 2017. A minimum of 50 samples were taken from each location, and split into 5 different source types: Curbside, Small ICI and Multi-Family, Construction/Demolition, Self-Haul and Large ICI. Further detail can be found in the full report: *2017 CSWM Waste Composition Study, AET, Nov. 29, 2017*.

3.1.1 Overall Waste Composition

- A total of 104 samples of garbage were audited from both facilities;
- Organic material accounted for 28.98per cent of all garbage samples;
- Other divertible material accounted for 21.47per cent of all garbage samples;
- Non-divertible material accounted for 49.55per cent of all garbage samples;
- The percentage of divertible material found within the garbage was 3.5per cent higher in the waste from the CRWMC than the waste audited at the CVWMC.
- The composition of waste in the CSWM area is comparable to neighbouring regions.

The figure below illustrates the composition of garbage sampled from both facilities.

Figure 1 Combined Waste Composition, 2017 Audit

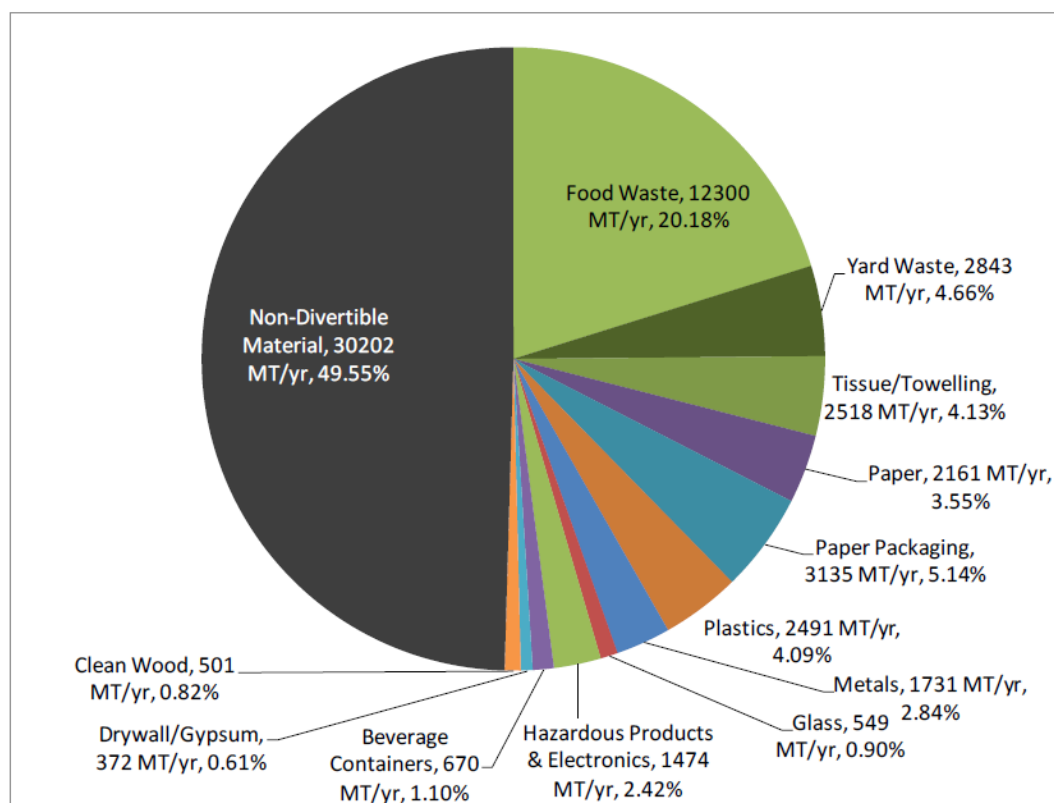


Figure 2 Campbell River Waste Management Centre 2017 Waste Composition

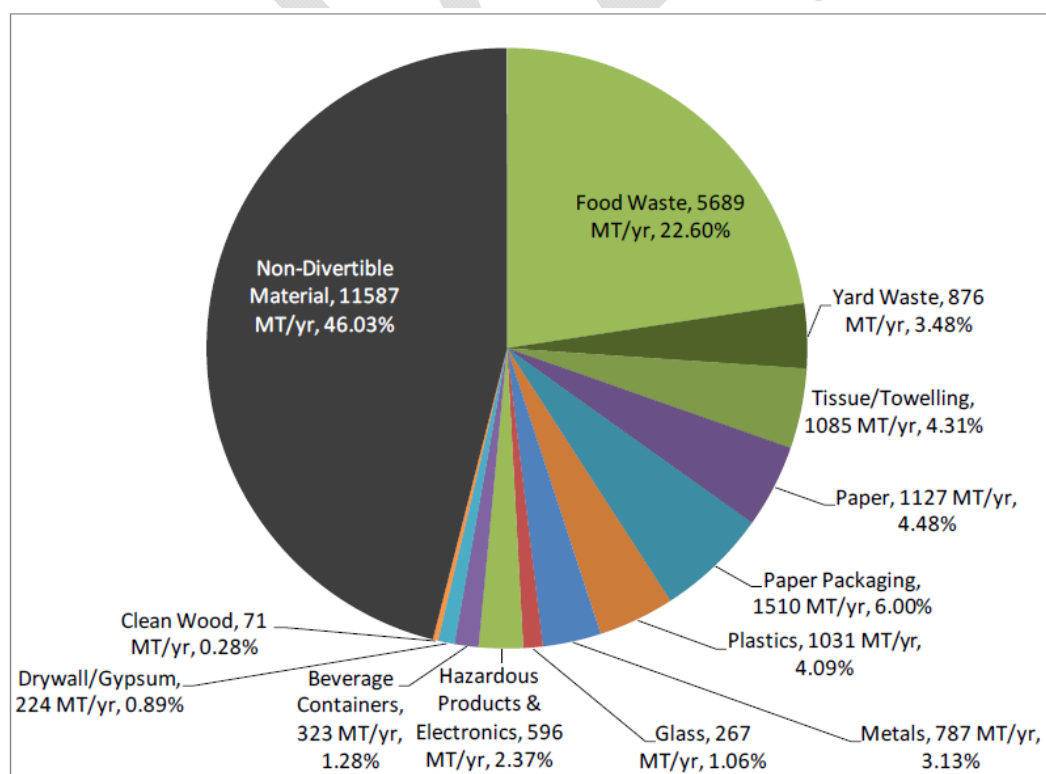
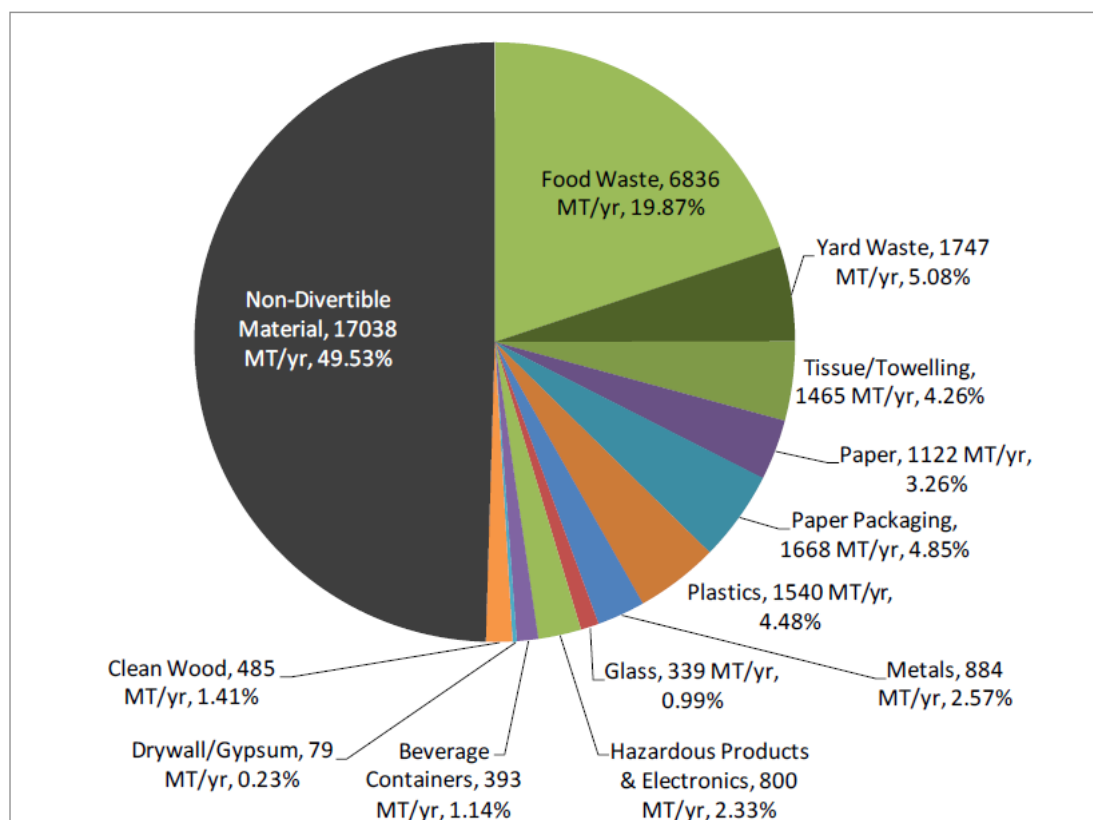


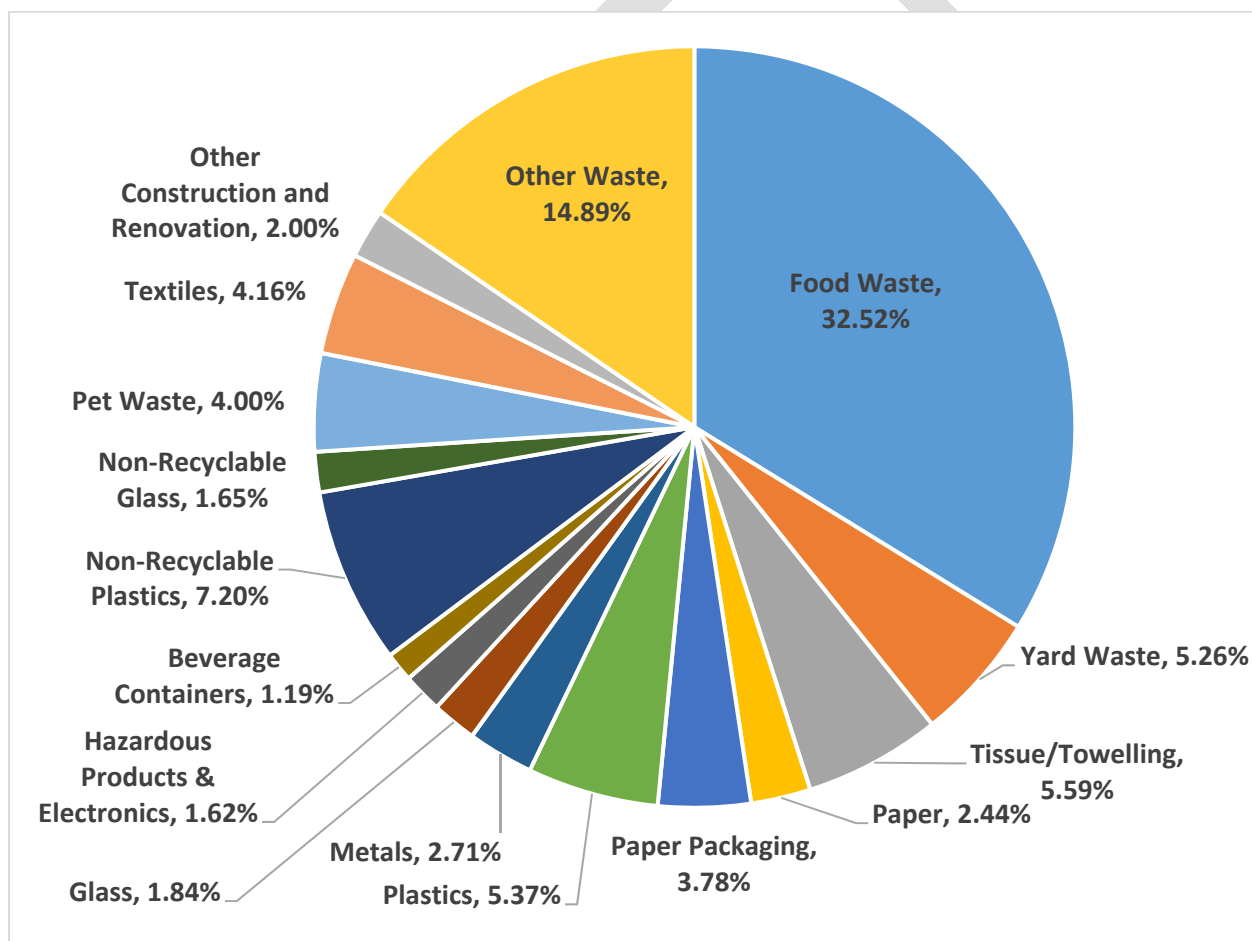
Figure 3 Comox Valley Waste Management Centre 2017 Waste Composition



3.1.2 Curbside Waste Composition

- This represents the garbage stream collected from the curb by municipal contractors through their collection programs, and complimented by curbside recycling pick-up.
- All municipal curbside collection services had yard waste collection in 2017, but only Cumberland and Comox residents in single family homes had access to food waste diversion as part of the organics pilot program at CVWMC.
- Diversion rates were comparable between the CRWMC and the CVWMC, with slightly less divertible material within the curbside waste stream going to the CVWMC.
- Overall, food waste made up the greatest component of divertible waste, followed by yard waste and fibre products and packaging.
- 22 loads were sampled.

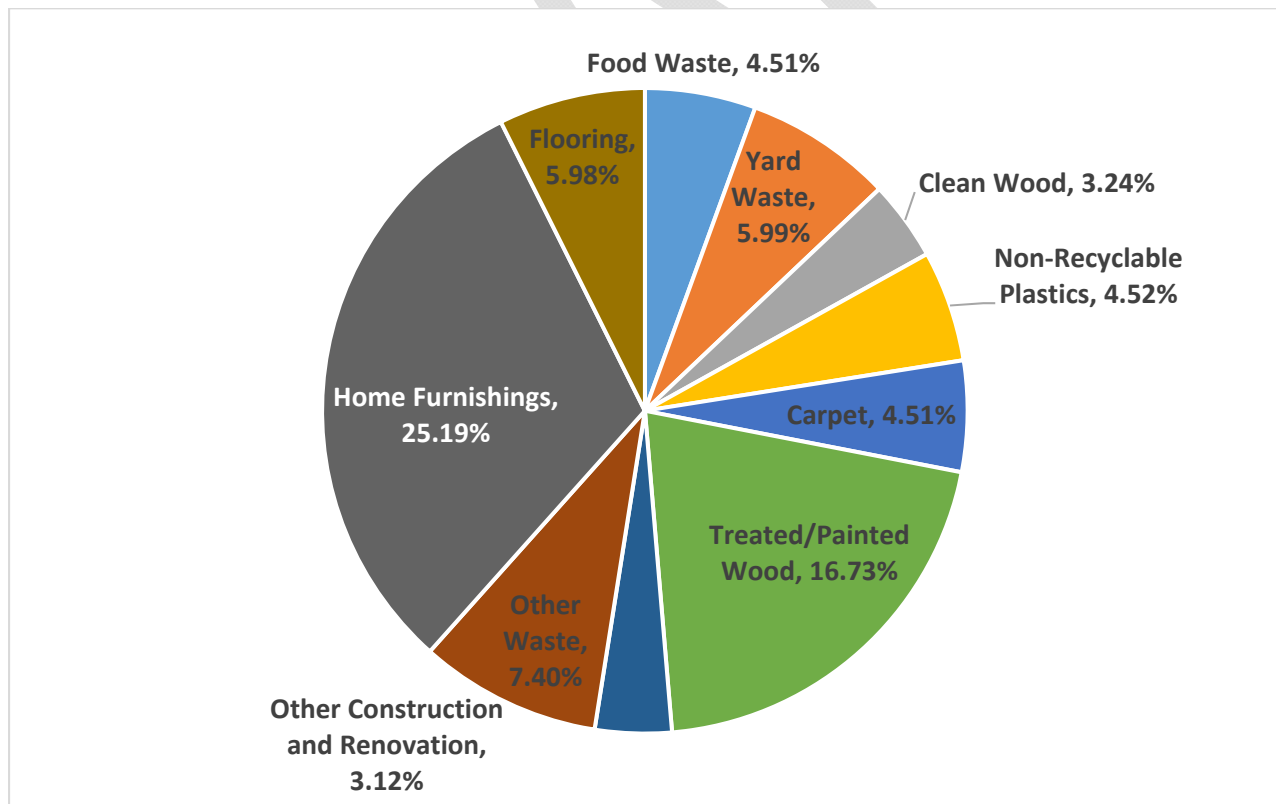
Figure 4 Curbside Material Waste Composition, 2017 Audit



3.1.3 Composition of Self-Haul Loads

- Self-haul loads are those brought by residents or businesses and deposited at the designated area of the waste management centers. This category of users is comprised of residents and businesses who do not have access to municipal curbside collection, do not have private collection contracts, or those who have generated waste in excess of what can be accommodated through regular curbside collection and thus the need to make a dedicated trip to the waste management center.
- Improved diversion of recyclables from within self-haul loads can be achieved by enforcing landfill bans and a greater bylaw officer presence as they are often unloaded by hand. Or by providing a designated area where valuable items can be donated, thus encouraging their reuse and diverting them from the landfill.
- Home furnishings made up the largest component of self-haul loads. It was not determined if these materials were at end of life, or could have been donated.
- Other currently divertible waste streams included food and yard waste, as well as clean wood.
- Areas for expansion could be carpet or non-packaging plastics.
- 37 loads were sampled.

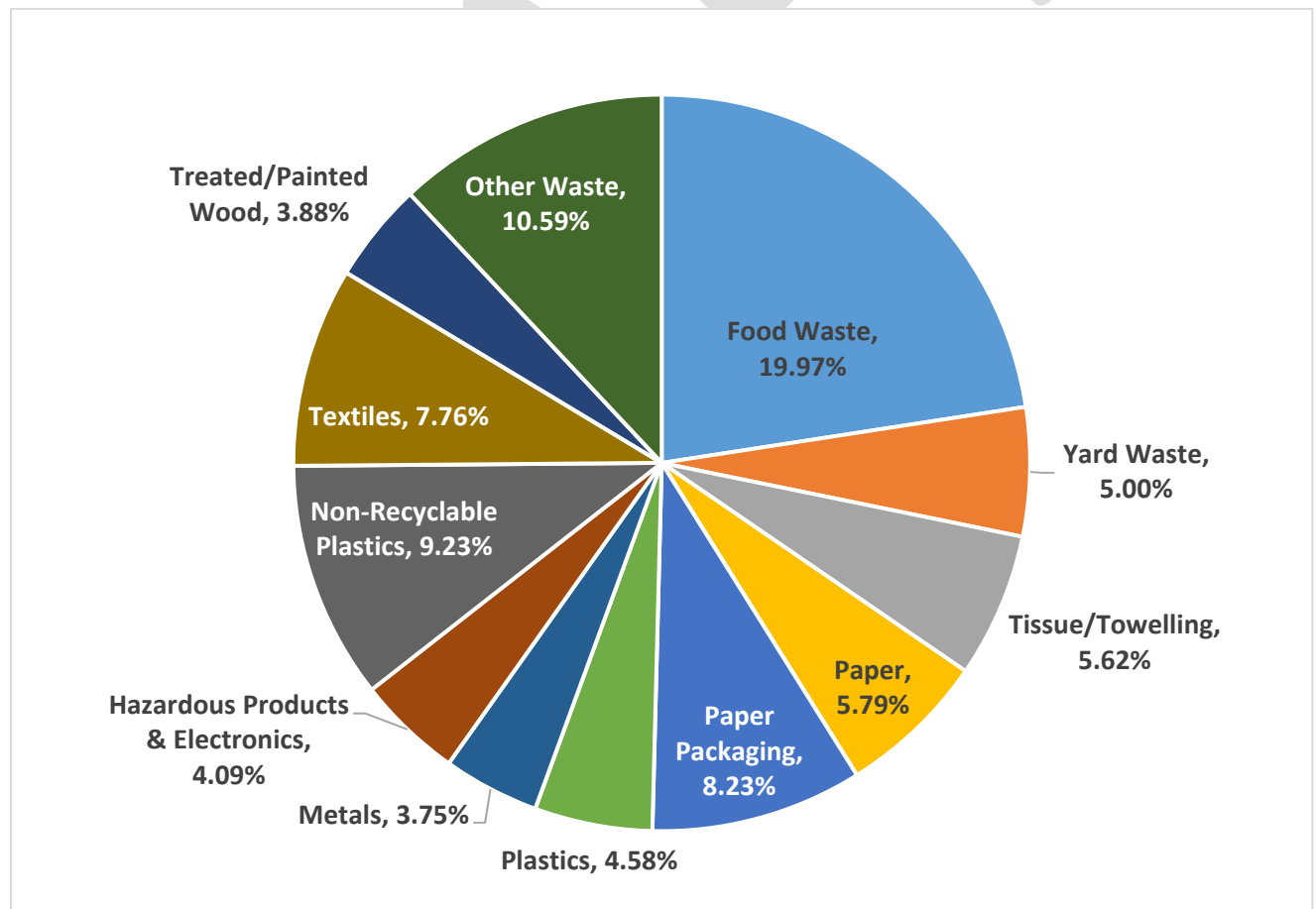
Figure 5 Self-Hauled Loads Waste Composition, 2017 Audit



3.1.4 Small ICI and Multi-Family Residences

- This material stream is a combination of bins located at small businesses and at apartments or condos, encompassing both residential and commercial waste.
- The scale software system upgrade is currently underway, it is expected that this material stream can be further distinguished in the future.
- Food waste is a significant component of this waste stream; however, at this time, these users are not eligible to divert their food waste to the Regional Organics Compost Facility. Expansion is planned for 2024 with the aim of accommodating their food waste diversion needs, provided there are sufficient resources to support this initiative.
- A number of divertible material streams were found in the waste stream that have readily available options for recycling: paper, plastics, metal, hazardous products and electronics.
- Textiles are higher than in other streams, possibly related to waste from businesses. It was not determined if these were donatable or repairable textiles.
- 21 loads were sampled.

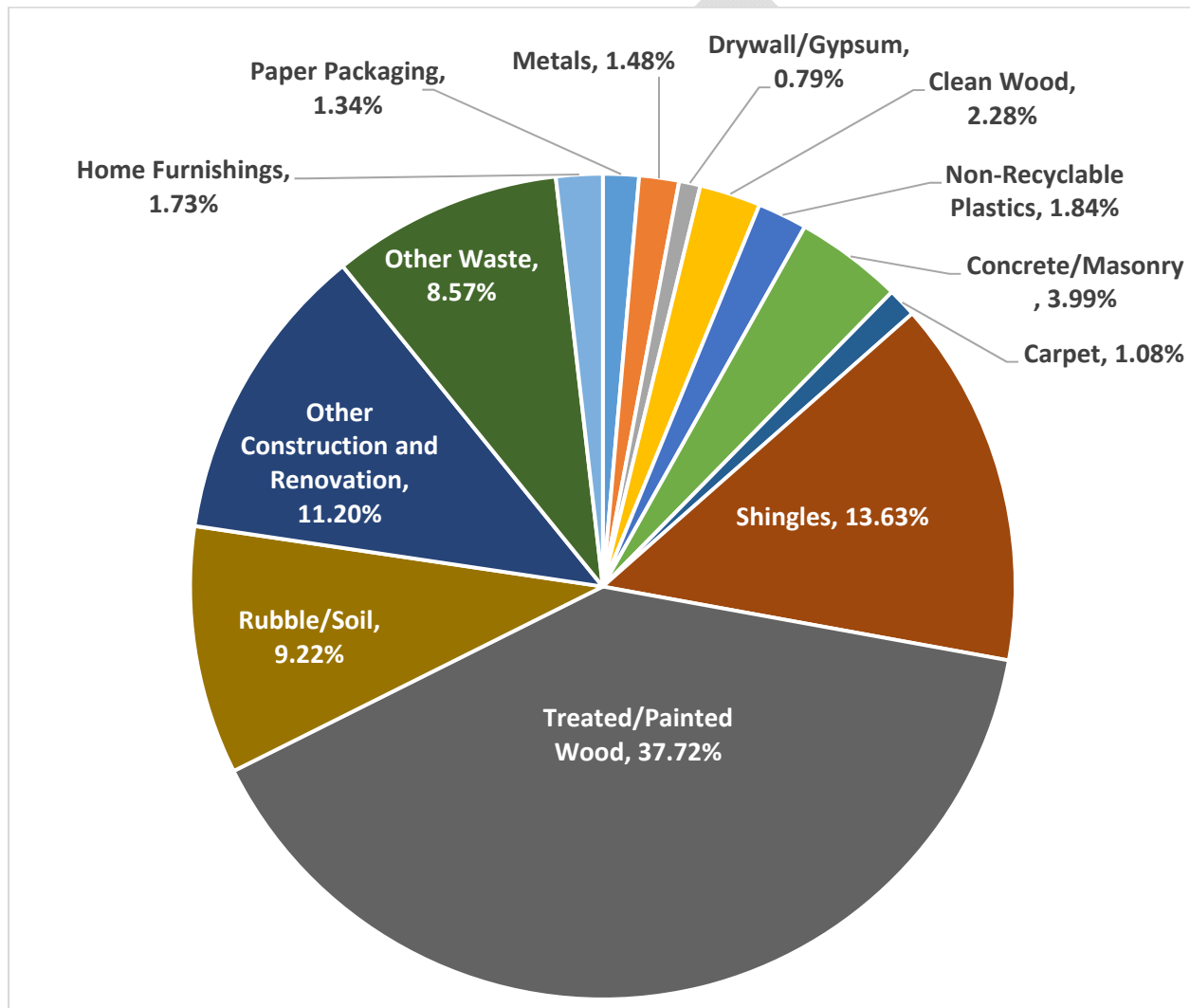
Figure 6 Small ICI and Multi-Family Residences, 2017 Audit



3.1.5 Construction, Demolition and Renovation Waste

- These loads were from projects and are typically an open top roll off style bin. They were visually assessed due to the higher risk of hand sorting these materials.
- 16 loads were sampled.
- The largest component is painted or treated wood, which does not have a good divertible outlet at this time.
- Materials like metal, drywall, clean wood, and soil could have been diverted, while materials like shingles and carpet are developing recycling markets in urban areas.

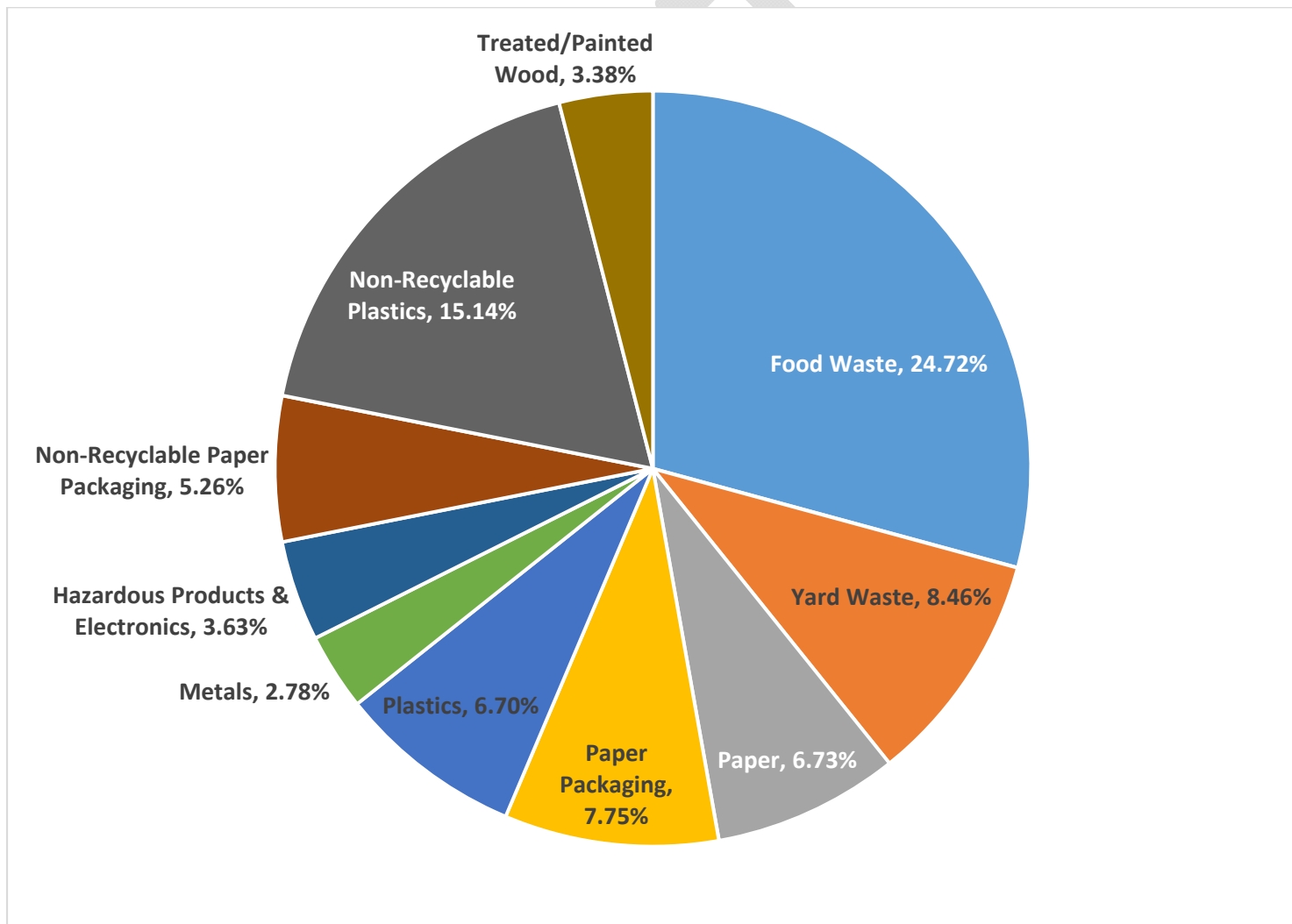
Figure 7 Construction, Demolition and Renovation Material, 2017 Audit



3.1.6 Large Industrial, Commercial and Institutional Waste

- A total of 8 samples were audited from large users like hospitals, grocery stores, schools and department stores.
- Food waste was the largest component of waste from these sources, followed by many other divertible materials such as paper, cardboard and plastics.
- Yard waste was surprisingly high for this user group, and could have been due to the timing of this study which was from September 25 to October 6, 2017.
- Some recycling and diversion take place at these locations already, like cardboard balers and recycling at schools.

Figure 8 Large ICI Sources, 2017 Audit



3.1.7 Future Waste Audits

A second waste audit is scheduled to take place in 2024, subsequent to the expansion of food waste collection from all four urban municipalities and potentially additional ICI or Multi-family users to review participation levels and curate education.

3.2 Composition of Waste Disposed by Waste Type

The table below shows the major sources of waste entering the two largest facilities in the CSWM service, the CRWMC and CVWMC. The origin of the waste is slightly different with a greater percentage of waste from municipal curbside collection services in the CVRD. The private landfills in Campbell River accepting Construction and Demolition (CnD) material is likely influencing the lower percentage of that material coming to the CRWMC. With the closure of the Campbell River landfill in May 2022, the new requirement to haul large 40 yard loads directly to the CVWMC to reduce double handling is also likely a contributor.

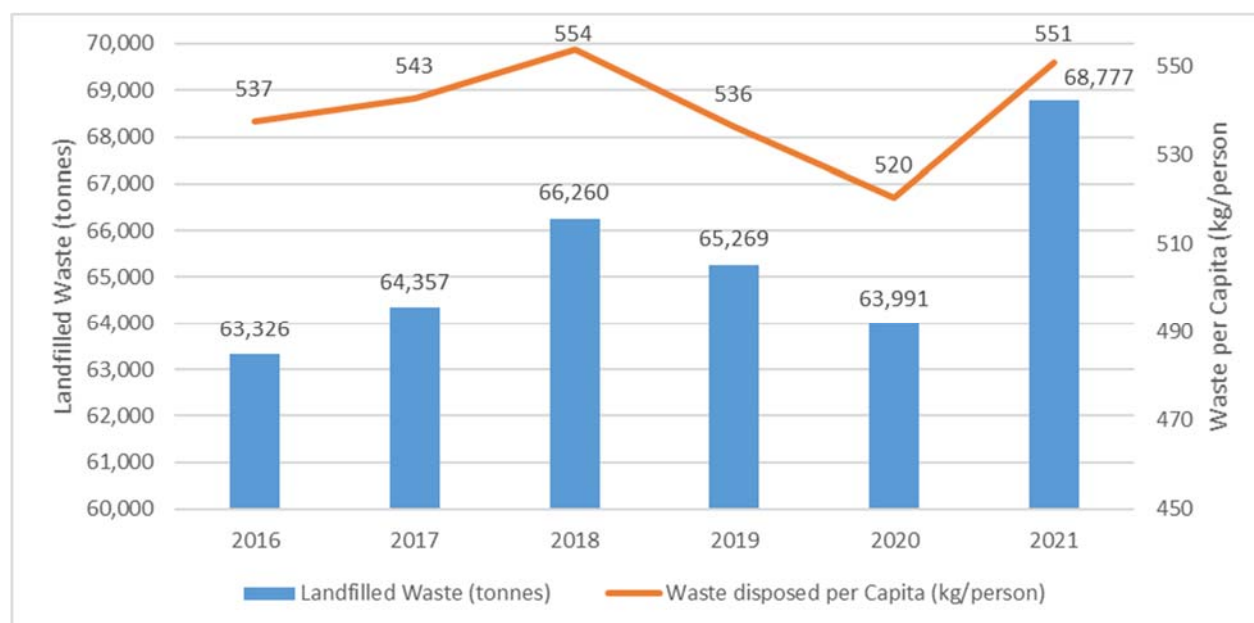
Table 4 2022 Waste Volumes Across the Scale at CRWMC and CVWMC

2022 Waste Volumes	CVWMC Tonnes	CRWMC Tonnes	Total Tonnes	Total %
Municipal Collection (mainly SFD)	15,181	4,586	19,767	30%
Commercial Customers, Self-Haul Customers, MFD & Transfers	14,291	17,521	31,812	49%
Construction, Renovation and Demolition Waste	9,814	1,598	11,412	17%
Other (invasive species, mattresses, controlled waste etc.)	949	1,598	2,547	4%
	40,235	25,303	65,537	100%

3.3 Waste Generation Overall and Per Capita

The amount of waste generated per person in 1990 was 650 kg, in 2011 it was 610, with a 2012 SWMP target of reducing it to 380 kg per person in 2022. While it has consistently been below the 2011 value, a consistent downward trend has not yet been achieved. The dip in 2020 is likely due to the drop in economic activity, consumption and tourism related to the COVID-19 pandemic as the drop was not sustained in 2021.

Figure 9 Landfilled Waste and Disposed Per Capita



The amount of waste disposed in the Zeballos, Gold River and Tahsis landfills are estimated from a topographic survey that is completed annually to determine the volume of filling that has occurred during the year, and tonnage is approximated from waste density industry values. The values vary from year to year and are not necessarily indicative of generation rates from the community. Total waste generation has not increased at the rate of population growth in the community (1.3per cent) and is comparable to the disposed quantity from 2009 and 2011, of 64,166 and 64,292 t respectively.

Table 5 2020 Waste Disposed in CSWM Landfills

Waste Disposed In Landfill	CVRD	SRD	CSWM
Zeballos Waste Estimate	0	230	230
Tahsis Waste Estimate	0	616	616
Gold River Waste Estimate	0	394	394
CRWMC Scaled Tonnage	0	26,272	26,272
CVWMC Scaled Tonnage	36,479	0	36,479
Total Disposed Tonnage	36,479	27,512	63,991

3.4 2020 Waste Diversion Estimates

Since the 2012 SWMP a number of amendments were made to the Recycling Regulation to increase the products and packaging covered under EPR programs. Expansion of collection services across the service area have led to uptake of these opportunities by residents, resulting in over 20,000 tonnes of material collected and funded by EPR in the CSWM area in 2020. Compare this to the reported 4,400 tonnes in the 2012 SWMP by EPR programs for 2011 diversion.

Table 6 2020 Diversion Quantities

Recycling and Diversion				
2020 EPR Program Quantities Collected	Reported Quantities			
	CVRD	SRD	CSWM	Units
Recycle BC	3566	1694	5260	tonnes
Encorp Return-it	1574	794	2368	tonnes
Brewers Recycling Container Collection Council	268	179	447	tonnes
CESA Electronic recycling	109	35	144	tonnes
CBA - Canadian Battery Assoc	321	226	547	tonnes
EPRA - Electronic Recycling	201	98	300	tonnes
Household Batteries (Call2Recycle)	14	7	21	tonnes
BCUOMA	913	611	1525	tonnes
PCA - Alarm Recycle	0.2	0.1	0.3	tonnes
PCA - Light Recycle	28	9	37	tonnes
PCA - Paint and HHW	93	44	137	tonnes
Major Appliance Stewardship (included in scrap)	3957	4084	8041	units
Tire Stewardship	571	672	1243	tonnes
Pharmaceuticals	2	1	3	tonnes
Stewardship Program Totals	7,660	4,371	20,072	tonnes
Other Major Diversion Values	Reported Quantities			
	CVRD	SRD	CSWM	Units
Recycling Drop-Off Depots	553	553	1,106	tonnes
Estimate of Non-Residential PPP	15,587	11,126	26,713	tonnes
City of Courtenay Yard Waste	2,506	0	2,506	tonnes
City of Campbell River Yard Waste	0	6,789	6,789	tonnes
CVWMC - Diversion	7,126	0	7,126	tonnes
CRWMC - Diversion	0	3,300	3,300	tonnes
Clean Fill Used as Cover	2,587	1,625	4,212	tonnes
Other Major Diversion Totals	28,359	23,393	51,752	tonnes
Total Diversion Tonnage	36,019	27,764	71,825	tonnes

In 2014 an EPR program for printed paper and packaging (PPP) was launched by Recycle BC (then Multi-Material BC) and costs and services for the collection of curbside and depot material was transitioned away from local governments and to producers. Not every location where these materials were collected was transitioned or accepted as a collection facility by the program. The CSWM continues to fund and collect PPP material from two recycling drop-off locations outside of the Recycle BC program; on Quadra Island and in Black Creek/Oyster River.

The estimate of non-residential PPP of 26,713 tonnes is using the 260 kg per capita of PPP collected in the Regional District of Nanaimo from all sectors, and subtracting the known residential quantity of PPP. This value has low confidence and has not been verified as private recycling facilities are not required to report their processed volumes to the CSWM.

The diverted materials from the CRWMC and CVWMC are excluding the EPR amounts that are accepted and diverted from here, and are primarily wood waste, grass and yard waste, drywall and

scrap metal. The diverted amounts of these materials from other CSWM facilities are not tracked over a scale and are not regularly reported on.

Table 7 CVWMC and CRWMC Diverted Material

CVWMC Diverted Material			
Yard Waste	1,769		
Commercial Cardboard	24		
Scrap Metal Sales	887		
Clean Wood Waste	374		
Drywall	1,021		
Cut Grass	399		
Organics/food waste	2,576		
Household Hazardous Waste	70		
Mattresses Recycled Offsite	6		
Total Excluding EPR Programs	7,126		
		CRWMC Diverted Material	
		Clean Wood Waste	185
		Cut Grass	460
		Drywall	642
		Scrap Metal Sales	928
		Yard Waste	1,076
		Commercial Cardboard	9
		Total Excluding EPR Programs	3,300

The total diversion amount in 2020 of 71,825 tonnes is up slightly from the 2012 SWMP, which was 67,126 tonnes. The overall waste diversion rate in 2020 was 53 per cent; the diversion rate target from the 2012 SWMP is 70per cent.

3.5 Import and Export of Waste

There are no known significant quantities of MSW that are leaving or entering the CSWM political boundaries. An emergency disposal agreement was in place for the qathet Regional District (qRD) to have the CSWM assist in the event of a disruption to their waste disposal system which relies on exporting waste to out of region (United States) landfills. The qRD does not own, operate or manage a solid waste landfill within their jurisdiction. Their solid waste is exported to the Roosevelt Landfill in Washington State for final disposal. The CSWM Board previously entered into an agreement with the qRD on October 27, 2016 to accept their waste in the event of an emergency for a term of 5 years, but has since expired.

A debris generating emergency is rare and usually related to some form of natural disaster. In the case of the qRD contingency agreement, an emergency is defined as a significant occurrence with circumstances outside the control of the qRD's third party disposal which render the company unable to provide service under its contract, including events such as the closing of the United States border, terrorist attacks and embargos.

4 Existing Solid Waste Management System

Solid waste facilities in the CSWM include recycling depots, landfills, transfer stations, bottle depots, food banks, yard and garden waste composting, reuse organizations, repair cafes, and recycling processing facilities. This section describes the many partners involved in the delivery of solid waste services and operation of the various facilities.

4.1 Education and Promotion

The CSWM service delivers a wide range of public outreach and school education programs, which are integral to achieving the CSWM Board's commitments and obligations under the 2012 SWMP. As evidenced by environmental psychology research, creating sustainable behavioral change goes

beyond presentation of information. CSWM has employed a robust communication outreach strategy with the aim of designing and delivering effective behavior change to drive measurable action by targeting audience segments and areas where CSWM can make the biggest impact.

The CSWM Community Education Program objectives are focused on:

- Increasing waste diversion through recycling and composting;
- Promoting participation of the CSWM existing waste diversion programs;
- Encouraging proper participation within municipal collection programs with a focus on the organics composting program; and
- Education of and working towards a gradual enforcement of compliance with material bans at the Comox Valley and Campbell River waste management centres.

These initiatives are delivered through the CSWM operations team, with the support of Communications and through two contract educators. The combination of programs delivered to rural and urban audiences, as well as the focus in schools, help to make the most effective use of the CSWM education resources. These programs, along with their mobility, provide for the broadest reach and impact across the CSWM service area.

The curriculum in schools focuses on ‘The Power of R’ and includes teacher resource kits as well as a variety of classroom workshops designed to be stand-alone or presented as a part of an inquiry unit. All of the curriculum packages and workshops are available free of charge to all of the school districts in the CSWM area.

Classroom workshops are curated to different age groups and can include a hands-on waste audit with the classroom, mentoring of senior students on capstone projects, and holiday specific learning. Delivery of the workshops pivoted during the COVID pandemic, and can now be provided online or in person which has allowed for more frequent engagement with remote communities and First Nations. Free landfill tours at the CVWMC were introduced as a pilot in 2019 and have since expanded and become permanent, and could expand in the future to include tours of the Regional Organics Compost Facility.

The community educator regularly attends public events in the community to engage on waste sorting and diversion opportunities, including targeting the home improvement sector, and composting education for rural areas. Presentations are also provided to community groups on request

The CSWM has a social media presence, dedicated website and engagement page for each public project. Regular posts raising awareness about changing materials, recycling opportunities and events are made. Investment in an app for ‘What Goes Where’ and to provide direction to residents on waste collection changes or delays. This is being done in collaboration with Municipalities.

4.2 Support for Reduction, Repair and Reuse

The CSWM educators have been working with local community groups and volunteers to coordinate Repair Café’s in Campbell River, the Comox Valley and are now expanding to include other communities where volunteers are available.

Free stores are present in a number of CSWM communities, operated by local members of the community and volunteers. Hornby Island, Denman Island, Cortes Island, and the Village of Tahsis all have some form of free store for household goods and clothing.

Thrift stores that are accepting EPR program materials and reporting on quantities collected are eligible for a tip fee waiver at the landfill, in support of their contribution to the circular economy.

4.3 Recycling

Residents within the CSWM have access to a variety of recycling services including curbside collection, CSWM depots, private depots, Recycle BC depots, return-to-retail locations, and diversion opportunities at waste management centres. Recycling and waste management in the various areas of the CSWM are described in detail in Section 5 of this report, including complementary municipal and local service area waste services.

4.3.1 Private Recycling Depots

There are currently two privately-owned recycling and bottle depots, one situated in the northern part of Campbell River (1580-F Willow St.) and the other in Courtenay (493 Puntledge Road). It is worth noting that there was previously a third depot in Comox, known as the Comox Return Centre. However, during its relocation process from its former location at 678 Anderton Road, it encountered an issue as the newly identified location did not possess the appropriate zoning designation for operating as a recycling centre. It is essential to recognize that land use policies play a crucial role in considering how to effectively encourage and expand diversion opportunities in the future within the private sector.

The Island Return-It in Campbell River is open Tue to Sat 9:30 am to 5:00 pm and accepts beverage containers for refund and participates in various EPR programs for electronic products, scrap metal, paint and packaging. They do not accept HHW materials oil or tires.

The Courtenay Return-It Centre is open Mon to Sat 9:00 am to 5:00 pm and accepts beverage containers for refund and participates in various EPR programs for electronic products, scrap metal, paint and packaging. They do not accept HHW materials oil or tires. This depot is an 'Express' depot, allowing customers to print off a sticker and apply it to an unsorted bag of refundable containers and drop it off without sorting in the store. They have added an automated sorting line which significantly reduced their labour requirements and increased their capacity for containers and customers.

CSWM staff communicate with the owners of these Private facilities about policy changes either local, or provincial and support the work they do towards diversion in our region.

4.3.2 Extended Producer Responsibility Programs

EPR has been in place in BC for decades, and has been expanded dramatically over the last 10-15 years. The goal of EPR is to shift the responsibility for the end-life of a product to the producer, or company that has created that product. The hope is that this will incent design change and inform decisions about material selection, repairability and durability in an effort to protect the environment.

EPR programs in BC are mandated by the Recycling Regulation 449/2004, under the Environmental Management Act (EMA). The regulation requires producers to create a program plan that is reviewed by ENV. The plan must include details around how the materials that are collected will be managed, and collection must be free and accessible to BC residents.

A 5-year action plan for EPR has been released by ENV which details how they want to see the Recycling Regulation expanded over the next 5 years. It includes materials such as lithium ion batteries, compressed gas cylinders, mattresses and an

The CSWM participates in almost all of these programs in some way, more details on where materials are accepted are provided in section 5. The table below provides a list of the products currently included in an EPR program in BC.

Table 8 Extended Producer Responsibility Programs in BC

Product Category in Recycling Regulation	EPR Program(s)
Packaging and Printed Paper (residential)	-Recycle BC -News Media Canada
Beverage Containers	-Encorp (non-alcoholic and wine, spirits, coolers and import beer in non-refillable containers) -Brewers Recycled Container Collection Council (fillable bottles and canned beer)
Electronics and Electrical Products	-Call2Recycle (household batteries and embedded batteries) -Recycle My Cell (cell phones) -Electronics Products Recycling Association (EPRA) (electronics, including: computers, televisions, audio-visual, medical equipment, office equipment, toys) -LightRecycle (lamps and lighting equipment) -Major Appliance Recycling Roundtable (MARR) (large appliances) -Outdoor Power Equipment Institute Canada (OPEIC) (outdoor power equipment) -Canadian Electric Stewardship Association (CESA) (small appliances, power tools, sports and exercise equipment, hobby, craft) -AlarmRecycle (smoke and carbon monoxide alarms) -Heating Refrigeration and Air-Conditioning Institute (Thermostats)
Paint and Solvents, Flamable Liquids, Gasoline and Pesticides.	-Product Care Association
Tires	-Tire Stewardship BC
Antifreeze, Used Lubricating Oil, Filters and Containers	-BC Used Oil Management Association
Lead Acid Batteries	-Canadian Battery Association -Interstate Battery System of Canada
Pharmaceuticals	-Health Product Stewardship Association

The collection infrastructure for mandatory product stewardship programs may consist of return-to-retail, collection events, mail-back programs, curbside collection and/or permanent depots. Producer Responsibility Organizations (PROs), set up by industry to manage the collection system, may directly operate their collection systems themselves or under contract to service providers including local government. For example, the CSWM participates as a collector of EPR products at the CVWMC through the collection of paint, solvents, fuels, pesticides, batteries, tires, lighting products, alarms, foam, film, glass, electronics and small appliances, and the Village of Cumberland participates by collecting containers and fibre packaging from single-family curbside homes with Recycle BC.

For residential PPP, Recycle BC provides recycling services either directly to communities or by working in partnership with local governments, First Nations, private companies, and other non-profit organizations. Within the CSWM, over 32,000 single and multi-family homes receive collection services for PPP materials, and 9 CSWM depots accept residential PPP under contract to Recycle BC.

In accordance with the BC Recycling Regulation, the costs of collection and management of Product Stewardship programs are to be borne by producers and consumers, not by local governments or taxpayers.

Most stewardship programs charge separate fees at the point of purchase to cover the costs of managing their obligated products or packaging, sometimes these fees are visible on the receipt and sometimes they are built into the cost; they are not government-applied taxes. The PROs are responsible for educating consumers regarding their programs and for providing information about collection options, fees, and handling practices. Most PROs maintain websites, and utilize the services of the Recycling Council of British Columbia to provide web and phone-based information on available collection services.

ENV has hired a consultant to work with PROs and local governments to establish accessibility criteria for EPR programs. This has been a challenge for residents and stakeholders alike, with PROs trying to keep costs low and collection efficient, and local governments trying to provide equitable service levels across their service areas. Consultation is ongoing but proposed guidelines are expected in 2023 or 2024, potentially in line with an amendment to the Recycling Regulation.

4.3.3 Ocean Plastics

In partnership with the Ocean Legacy Foundation, the CSWM service opened an Ocean Legacy depot at the CVWMC on June 8, 2022, in conjunction with Oceans Day. The addition of the depot and infrastructure from Ocean Legacy has been instrumental in assisting residents in the coastal communities with clean up, transportation and diversion from landfill of ghost gear and ocean plastics/debris that washes up every year.

In its first year of the program, the CSWM service arranged for the collection and transport of over 60 cubic yards of beach debris from Quadra and Denman Islands alone. The service participated in both the BC Shellfish Growers and Denman Island Marine Stewards clean up last summer, providing a place for debris to be brought, sorted and consolidated for shipment to the mainland for recycling. To date, more than 80 cubic yards of material has been shipped to the Ocean Legacy recycling facility that would normally have been landfilled.

For 2023, the CSWM service will continue to grow this program, as well as to help market the pellets produced from ocean debris; to further the need to move to a circular economy and promote utilizing materials made with recycled content versus utilizing virgin materials and wasting valuable resources many of which are required for human life.

4.4 Organics Diversion

Kitchen scraps and yard waste in a landfill will undergo anaerobic decomposition, which occurs in oxygen-poor environments, resulting in the generation of harmful greenhouse gases like methane, carbon dioxide, ammonia, organic acids, and heat. The 2017 CSWM waste composition audit, found that food waste currently accounts for about 30 per cent of the total garbage sent to the CSWM regional landfill. But we want to stress that food waste isn't garbage – and sending it to the landfill means it takes up valuable airspace while creating harmful greenhouse gases.

4.4.1 Regional Organics Compost Facility

The Regional Organics Compost Facility was commissioned in March 2023 and has been a strategic priority of the CSWM Board, providing in-region organics waste processing critical to advance the waste diversion goals of the SWMP. The facility is operated by a contractor, Berry & Vale, and is anticipated to accept 5,500 tonnes of inbound material in 2023.

The regional compost facility, located on 6300 Argonaut Road in City of Campbell River, enables co-mingled food and yard waste to be collected as part of the municipal curbside collection servicing approximately 30,000 single-family homes in the City of Campbell River, City of Courtenay, Town of Comox and Village of Cumberland. The goal is to eventually accept food waste from additional residents and commercial businesses to further reduce the CSWM waste Disposal Rate. At full capacity it will be able to compost 14,500 tonnes per year, and has room for expansion in the future.

A transfer station was also constructed at the CVWMC to consolidate and transport organics collected from residential homes in Comox, Cumberland and Courtenay to the composting facility in Campbell River. Organics are backhauled with garbage loads in a 53' tractor trailer to reduce GHG emissions. Loads are scaled at the CVWMC, and yard waste from the CRWMC is incorporated with the organics from the curbside program.

4.4.2 Residential Organics Collection

In January 2023 the City of Courtenay added food waste to their yard waste curbside collection program, joining the Town of Comox and Village of Cumberland. The City of Campbell River single-family homes joined in April 2023, limiting collection to 360 L per week but extending service to year-round.

4.4.3 Rural Composting

To support communities not part of the curbside collection program for the regional organics compost facility, CSWM offer workshops and compost education initiatives in the rural areas, as well as support composting programs for schools and community pilot projects in these communities where there are local compost champions. As composting programs in rural areas have differing needs compared to urban areas, it is imperative that CSWM education efforts acknowledge the unique drivers of composting in smaller and remote communities, where composting infrastructure is diverse and dispersed.

4.4.4 Food Recovery

The CSWM is not actively involved in coordinating food recovery initiatives, but there are not-for-profit groups and community volunteers such as the Food Bank, LUSH Valley Food Action Society, Second Harvest Food Rescue and Food Mesh which are active in this space.

More sustainable funding may be required for these groups in the future, and there are examples of other Regional Districts such as the Capital Regional District, that have supported food recovery initiatives financially to move organics diversion up the waste hierarchy.

4.4.5 Other Organics Diversion Opportunities

There is a private yard waste compost company, Vancouver Island Enterprises, which accepts yard waste for a fee for composting at two locations in the Comox Valley, by the airport and Royston Road. Yard waste can also be dropped off at the CRWMC and CVWMC for a fee by landscapers or other users.

4.5 Construction, Renovation and Demolition Material

CnD waste, including wood waste, roofing, asphalt, concrete and soil is received at transfer stations and waste management centres within the CSWM service.

Four private landfills in Campbell River all are permitted to accept construction and demolition material. In 2020 they accepted an estimated 20,000 tonnes of soil and construction material for burial.

In addition, concrete without rebar is accepted for recycling by Leighton Contracting in Campbell River, and wood waste is accepted for recycling at Pacific Wood Waste in the Comox Valley. Clean wood from the CVWMC and CRWMC are directed to Pacific Wood Waste for processing.

To incentivize the sorting of material on site tipping fees at the CRWMC and CVWMC penalize mixed loads; the recyclable materials generated from the construction sector, such as metal, drywall and clean wood must be segregated from the general waste or else the user will pay \$330 per tonne, versus \$145 per tonne. Further education and engagement with the construction community is planned as enforcement of these fees by Bylaw officers increases.

Deconstruction of buildings is an emerging industry with potential for significant material diversion in buildings of a certain age and construction. Building are taken apart with care for material salvage and reuse, however with increased labour and longer timelines. Local governments are implementing policies to promote deconstruction before demolition. The CSWM is reviewing policies and working with municipal building officials to raise awareness of tools and benefits of deconstruction.

4.5.1 Asbestos Containing Materials

Asbestos containing loads are not accepted at CSWM sites. Testing of all drywall that is pre-1990 is required for acceptance and recycling at all sites, including completion of a waste disposal application form. Residents with 9 bags or less of asbestos containing material (ACM) can bring their approved Asbestos Disposal Application Form (including analytical testing) with their bags to the CRWMC between 8:30 am and 4:30 pm Monday to Friday (excluding holidays). All residential customers are required to review and follow our residential asbestos disposal policy. More than 10 bags of ACM are no longer accepted at the CRWMC for disposal, larger residential loads and all commercial loads are directed to the Northwin landfill in Campbell River.

4.6 Industrial, Commercial and Institutional Properties

Generally, all commercial and institutional properties are required to hire a private waste collection company or haul garbage directly to the nearest landfill or transfer station. There are several waste collection companies operating in the CVRD and SRD, although more remote customers would not likely be able to secure private collection service. Customers with private garbage collection are not required to have recycling or organics pick-up.

In Comox and Cumberland, the municipalities have franchised all garbage collection services. Consequently, the collection company that provides curbside services also collects from all commercial and institutional properties within the municipal boundaries.

At this time, ICI customers are not able to direct organic material to the Regional Organics Compost Facility. It is likely that in 2024 material from these customers could be accepted, with strict conditions for feedstock quality.

The CSWM educator in schools has worked to establish recycling stations in a few schools within School District 71, in partnership with the school's staff. Expansion of these recycling opportunities, and the potential addition of organics diversion is currently being explored.

4.7 Disaster Debris Management

In 2010 a Technical Report was prepared by CH2MHill for the CVRD and SRD, Disaster Debris Response Plan (DDRP), January 2010. The manual is a guide to prepare personnel to deal effectively with a disaster debris event, and is a companion document to the Regional District and member Municipality Emergency Plans.

Disaster Debris is defined as debris produced by catastrophic events that generate significant amounts of mixed materials, which exceed the capacity of Local Government's day-to-day recycling and waste removal/collection services. Under each disaster scenario, the composition and quality of debris can vary significantly. The estimated debris generated in the event of a large scale 7.3 magnitude earthquake in the CSWM area is 486,000 tonnes. Much of this material, 355,000 tonnes, is concrete and steel and could be diverted from burial with the right preparation in place to activate sorting facilities and resources.

This would far exceed our annual disposal limit of 65,000 tonnes per year, and would devastate our landfill lifespan projections. Regular updating and familiarization with the DDRP are required to ensure an effective response should an event occur. Recent floods and fires in BC have demonstrated the impact that these climate related events can have on waste management systems, not just in the short-term, but months and years later.

The CSWM is planning to update the DDRP in 2023-24. It is prudent to prepare a Disaster Debris Management Plan for emergency and or operational disruptions in order to provide uninterrupted service for residents within the CSWM service area, as well as to provide guidance to the municipal and Indigenous partners, and the general public on how to safely manage their debris following a disaster.

As part of the preliminary development of the Disaster Debris Management Plan, staff is exploring a reciprocal contingency service agreement for solid waste disposal with the Regional District of Nanaimo (RDN) to provide an alternate disposal option in the event that access to the Regional

Landfill is impeded. Subject to both board's approval, such an agreement would see the disposal of solid waste from the RDN, on an emergency basis, at the Comox Valley Waste Management Centre. This is in alignment with other jurisdictions that have similar arrangements in case waste cannot be accepted at the primary disposal location.

4.8 Residual Waste Management

4.8.1 CSWM Landfills Permits and Compliance

Solid waste originating within the boundaries of the CVRD and SRD can be brought to one of 4 CSWM landfills.

All other MSW from SRD and CVRD is buried in the Engineered Landfill at the CVWMC in Cumberland, including the CVWMC and the CRWMC, or one of the CSWM transfer stations listed below.

The need for a new engineered landfill cell was identified as part of the 2012 Comox Strathcona SWMP. Cell 1 meets or exceeds all current provincial requirements for landfill design, construction, and operation. It includes a multilayer engineered liner system the size of 11 CFL football fields. The liner is designed to collect leachate formed when rainwater mixes with solid waste – to keep surface and ground water safe.

The leachate is transferred to a lined equalization pond before being treated by the new treatment facility, which will remove contaminants and return clean water to the environment.

4.8.2 Private Landfills

The Surgenor Landfill, a DLC waste landfill near Courtenay previously operated under OC-8834. Effective July 15, 2014, they were no longer authorized to discharge waste to their landfill.

There are four active private waste disposal facilities authorized by the Ministry in the CSWM service area:

The Northwin Landfill, or Uplands Landfill, (Authorization 107689) The landfill is approximately 48 hectares in size and is within one kilometer of the CRWMC. Currently, the property encompasses a large sand and gravel pit and the original Landfill. Prior to the issuance of the Operational Certificate on August 1, 2019, the original landfill operated under Permit PR-10807 issued for the landfill on June 1, 1992.

The Landfill includes the 85 metres (m) by 85 m Lined Cell, the Un-Lined Cell, approximately 7,000 m² in size, and Leachate Management Works. The Lined Cell was constructed with two 20 mil Coated Woven Polyethylene liners and is equipped with a leachate collection system and a leak detection drainage layer composed of medium sand between the upper and lower liner. The lined Cell intermittently accepts CnD waste, land clearing debris and soil meeting applicable Contaminated Sites Regulation (industrial land use standards), by appointment only. All accepted wastes are discharged to the Lined Cell, and no waste is discharged to the Un-Lined Cell.

The Discovery Park Landfill (Authorization PR-1602), a DLC landfill which is located on the former pulp and paper mill lands in Campbell River, and used to only accept waste from on-site. The permit was initially issued in 1972 and was most recently amended in 2018 to allow for offsite waste, to increase the rate of discharge to 82,500 m³ per year and to allow for a change in the

accepted materials. The authorized waste that can be accepted are identified as boiler ash, effluent treatment plant sludge, asbestos, dredged material, sediments from mill-yard storm water collection facilities, unusable wood waste, unusable or nonrecyclable construction/demolition debris, non-recyclable fibreglass debris, unsalvageable scrap metal, mineral soil, and other refuse as approved in writing by the Director. However, the refuse cannot be municipal solid waste. The landfill is lined and leachate captured is directed to the waste water treatment plant onsite for the former mill.

West Shore Aggregates Ltd. (Authorization PR-07730), a DLC landfill located across the road from the entrance to the CRWMC, previously operating as A. Trace and Sons Ltd. The original authorization was from 1987 but ownership of the site transitioned in 2006. During a compliance inspection from ENV and subsequent notice issued on October 28, 2021, the Co-owner informed ENV that since taking ownership of the Facility in 2006, no refuse has been discharged. ENV observed that the existing refuse has been covered and the discharge area is now being used to filter topsoil.

Giese Holdings (Authorization PR-9081, issued 1991), is a DLC landfill and open burn site near Campbell River authorized for up to 2,000 m³/year. The type of waste they can accept is stumps, trees, land clearing waste and selected building demolition debris. This operation is visible from the CRWMC site, the site is unlined and does not have leachate management.

4.9 Household Hazardous Waste

Although HHW is believed to make up less than 1 per cent of the waste disposed, it is particularly problematic due to its toxic nature. Its presence in the waste stream is a potential risk to the people that collect and dispose of waste, as a well as to the environment. As a result, BC has implemented several product stewardship programs to collect and properly dispose of many HHW products and residuals.

The CSWM participates in the EPR programs for used motor oil, antifreeze, batteries, paint, pesticides, and flammable liquids. These programs are discussed in more detail above in Extended Producer Responsibility. There are additional HHW materials such as pool chemicals, compressed fuel tanks, fertilizers, corrosive cleaners, and diesel fuel that are not a part of an EPR program and are accepted at the CVWMC and CRWMC two days a week and one Saturday a month each by a third-party hazardous waste contractor. These materials are typically accepted in small quantities for the minimum fee of \$10, and the remaining cost is funded through the CSWM regional service.

The Ministry has created a 5-year EPR Action Plan which proposes to add new products to the Recycling Regulation such as lithium ion batteries, compressed canisters, fire extinguishers and to continue to work on redefining the existing product categories for moderately hazardous products. The focus will be on broader, more generalized definitions as opposed to product-specific lists, with the intention to capture most products, including new ones that enter the marketplace in the future. This should reduce HHW management costs for the CSWM.

The Ministry has also released a 2022 Hazardous Waste Regulations (HWR) Intentions Paper summarizing consultation that was undertaken in 2021. Changes to the HWR are needed to better support the collection, diversion and recycling of moderate risk wastes that are stewarded by EPR programs in B.C. The requirements for transporters and return collection facilities (RCFs) that

receive and store moderate risk wastes have not been updated since first established in 1995 and are being updated to better reflect practices of today.

The scope of the proposed regulatory changes is limited to:

- Storing moderate risk wastes at RCFs;
- Transporting moderate risk wastes from RCFs to hazardous waste management facilities (e.g., processing, treatment, or disposal facilities); and
- Storing moderate risk wastes at in-transit consolidation facilities.

The Ministry intends to move forward with amendments in 2023. Implementation will include updated guidance documents for regulated entities. These regulation changes will help to support the safe storage of HHW materials at depots and cost-effective transportation from remote sites. Events are periodically held at other CSWM facilities to support HHW removal and management.

4.10 Illegal Dumping

Illegal dumping is the improper disposal of waste in public or private areas, such as parks, rural properties and logging roads. Illegal dumping impacts the environment and our community and is a growing problem. Since 2012, over 1000 sites with illegally dumped materials have been documented. The CSWM approved a public education strategy and an illegal dumping bylaw to ensure consistency in wording, enforcement and fines across the region. The most commonly found items at illegal dump sites are household garbage, including recyclables, construction materials, yard waste, appliances and furniture. Illegal dumpers often point to tipping fees as an excuse to dispose of trash in the environment. Illegal dumping statistics collected since 2012 show that 57 per cent of dump sites contain free for disposal or recyclable items. More than 142,000 kg of waste has been removed from our environment since the launch of the Illegal Dumping program. The success of the program is dependent on support from partnering municipalities, community groups and volunteers.

To support community clean up initiatives a tip fee waiver is available to groups cleaning up illegal dump sites or litter, and bringing it to a CSWM facility. The guiding principles of this program are eliminating or reducing environmental impact, improving social and community connectivity, and reducing financial hardship during emergency circumstances.

4.11 Unified Transportation Agreement

As part of the last SWMP update it was agreed that the CSWM service would accept responsibility for the waste, and the transportation and disposal of the waste received at a CSWM facility. This transportation of waste had sometimes been the responsibility of a local service area. Waste received from a resident, business, or the municipal residential curbside collection contractor at a CSWM facility (landfill, transfer station, depot, or waste management centre) becomes the legal property of the CSWM. Under the British Columbia *Environmental Management Act*, the ownership of that waste becomes the responsibility of the Service. Environmental accountability for waste processing, transportation, disposal and environmental long-term care is included in the ownership of solid waste. As the legal owner of the waste, the Service provides uniform application of fees as a part of solid waste services for transportation of CSWM owned waste under the Unified Transportation

agreement as approved by the Board in 2012, which has realized efficiency impacts to overall waste transportation costs and reduced liability risk to the Service.

4.12 Transfer Stations

The CSWM transfer stations that receive residual bulk waste are:

- CRWMC
- Hornby Island
- Cortes Island
- Village of Sayward
- Village of Gold River

From an ownership perspective, this is where the legal ownership of residual waste passes from the municipalities, businesses and residents to the Service.

There is also a transfer station for the consolidation of organic waste from the Comox Valley at the CVWMC.

4.13 Closed Landfills

The following landfills are closed and no longer in use. Updates since the last SWMP are reflected below.

- Denman Island (1991)
- Hornby Island (1993)
- Cortes Island (1995) - formal closure may be required
- Sayward (1995) - formal closure may be required
- Field Sawmill (1998, PR-4865)
 - Submitted final conditions of abandonment requirements in February 2022 to the ENV with the submission of a Closure Assessment Report following groundwater monitoring and minor closure upgrades.
- Pidgeon Lake Landfill at CVWMC (2019, OC-5050)
 - The anticipated closure of this landfill and transition to the engineered landfill was reflected in an update to the operating certificate in 2016.
 - Continued operation of the Landfill Gas (LF) collection system is necessary for this landfill based on the modelled methane generation and waste in place.
- Campbell River Landfill at CRWMC (2023, OC-2401)
 - An updated Closure Plan was submitted to ENV in 2020 and accepted in February 2, 2021.
 - The LFG system still needs to be commissioned when all of the necessary equipment becomes available.

- The operating certificate needs to be amended to reflect that the landfill is no longer accepting MSW for disposal.

While these landfills are no longer in use, post-closure care is still required for many and financial liabilities exist for their management. Ongoing groundwater monitoring, landfill gas capture and cover maintenance are modern closure requirements under the current landfill criteria.

4.14 Active CSWM MSW Landfills

The legal ownership of the bulk waste transported from municipalities, CSWM transfer stations, municipal residential curbside contract haulers or, commercial and industrial haulers occurs when it is delivered to one of four CVRD active landfills. Each of the CSWM landfills that receive residual waste for final disposal are discussed below.

4.14.1 Zeballos Landfill

The Zeballos Landfill received an estimated 230 tonnes of waste in 2022 from the communities of Ehatis, Ocluje, and the Village of Zeballos. Residents of Ka:'yu:'k't'h'/Chek'tles7et'h' First Nations may also use the landfill if self-hauling. The landfill in Zeballos is open Wednesday 1:00 pm to 3:00 pm and Saturday 12:00 pm to 3:00 pm. The landfill is located on granular material and there is no leachate or landfill gas management infrastructure. This landfill is slated for closure in 2028. Additional information is available in section 5.9.

4.14.2 Tahsis Landfill

The Tahsis Landfill received an estimated 616 tonnes of waste in 2022 from the Village of Tahsis and surrounding commercial activities. The landfill is open Wednesdays from 8:00 am to 3:30 pm and Saturdays from 10:00 am to 3:30 pm and is operated by Village staff under contract to the CSWM. The landfill is located on granular material and there is no leachate or landfill gas management infrastructure. This landfill is slated for closure in 2030. Additional information is available in section 5.10.

4.14.3 Gold River Landfill

The Gold River landfill stopped accepting MSW in 1998 and only accepts inert waste now. In 2022 the landfill accepted an estimated 394 tonnes of material for disposal. The landfill does not have a bear fence as there are no attractants brought to site, and it is not open to the public. The landfill is located on granular material and there is no leachate or landfill gas management infrastructure. This landfill is slated for closure in 2029. Additional information is available in section 5.11.

4.14.4 CVWMC Engineered Landfill

This landfill was permitted for Cells 1, 2 and 3 with the update to the operating certificate (OC-5050) in 2016. It is permitted to accept 65,000 tonnes of waste per year, and buried 61,944 tonnes in 2022. Waste transferred and buried from the CRWMC was 21,709 tonnes, with 3,594 tonnes buried at the CRWMC in 2022 before it was closed. Cell 1 is currently being filled and is expected to reach capacity in 2024. Cell 2 is nearing completion and will begin accepting waste in the summer of 2023; it is expected to have capacity until 2037. The new engineered regional landfill in Cumberland has land capacity for airspace to last 40 to 62 years depending on the success of diversion programs. The 2012 SWMP provides authorization for the lateral expansion of the new engineered landfill for Cells 1, 2 and 3 but will require future Ministry approval to construct Cells 4, 5, 6 as detailed in the *Comox Valley Waste Management Center Masterplan*, written by AECOM in 2017. The final height of the

landfill is described in the Updated Landfill Design and Closure Plan for the CVWMC by Tetra Tech EBA from 2016 as 185 m above sea level. The technical maximum height of the landfill if all five designed cells were constructed would be 212 m above sea level, potentially extending the life of the landfill by adding 1,336,380 m³ without increasing the footprint. This was explored by AECOM in 2020 and delivered in a letter to the CSWM, *CVWMC Top of Waste Redesign*, March 10, 2020. Cell 6, as imagined in the 2017 *Comox Valley Waste Management Centre Masterplan* by AECOM, is a lateral extension of the Pidgeon Lake Landfill to the south-east, with a capacity of 885,560 m³.

The landfill is fully lined underneath the waste and has a leachate collection system which directs leachate to an equalization pond, and then to a membrane bioreactor wastewater treatment plant onsite. A second leachate equalization pond was constructed in 2022-23 and will be used to even out the processing across the dry months of the year and reduce peak demands on the treatment plant. Leachate is tested regularly in the laboratory onsite, and samples are sent to a third party monthly for analysis against the operating certificate criteria.

The landfill is on 307 acres of private land owned by the CVRD, within the municipal boundary of the Village of Cumberland. The regional engineered landfill at the CVWMC is located in K'ómoks First Nation unceded traditional territory. As stewards of the land, K'ómoks First Nation has a strong interest in how waste is being managed at the regional landfill, how it will be managed in the Comox Valley in the future, and the protection of watershed health in their traditional territories at the regional landfill as it pertains to the management of groundwater. To that end, the CSWM has been actively consulting with K'ómoks First Nation, and is working to pursue a Memorandum of Understanding (MOU) that would:

1. Recognize that the regional landfill is located in K'ómoks First Nation territory and acknowledge this decision was made without K'ómoks consent; and
2. Commit both parties to work together on decisions regarding waste management in future.

Current compliance issues related to the CVWMC in general include groundwater quality exceedances at the property boundary, surface water exceedances and discharged leachate quality and quantity exceedances. Additional information is available in section 5.1.

4.15 Resource Recovery

The 2012 SWMP identified the need for significant capital investments to transition the CSWM service through landfill closures and the development of a regional engineered landfill in Cumberland. Faced with significant financial pressures ahead at the time, the CSWM Board explored the lowest cost disposal method for residual waste, including investigating Waste to Energy (WTE) technology. Two reviews of WTE technologies by AECOM in 2011 and Morrison Hershfield in 2017/2018 were conducted. Both evaluations concluded that WTE technologies are financially cost prohibitive and carry a higher level of risk as compared with landfilling and diversion programs, even when considering the long-term financial value of airspace in an engineering landfill. The financial risks are much greater with emerging/unproven technologies as the market for and the value of refuse derived fuel remains unproven.

WTE technologies and costs are to be explored as an alternative to landfills only to be considered after the CSWM has reached the 70 per cent diversion criteria established by the Ministry. As outlined in an October 11, 2018 presentation by the Ministry to the CSWM Board, and further

reiterated in their January 25, 2019 follow-up letter, the CSWM service needs to demonstrate that reasonable effort has been made to adhere to the 5R pollution hierarchy to achieve over 70 per cent waste diversion prior to considering the inclusion of an energy recovery process in our waste management system. At this time, the CSWM service diversion rate is only at approximately 50 to 53 per cent.

5 Summary of CSWM Facilities and Programs by Region

5.1 Comox Valley Waste Management Centre

5.1.1 Site Location & Information

The CVWMC is located in Cumberland, in an area currently surrounded by a working forest, now with an industrial park development as a neighbour and additional development pressure from the expanding Village of Cumberland. The facility is 2 km from the main entrance to the Village and conveniently located close to Inland Island Highway 19, the main regional north-south transportation route.

The site was formerly used for disposal of coal mining related waste from 1849 to 1967. A railway spur line was located at the northeast area of the site running from north to south as part of the coal mining operations in Cumberland. From 1964 to 1978, the Village of Cumberland operated the site as an unregulated dumpsite. On August 1, 1977, the CVRD leased the land from Weldwood of Canada Limited to take over the refuse disposal site operations. The site operated under discharge permit PR-5050, issued on May 11, 1978, until an amended OC was issued in November 2003. In January 2012, the CVRD acquired ownership of the site and adjacent land parcels. The site currently operates under Operating Certificate OC-5050, last amended and approved on September 20, 2016. A subsequent amendment has been submitted to the Ministry and is currently under review.

In addition to the landfilling of MSW, the site has known coal waste piles in the northwest and southeast portions of the site, previously hosted a contaminated soil remediation facility, a former wood waste landfill in the southern portion of the site, and operated an organics composting pilot from 2013 until 2023.

5.1.1.1 Community Population:

The CVWMC provides diversion opportunities to all of the residents in the CVRD, and receives MSW from the CVRD as well as the majority of the SRD communities. The MSW from the Villages of Tahsis, Zeballos and some waste from the Village of Gold River are not buried here. The 2021 census population of the CVRD is 72,445 and includes the residents of the Village of Cumberland, City of Courtenay and Town of Comox as well as all the CVRD electoral area residents. The total 2021 census population contributing MSW to the CVWMC is estimated to be 119,949 residents (excluding Tahsis, Zeballos, Ehatish and Oclucje).

5.1.1.2 Operations

The site is owned and operated by the CVRD and currently includes a regional landfill, a bulky diversion area, a full-service recycling depot, an organics transfer station, a HHW depot, and a biosolids composting operation. This is a CVRD union staffed site that operates with several attendants and equipment operators, as well as one supervisor and a diversion and support coordinator that are responsible for operations at this facility under the Manager of Operations.

This facility is the CSWM's most active site and receives an annual average of 315 customers per day over the scale, with over 450 customers on busy days, and a comparable number using the recycling depot which is accessed from outside the scaled area. Facility use has increased by 34 per cent between 2017 and 2022, this is attributed to population growth, construction and development as well as improved diversion opportunities.

Customers are directed to drop their waste at either the bin wall if small loads, the tipping trailer area, or directly at the active face if they are large commercial vehicles.

The original Pidgeon Lake Landfill was closed and capped in 2019, with landfill gas collection beginning in 2016 during the first phase of closure. This landfill was built over existing ground and is a natural attenuation landfill, with no capture or treatment of leachate. Leachate quantity and quality are improving due to the installation of the low permeability cover over the closed landfill.

All MSW is now disposed of in an engineered landfill on site, which has been in operation since 2017, and was designed to meet the 2016 BC Ministry of Environment Landfill Criteria for Municipal Solid Waste. Since May 2022 all waste received at the CRWMC has been transferred to the CVWMC for burial. Prior to the waste transfer, the CVWMC would receive around 37,000 t of MSW for burial each year; in 2022, it received 61,994 t for disposal. An additional 8,446 t were diverted (organics program, batteries, scrap metal etc.), and 4,347 t of clean fill was received and used as a daily cover.

Leachate is captured from the engineered landfill and treated through an onsite level four wastewater treatment plant, and treated leachate is returned to the local water cycle through infiltration onsite. Over 46,000 m³ of leachate was treated and released in 2022. Landfill gas is actively captured from wells installed within the Pidgeon Lake Landfill, as well as within Cell 1 of the engineered landfill. The gas is flared onsite to reduce the impact to the environment. In 2022, 35,178 tonnes of CO₂ GHG equivalent (tCO₂e) were captured and destroyed from the collection of methane gas generated by the waste. A small portion of the landfill gas was used beneficially in the boiler to pre-heat the leachate in the winter months to aid in effective treatment.

The biosolids composting operation, landfill gas collection and flare, as well as the leachate treatment plant are all operated by CVRD wastewater staff.

For a full list of materials accepted see Table 9.

5.1.1.3 Hours of Operation

The depot and landfill are open 8:00 am to 5:30 pm seven days per week, excluding statutory holidays. This accounts for 3,363 facility hours annually.

5.1.1.4 Parking

Although there are no parking spaces on site, this location can accommodate many vehicles at once, including walking floor trailers, front end loaders, tipping trailers, self-haul customers and 40-yard roll off bins. There are approximately 14 spots at the bin wall and 8 parking stalls in the Recycling Depot area. Site activity is controlled by staff at the scale house, ensuring safe operation of the drop-off area for MSW.

5.1.1.5 Solid Waste Events in the Community

The service runs annual illegal dumping clean-up events in the community in conjunction with Earth Week, these events run through Small Planet Energy who offers prizes to residents based on the waste they collect. Rotary is also a key player in these events as well as several other non-profit organizations. Landfill tours are held each year with over 35 classrooms participating from school districts 71 and 72.

5.1.1.6 Free Store

There is no free store at this site. Multiple thrift stores and online resale opportunities are available in the community.

5.1.1.7 Complementary Municipal Operations

The City of Courtenay and the Town of Comox contract the collection of weekly garbage and organics, and bi-weekly recycling pick-up from single-family homes and some multi-family homes. Garbage containers are limited to 1 can up to 121 L, recycling is unlimited and single-stream collection, and organics are limited to 360 L per residence. In January 2024, they will move to an automated collection contract with Emterra Environmental and change garbage from weekly to bi-weekly, and provide carts to all residences

In 2022 the City of Courtenay stopped providing collection services to ICI and multi-family residences. Each building and business are now responsible to contract for solid waste services directly with a private company. In Comox and Cumberland services to ICI customers are still offered.

The Village of Cumberland contracts the collection of weekly organics, and alternating bi-weekly garbage and recycling pick-up from single-family homes and multi-family homes. Garbage containers are limited to 1 can up to 77 L, recycling is unlimited and single-stream collection, and organics is also unlimited.

The CVRD also has a curbside garbage and recycling service (CVRD Function 366) for approximately 1,110 households living in and around the old Royston Improvement District. The collection is contracted to Emterra Environmental and is manual pick-up for weekly garbage (1 can) and bi-weekly recycling (unlimited). All other rural CVRD residents on Vancouver Island are responsible for their own waste disposal and recycling.

There is no curbside glass pick-up included in any of the municipal or CVRD provided collection services.

5.1.1.8 Complementary Community Initiatives

Habitat for Humanity has a small store 10.4 km from the transfer station. This facility accepts EPR materials for recycling, through the CSWM reuse subsidy. There are multiple reuse stores located in Campbell River as well as a Return-it depot, located 9.3 km from the transfer station.

There is a private recycling depot, Courtenay Return-It, which accepts many EPR streams as well as cans and bottles and is open 6 days a week. A second private depot was open in Comox until 2022 when they had to leave their location and were not able to find appropriately zoned property to reopen. At this time, a temporary Express drop-off location for Encorp bottle and cans is open in Comox.

5.1.2 Financial Information

5.1.2.1 Assets and Land

The land, capital infrastructure and equipment are all owned by the CVRD. In anticipation of development around the site an additional 67 acres of land was purchased from a private landowner to the north, south and west of the site in 2021 to assist in limiting the visual impact of the landfill on neighbours. The total site is 307 acres, and one of the largest developed land parcels in the Village of Cumberland.

Operations are supported by necessary heavy equipment to obtain landfill compaction and to assist in efficiently handling diversion materials such as compactors, a loader, excavators, a shredder and roll-off truck.

Aside from the landfills themselves, onsite assets funded by function 391 include an organics transfer station, staff trailer, lunchroom, maintenance shop, two scales, scale house, HHW tent, drywall tent, recycling depot, leachate treatment plant, leachate ponds, landfill gas flare and controls, water wells, roads and a bear fence.

5.1.2.2 Expenses - CSWM Regional Service 391

• Facility Operations – staffing and wages	\$1,200,000
• Site Lease	\$0
• Annual host community payment to Cumberland	\$300,000
• Bird Control	\$135,000 (split with CR)
• Drywall Diversion	\$210,000 (split with CR)
• HHW	\$144,330 (split with CR)
• Wood waste diversion	\$25,000 (split with CR)
• Commercial Recycling & Recycling transport	\$16,500
• Tire processing	\$5,000
• Freon removal	\$7,000
• Site Administration	\$42,000
• Utilities	\$16,937
• Equipment	\$557,347
• Wood waste grinding	\$45,000
• Contributions to Cumberland for paving	\$300,000
	\$3,004,114

5.1.2.3 Expenses – Municipal

The level of service is different in each jurisdiction for curbside services. In 2023, \$237.50 was the residential waste collection rate for the City of Courtenay. For residents in the Town of Comox, \$260.96 is the 2023 utility fee for solid waste collection. A residential unit pays \$174.40, and an ICI customer pays \$233.60 in 2023 within the Village of Cumberland. The cost to residents of Royston in 2023 is \$133.64 after the Recycle BC incentive for curbside recycling.

5.1.2.4 Revenues

Tipping fees are set in CVRD Bylaw No. 720, authorized through Bylaw No. 1822 “Regional Solid Waste Plan Local Service Area Establishment Bylaw 1996”. The only materials free to dispose are

scrap metal and materials covered by EPR programs, all other materials brought to the site have a fee associated with them to offset the cost of management either through disposal, or diversion. Rates for each material stream can be found in the [CSWM Tipping Fees and Disposal Regulation](#).

In 2022, \$6,538,602 of tipping fees were collected at the CVWMC and went towards funding the CSWM 391 service. The facility is able to receive about \$300,000 in recoveries from scrap metal and EPR programs, depending on the scrap metal value each year.

5.1.3 Photos



(Scale Area)



(Bin Wall)



(Drywall Tent)



(Pidgeon lake Landfill)



(Recycling Drop-off)

5.1.4 Map



Table 9 Comox Valley Waste Management Centre Accepted Materials

EPR PROGRAM STREAMS			
Recycle BC (residential packaging and paper)	☐	Product Care Light Recycle (bulbs + tubes)	☐
BDL (alcoholic refundables)	D	Product Care Plus (HHW + paint)	☐
Return-It (beverage refundables)	D	Product Care (alarms CO ₂ + smoke)	☐
MARR (large appliances)	☐	Call2Recycle (small batteries)	☐
ElectroRecycle (small appliance & power tools)	☐	BUCOMA (used oil + antifreeze)	☐
EPRA (electronics)	☐	CBA (lead acid batteries)	☐
OPEIC (outdoor power equipment)	☐	Tire Stewardship BC (tires off rim)	☐
TRP (thermostats)	☐		

NON-EPR DIVERSION STREAMS			
Scrap Metal	☐	Drywall	☐
Commercial Cardboard	☐	Propane and Compressed Gas Tanks	☐
Commercial Mixed Recycling	☐	Fire Extinguishers	☐
Clean Wood Waste	☐	Mattresses	☐
Yard Waste	☐	Tires on Rims	☐
Food Waste	☐	Automobiles	☐
Redux (cooking oil)	☐	Household Items	☐
Clothing and Textiles	☐	Books	☐
Furniture	☐	Ocean Plastics	☐

WASTE ACCEPTED AND DESTINED FOR DISPOSAL			
Self-hauled Garbage	☐	Asbestos Waste	☐
Garbage from Curbside Collection	☐	Controlled Waste	☐
Construction, Renovation and Demolition	☐		

- ☐ Not Accepted
- ☐ Accepted and revenue goes to CSWM
- D Accepted without deposit returned

5.2 Campbell River Waste Management Centre

5.2.1 Site Location and Information

The CRWMC is located north of Campbell River off of Highway 28 at 6700 Argonaut Road. The site includes a closed landfill, waste transfer station, recycling depot, HHW collection, diversion of bulky materials and the Regional Organics Compost Facility. The site is in an industrial area with Crown forest land, quarries, a scrap yard, concrete plant and construction waste landfills as neighbours. There are a few residential properties along Argonaut Road, the closest is about 200 m to the north west of the organics facility.

The site was operated as an aggregate extraction facility in the 1950s, and then used as an unregulated dump site prior to the 1970s. The City of Campbell River took over site operations in the mid-1970s, until the regional district took over operations in 1999. The landfill reached capacity in May 2023, and construction took place to cover and close the landfill, as well as to collect landfill gas.

5.2.1.1 Community Population

This transfer station serves the communities of Campbell River including the We Wai Kai, Wei Wai Kum, Tlowitsis and Homalco First Nations. SRD residents from Sayward, Quadra Island, Electoral Areas A and D also utilize this facility to dispose of their waste. The estimated population of the City of Campbell River is 35,519 and adjacent contributing waste shed is 8,088.

5.2.1.2 Operations

The site is operated under contract by Berry & Vale Contracting Ltd., who have been operating this facility since before the regional district took ownership of the site. Since the landfill reached capacity in May 2022, all waste accepted at the facility is consolidated into 53' walking floor trailers and hauled to the CVWMC for disposal. The site has a recycling area outside of the scale which includes HHW collection two days a week and one Saturday a month. The HHW area is staffed by a third-party contractor specializing in the identification and handling of hazardous materials. A separate area for commercial recycling is available for users.

Across the scale users can divert tires, drywall, wood waste, yard waste, rubble, and mattresses. Garbage is loaded into transfer trailers and brought down to the CVWMC 3-5 times a day, seven days a week. When available, transfer loads are backhauled with organics from the Comox Valley to the adjacent organics compost facility. Facility use has increased by 55per cent between 2017 and 2022 believed to be due to changes in yard waste collection, closure of unstaffed recycling depots and increased development in the region.

The only changes that occurred with the transition to a transfer station from a landfill was that larger vehicles such as 40-yard bins are directed to deliver MSW directly to the CVWMC to reduce double handling. Asbestos was previously buried on site, and is now only accepted in small quantities for transfer to a private landfill. For a full list of materials accepted see Table 10.

5.2.1.3 Hours of Operation

The waste management centre is open 8:30 to 5:30 seven days per week, excluding statutory holidays; 3186 hours per year and 354 days.

5.2.1.4 Parking

Vehicles arriving to recycle are directed to the right before the scale on site, to gain access to the HHW depot and recycling area. Although there are no parking spaces on site, this location can accommodate many vehicles at once, including pick-up trucks.

Customers coming to drop off MSW, to divert drywall or wood waste enter the facility over the scale. There are approximately three spots in the transfer station for vehicles to drop waste off, including for front end loaders.

5.2.1.5 Solid Waste Events in the Community

The 391 service runs annual illegal dumping clean-up events in the community in conjunction with Earth Week, these events run through Small Planet Energy who offers prizes to residents based on the waste they collect. Rotary is also a key player in these events, as well as several smaller local businesses.

5.2.1.6 Free Store

There is no free store at this site.

5.2.1.7 Complementary Municipal Operations

The City of Campbell River contracts Emterra Environmental for collection of waste at the curb which includes weekly collection of garbage, recycling and organics. Recycling is accepted in unlimited quantities, while yard waste and food scraps are limited to 360 L per week, and garbage is limited to 80 L per household. Waste is accepted at the CRWMC from curbside trucks, and organics are delivered to the adjacent compost facility. Single family and duplex properties are eligible for curbside collection through the municipal contract. Multi-family properties and ICI customers contract directly for their waste management services, outside of the municipal contract. Multi-family properties are required to have recycling collection. The City is currently contracting for a new curbside contract.

When the City began accepting food scraps with yard waste collection in April 2023 they moved -to year-round collection of organics from previously having April to November collection. Free drop off of yard waste at a depot was stopped in 2021 due to facility challenges, and unlimited yard waste collection was ceased by the City in 2023. This has increased traffic to the CRWMC for yard waste drop off.

5.2.1.8 Complementary Community Initiatives

Habitat for Humanity has a large ReStore location in town, just 9 km from the CRWMC. This facility accepts EPR materials for recycling, and is receiving support through the CSWM reuse subsidy. There are multiple thrift or reuse stores located in Campbell River offering collection of textiles and household goods. In addition, there is a privately owned and operated recycling depot, located 9.3 km from the transfer station. This facility offers collection for many EPR programs, including cans and bottles.

5.2.2 Financial Information

5.2.2.1 Assets and Land

The land is offered through the Province as a long-term lease held in the name of the CVRD, and is 73 acres including the landfill, transfer station and compost facility. The northern portion of the site is within the Agricultural Land Reserve (ALR); the compost facility and surface water pond have a permit to operate within the ALR lands.

All of the equipment used in the operations of the facility are owned and operated by Berry & Vale as well as supporting office buildings and equipment maintenance structures. This includes the walking floor trailers used for waste transfer as well as equipment to support waste and recycling management.

All of the remaining capital infrastructure was funded and is maintained by the CVRD, through Function 391. Aside from the landfill, the assets onsite funded through 391 include the waste transfer building, HHW tent, drywall tent, storm water pond, regional organics compost facility, water well, and bear fence.

5.2.2.2 *Expenses - CSWM Regional Service 391*

• Facility Operations	\$1,291,040	
• Site Lease	\$0	
• Unified Transportation	\$580,000	
• Bird Control	\$135,000 (split with CV)	
• Drywall Diversion	\$210,000 (split with CV)	
• HHW	\$144,330 (split with CV)	
• Wood waste diversion	\$25,000 (split with CV)	
• Commercial Recycling	\$8,500	
• Tire processing	\$5,000	
• Freon removal	\$5,000	
• Site Administration	\$33,750	
		\$2,437,620

5.2.2.3 *Expenses – Municipal*

The cost to residents of the City of Campbell River for curbside collection services is \$233 per household in 2023, increasing to \$245 in 2024.

5.2.2.4 *Revenues*

Tipping fees are set in CVRD Bylaw No. 720, authorized through Bylaw No. 1822 “Regional Solid Waste Plan Local Service Area Establishment Bylaw 1996”. The only materials free to dispose are scrap metal and materials covered by EPR programs, all other materials brought to the site have a fee associated with them to offset the cost of management either through disposal, or diversion. Rates for each material stream can be found in the CSWM Tipping Fees and Disposal Regulation. In 2022, \$3,995,669 of tipping fees were collected at the CRWMC and went towards funding the CSWM 391 service. The recoveries from EPR programs and scrap metal is approximately \$185,000 annually, but can vary greatly depending on scrap metal value.

5.2.3 Photos



(HHW Area)



(Bin Wall Area)



(Scale Area)



(Divertible Wood)



(Commercial Recycling)



(Drywall Tent)



(Transfer Station)



(Inside Transfer Station)



(Landfill)

5.2.4 Map

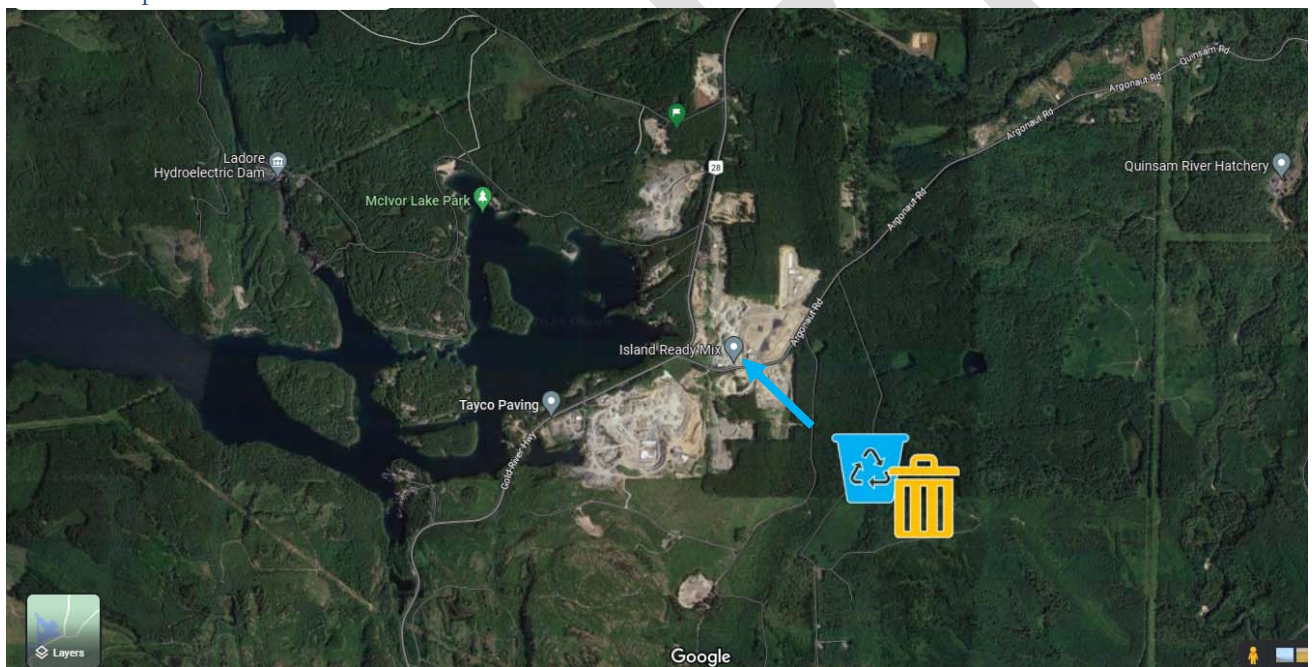


Table 10 Campbell River Waste Management Centre Accepted Materials

EPR PROGRAM STREAMS			
Recycle BC (residential packaging and paper)	☐	Product Care Light Recycle (bulbs + tubes)	☐
BDL (alcoholic refundables)	☐	Product Care Plus (HHW + paint)	☐
Return-It (beverage refundables)	☐	Product Care (alarms CO ₂ + smoke)	☐
MARR (large appliances)	☐	Call2Recycle (small batteries)	☐
ElectroRecycle (small appliance & power tools)	☐	BUCOMA (used oil + antifreeze)	☐
EPRA (electronics)	☐	CBA (lead acid batteries)	☐
OPEIC (outdoor power equipment)	☐	Tire Stewardship BC (tires off rim)	☐
TRP (thermostats)	☐		

NON-EPR DIVERSION STREAMS			
Scrap Metal	☐	Drywall	☐
Commercial Cardboard	☐	Propane and Compressed Gas Tanks	☐
Commercial Mixed Recycling	☐	Fire Extinguishers	☐
Clean Wood Waste	☐	Mattresses	☐
Yard Waste	☐	Tires on Rims	☐
Food Waste	☐	Automobiles	☐
Redux (cooking oil)	☐	Household Items	☐
Clothing and Textiles	☐	Books	☐
Furniture	☐	Ocean Plastics	☐

WASTE ACCEPTED AND DESTINED FOR DISPOSAL			
Self-hauled Garbage	☐	Asbestos Waste	☐
Garbage from Curbside Collection	☒	Controlled Waste	☐
Construction, Renovation and Demolition	☐		

- ☐ Not Accepted
- ☐ Accepted and revenue goes to CSWM

5.3 Hornby Island Recycling Depot

5.3.1 Site Location and Information

The recycling depot on Hornby Island was opened in 1978, and has a long history of community involvement and leadership within the province. There was a landfill on Hornby that was closed in 1993 and there is currently a waste transfer facility, co-located with the recycling depot, at 3500 Central Road on Hornby Island.

5.3.1.1 *Community Population*

This depot serves the community of Hornby Island, which has 1,225 permanent residents. Out of all areas within the service, Hornby Island receives the highest proportion of tourists each year and has the highest percentage of non-resident dwellings. This seasonal fluctuation increases the rate of waste and recycling generated on a per capita basis.

5.3.1.2 *Operations*

The facility work plan for the year is set by the Hornby Island Rate Payers Association (HIRRA) Solid Waste Committee; the CSWM oversees the operating contract for the facility with HIRRA. There are three staff members who work in the recycling depot, one equipment operator and one manager on site, which is a unionized site. HIRRA is responsible for establishing an annual budget for the facility, which is reviewed and adopted by the CVRD Board (CVRD Function 360).

There is a building and fenced compound for HHW, a recycling depot building, a free store and library, drop bays for MSW, construction and demolition waste, metal, yard waste and wood waste, as well as an area to segregate scrap metal, tires and drywall. Commercial recycling of cardboard and packaging is baled and kept separate from residential recycling.

There is not scale on site, but fees are collected by staff for the waste that is brought in.

5.3.1.3 *Hours of Operation*

The depot and transfer station are open to residents and commercial users Friday through Sunday from 9:00 am to 1:00 pm for a total of 624 hours a year. In the summer, the hours are extended to include Thursday mornings, for a total of 80 hours. To accommodate the busy season, a dedicated time for commercial customers is also added in the summer, Monday mornings for four hours, for a total of 80 hours.

5.3.1.4 *Parking*

There are approximately 20 parking spots on site, in front of various buildings and at the bin wall.

5.3.1.5 *Solid Waste Events in the Community*

The community collects Ocean debris each year and this material is segregated and consolidated in Cumberland before being sent to the mainland for recycling through Ocean Legacy.

5.3.1.6 *Free Store*

There is a large free store on Hornby that is staffed by volunteers, they accept clothing, books, magazines, furniture, kitchen equipment, toys, gardening tools and much more. There are between three and four volunteers that manage the free store and library. The hours of operation are limited by volunteer availability and are currently Friday, Saturday and Sunday from 10 am to 12 pm. In July and August, it is also open on Thursdays.

5.3.1.7 Complementary Municipal Operations

There is no curbside collection program for waste or recycling on Hornby for residents or businesses. Businesses are compelled to use the transfer station and commercial recycling days are offered seasonally from May to September on Thursdays.

5.3.1.8 Complementary Community Initiatives

The café and restaurants on Hornby all participate in the recycling programs offered at the depot, and seasonally compost all residual food waste.

5.3.2 Financial Information

5.3.2.1 Assets and Land

The CSWM service holds the Crown lease for the property and the 391 service has funded the capital infrastructure for the recycling building, the HHW building, the maintenance building, the drop bays and the scale shack. The original free store building was funded by HIRRA but in 2013 it was closed to the public and was rebuilt with funding from CVRD Function 360.

5.3.2.2 Expenses - CSWM Regional Service 391

- | | |
|--|----------|
| • Facility Operations – Maintenance of Recycling bldg. | \$8,160 |
| • Site Lease | \$0 |
| • Unified Transportation | \$80,000 |

5.3.2.3 Expenses – CVRD Function 360

In addition to the contribution from the regional service, the operation of the facility is funded through tipping fees collected at the site for waste disposal by HIRRA, and the CVRD Function 360 which is a tax requisition paid by the residents of Hornby Island. The operational grant requested by HIRRA in 2023 was \$395,104, plus additional expenses of \$10,097 for support services, legal fees etc. and \$2,000 transferred to Function 391 for staff time.

5.3.2.4 Revenues - CVRD Function 360

Tipping fees are collected at the site and are set by HIRRA. Customers are charged at the facility by volume not weight, for example small, medium and large bags are \$2, \$4 and \$6 respectively. These revenues are collected by HIRRA to offset their cost to dispose of waste at the CVWMC and to run various diversion and operational programs under CVRD Function 360. Once waste is transported to the CVWMC it is weighed and CSWM tipping fees are charged to HIRRA and paid for by Function 360.

5.3.2.5 Revenues - CVRD Function 391

The 391 service receives the revenue for all EPR and scrap metal diversion. There are no agreements with product stewardships with the exception of tires. All appliances, electronics and Product Care materials are accepted but not all programs are revenue generating due to the transportation costs. A transfer of \$2,000 is made from Function 360 to 391 for CSWM staff time to the service. The approximate annual revenue from scrap metal and all EPR programs is \$24,700.

5.3.3 Photos



(Entrance sign)



(Free store)



(Bin Wall)



(Recycling Depot Area)



(Tires and Product Care Building)

5.3.4 Map

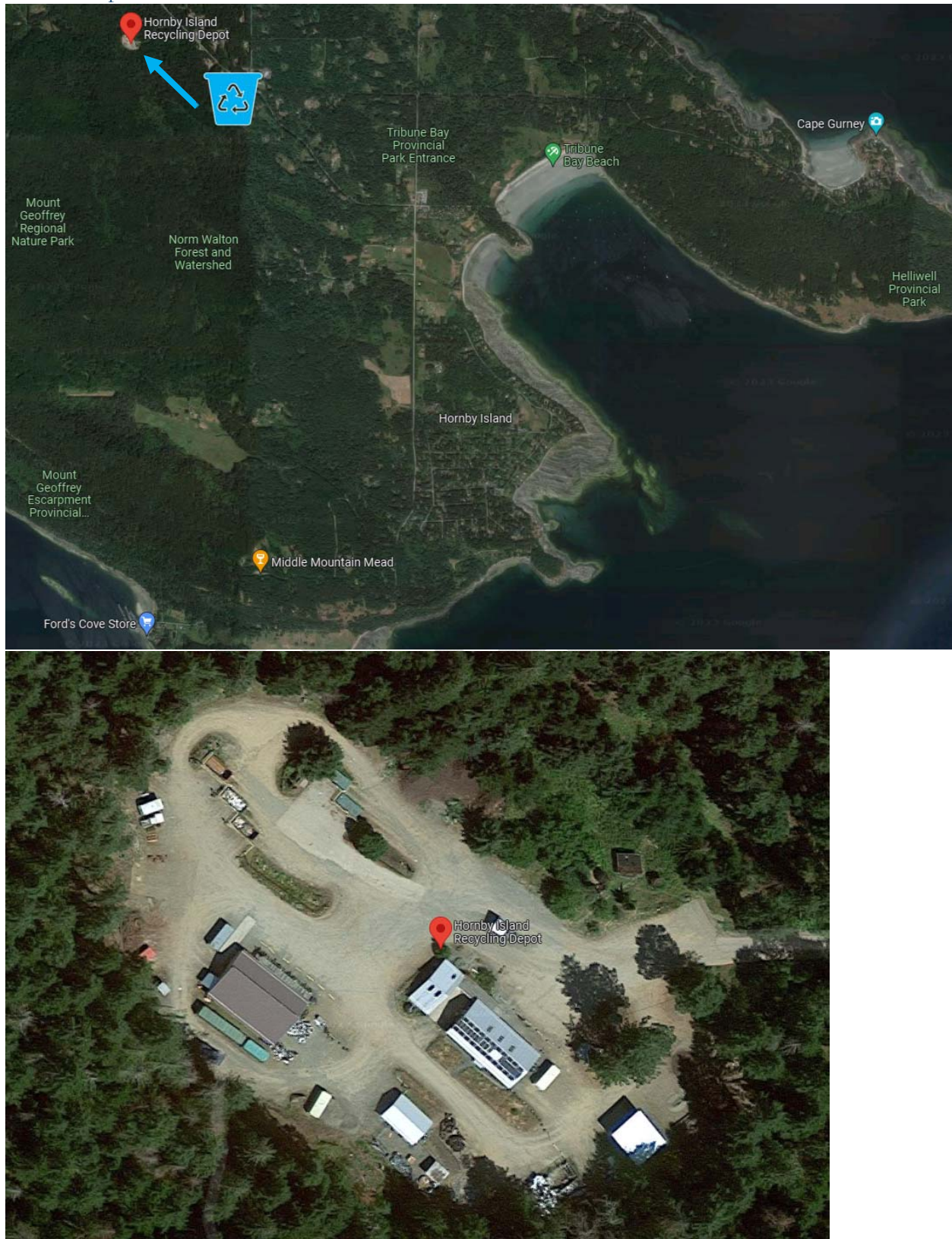


Table 11 Hornby Island Transfer Station and Recycling Depot Accepted Materials

EPR PROGRAM STREAMS			
Recycle BC (residential packaging and paper)	☐	Product Care Light Recycle (bulbs + tubes)	☐
BDL (alcoholic refundables)	D	Product Care Plus (HHW + paint)	☐
Return-It (beverage refundables)	D	Product Care (alarms CO ₂ + smoke)	☐
MARR (large appliances)	☐	Call2Recycle (small batteries)	☐
ElectroRecycle (small appliance & power tools)	☐	BUCOMA (used oil + antifreeze)	\$
EPRA (electronics)	☐	CBA (lead acid batteries)	☐
OPEIC (outdoor power equipment)	☐	Tire Stewardship BC (tires off rim)	☐
TRP (thermostats)	☐		

NON-EPR DIVERSION STREAMS			
Scrap Metal	☐	Drywall	☐
Commercial Cardboard	☐	Propane and Compressed Gas Tanks	☐
Commercial Mixed Recycling	☐	Fire Extinguishers	☐
Clean Wood Waste	☐	Mattresses	G
Yard Waste	☐	Tires on Rims	☐
Food Waste	☐	Automobiles	☐
Redux (cooking oil)	☐	Household Items	☐
Clothing and Textiles	☐	Books	☐
Furniture	☐	Ocean Plastics	E

WASTE ACCEPTED AND DESTINED FOR DISPOSAL			
Self-hauled Garbage	☐	Asbestos Waste	☐
Garbage from Curbside Collection	☐	Controlled Waste	☐
Construction, Renovation and Demolition	☐		

- ☐ Not Accepted
- ☐ Accepted and revenue goes to CSWM
- \$ Accepted and revenue goes to operator
- E Accepted at a community event
- D Accepted without deposit returned

5.4 Denman Island Recycling Depot

5.4.1 Site Location and Information

The recycling depot is located at 5901 Denman Road on Denman Island approximately 2.7 km from the Denman Island ferry terminal. The bottle depot, recycling depot and free store are owned and operated by Denman Island Residents Association (DIRA).

5.4.1.1 *Community Population:*

This depot serves the community of Denman Island, which has 1,391 permanent residents, and has an increase in population in the summer months.

5.4.1.2 *Operations*

DIRA is responsible for preparing and managing the budget for the facility and planning expansion of services. The CVRD holds the operating contract for the solid waste services with DIRA, who contracts an operator to manage the service. There are two staff members who work in the recycling depot and one manager for the Encorp Return-It bottle depot, located on the same property.

In addition to a free store there is a full diversion area for refundable containers managed through a separate contract between Return-It and DIRA, this area includes small appliance, electronics and small tool recycling. The recycling depot side includes accepts Recycle BC materials, large and small batteries and scrap metal. There is a pallet jack on site that is used to load material, which is all collected by the Courtenay Return-It depot.

There is no centralized collection of garbage on the island operated by CSWM.

5.4.1.3 *Hours of Operation*

The recycling and bottle depot are open to residents Wednesday and Thursday from 2:00 pm to 6:00 pm and Saturday 9:00 am to 5:00 pm. Hours of operation do not change seasonally. The total annual facility hours available is 728 hours.

5.4.1.4 *Parking*

There are approximately 15 parking spots on site, in front of the main recycling building and on the road. There is also overflow parking in the field next door, which is used for farmers markets in the summer.

5.4.1.5 *Solid Waste Events in the Community*

The community collects Ocean debris each year and this material is now segregated and consolidated in Cumberland before being sent to the mainland for recycling through Ocean Legacy.

5.4.1.6 *Free Store*

There is a large free store on Denman that is staffed by volunteers and is located in an adjacent old school building. DIRA oversees the volunteers and funding for the free store. It houses clothing and household goods.

5.4.1.7 *Complementary Operations*

There is a curbside garbage collection service on Denman, contracted by DIRA to Strathcona Recycling and Disposal. Bag tag stickers must be purchased to put waste out, and are available for residents to purchase for \$3, or 2 for \$5. Tickets can be purchased at the general store or the

recycling centre. The bags cannot be over 40 lbs. The collection service is weekly in June, July and August and bi-weekly the rest of the year.

5.4.2 Financial Information

5.4.2.1 *Assets and Land*

The DIRA holds the lease for the property and Function 391 has contributed to the capital infrastructure for the recycling building maintenance and any future capital infrastructure projects.

5.4.2.2 *Expenses - CSWM Regional Service 391*

- | | |
|----------------------------------|------------------------------------|
| • Facility Operations | \$0 |
| • Site Lease | \$0 |
| • Unified Transportation – metal | (will be funded beginning in 2023) |
| • Operational Contract Support | \$0 |

5.4.2.3 *Expenses – CVRD Function 362*

Established in 1973, Function 362 Denman Island Garbage Collection provides revenue to DIRA for the bottle depot, recycling depot and garbage collection service. The service had a tax requisition of \$127,500 to the residents of Denman Island in 2023 for the services, which included a contribution to reserves of \$25,157. The 362 service also contributes to the CSWM regional service for staff time, transferring \$2,000 annually.

Waste that is picked up by DIRA's contractor is delivered to the CVWMC for disposal, and tipping fees paid are funded through 362.

5.4.2.4 *Revenues – CVRD Function 391*

The CSWM service 391 receives the revenue from Recycle BC, the BC Used Oil Management Association (BCUOMA) and scrap metal programs. The revenue received from scrap metal will offset the transportation costs. Prior to 2023, the scrap metal revenue went to DIRA, so budget numbers are not available at this time.

5.4.2.5 *Revenues – CVRD Function 362*

The DIRA solid waste services receive revenue from the acceptance of refundable bottles from their contract with Encorp, as well as other EPR program revenues from the small appliance, electronics and power tool programs. In addition, the bag tag stickers that are purchased by residents for garbage disposal cover their tipping fees paid for waste disposed at the CVWMC.

5.4.3 Photos



(Encorp Return-it Depot)



(Recycling Drop-off Area)



(Loading Dock and Metal Collection Area)



(Used Oil Collection Site)

5.4.4 Map

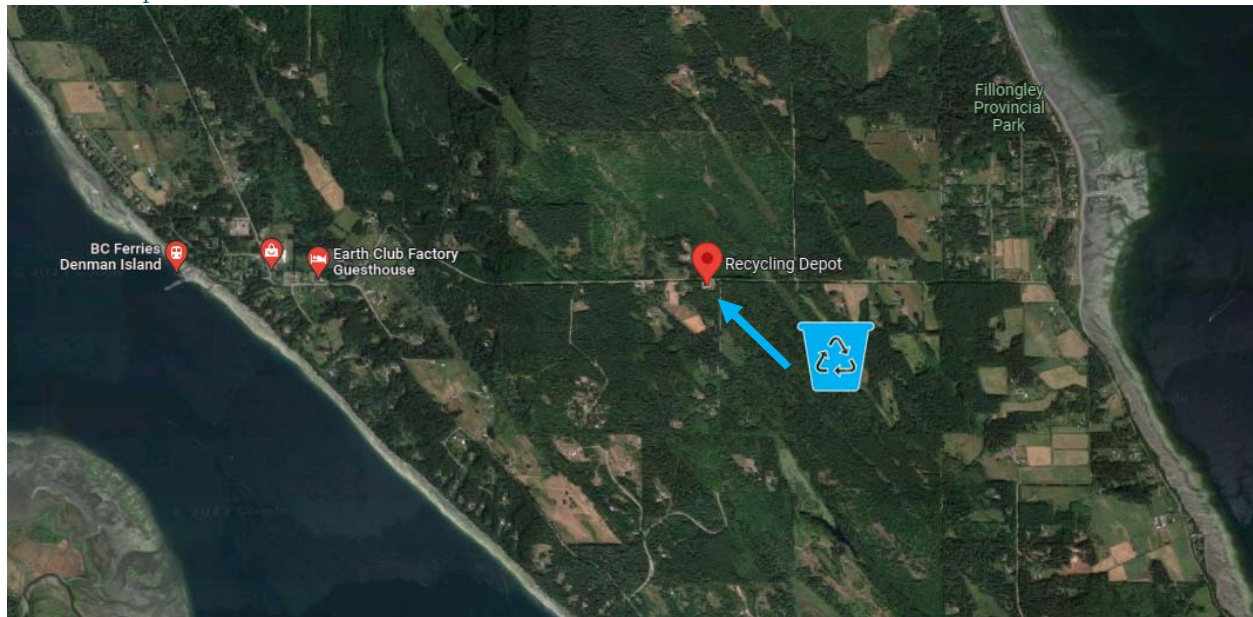


Table 12 Denman Island Depot Accepted Materials

EPR PROGRAM STREAMS			
Recycle BC (residential packaging and paper)	☐	Product Care Light Recycle (bulbs + tubes)	☐
BDL (alcoholic refundables)	☐	Product Care Plus (HHW + paint)	☐
Return-It (beverage refundables)	☐	Product Care (alarms CO ₂ + smoke)	☐
MARR (large appliances)	☐	Call2Recycle (small batteries)	\$
ElectroRecycle (small appliance & power tools)	☐	BUCOMA (used oil + antifreeze)	☐
EPRA (electronics)	☐	CBA (lead acid batteries)	☐
OPEIC (outdoor power equipment)	☐	Tire Stewardship BC (tires off rim)	☐
TRP (thermostats)	☐		

NON-EPR DIVERSION STREAMS			
Scrap Metal	☐	Drywall	☐
Commercial Cardboard	☐	Propane and Compressed Gas Tanks	☐
Commercial Mixed Recycling	☐	Fire Extinguishers	☐
Clean Wood Waste	☐	Mattresses	☐
Yard Waste	☐	Tires on Rims	☐
Food Waste	☐	Automobiles	☐
Redux (cooking oil)	☐	Household Items	☐
Clothing and Textiles	☐	Books	☐
Furniture	☐	Ocean Plastics	E

WASTE ACCEPTED AND DESTINED FOR DISPOSAL			
Self-hauled Garbage	☐	Asbestos Waste	☐
Garbage from Curbside Collection	☐	Controlled Waste	☐
Construction, Renovation and Demolition	☐		

- ☐ Collected but no revenue generated
- ☐ Not Accepted
- ☐ Accepted and revenue goes to CSWM
- \$ Accepted and revenue goes to operator
- E Accepted at a community event

5.5 Black Creek-Oyster Bay (Oyster River) Recycling Drop-Off

5.5.1 Site Location and Information

The CSWM recycling drop-off is located at the old Oyster River Fire Hall, located at 2185 Regent Road, just off Highway 19A along the Oyster River, which is the boundary between the CVRD and the SRD. The facility is strategically located 25 km (21 min) from the Island Return-It Campbell River, and 24 km (21 min) from the Courtenay Return-It. This facility offers a limited range of accepted materials, only the paper and packaging typically accepted in a curbside program.

This site partially paved and is privately owned and leased by the CVRD.

5.5.1.1 *Community Population:*

The recycling facility serves residents from Electoral Area C in the CVRD and Electoral Area D in the SRD. These two jurisdictions have over 12,000 residents and there is no coordinated curbside waste service provided to these residents, only ad-hoc subscription garbage collection is available. The depot also serves some residents in Campbell River who travel south for work and Comox Valley residents travelling north for work.

5.5.1.2 *Operations*

CSWM staff oversee the operations and maintenance at this site, which is unstaffed. There are ten front load bins that can accommodate 6 yards of recycling in each. Emterra Environmental is under contract to empty the recycling bins and to remove any garbage on site. Between this site, and the Quadra Island recycling drop-off facility, 5 tonnes of waste was abandoned and removed for disposal in 2022. Whether they are full or not, the bins are emptied daily.

Acceptable materials include most common household paper, plastic and cartons plus some steel and aluminum materials.

5.5.1.3 *Hours of Operation*

The facility has no restricted access, is not fenced and is open 24 hours a day, 7 days a week, or 8760 hours a year.

5.5.1.4 *Parking*

There are approximately 12 parking spaces on site.

5.5.1.5 *Solid Waste Events in the Community*

There are no solid waste events in this area.

5.5.1.6 *Free Store*

There is no free store in the area, however, residents do put aside gently used goods for other residents to take, much of which is managed as garbage.

5.5.1.7 *Complementary Municipal Operations*

There is no coordinated curbside garbage or recycling collection in the area. Private haulers offer residents subscription service for collection of garbage, and sometimes recycling collection is available depending on demand.

5.5.2 Financial Information

5.5.2.1 Assets and Land

There are no assets at this site, everything is leased.

5.5.2.2 Expenses - CSWM Regional Service 391

• Material Collection and Processing	\$90,000
• Lease	\$4,200
• Advertising	\$3,000

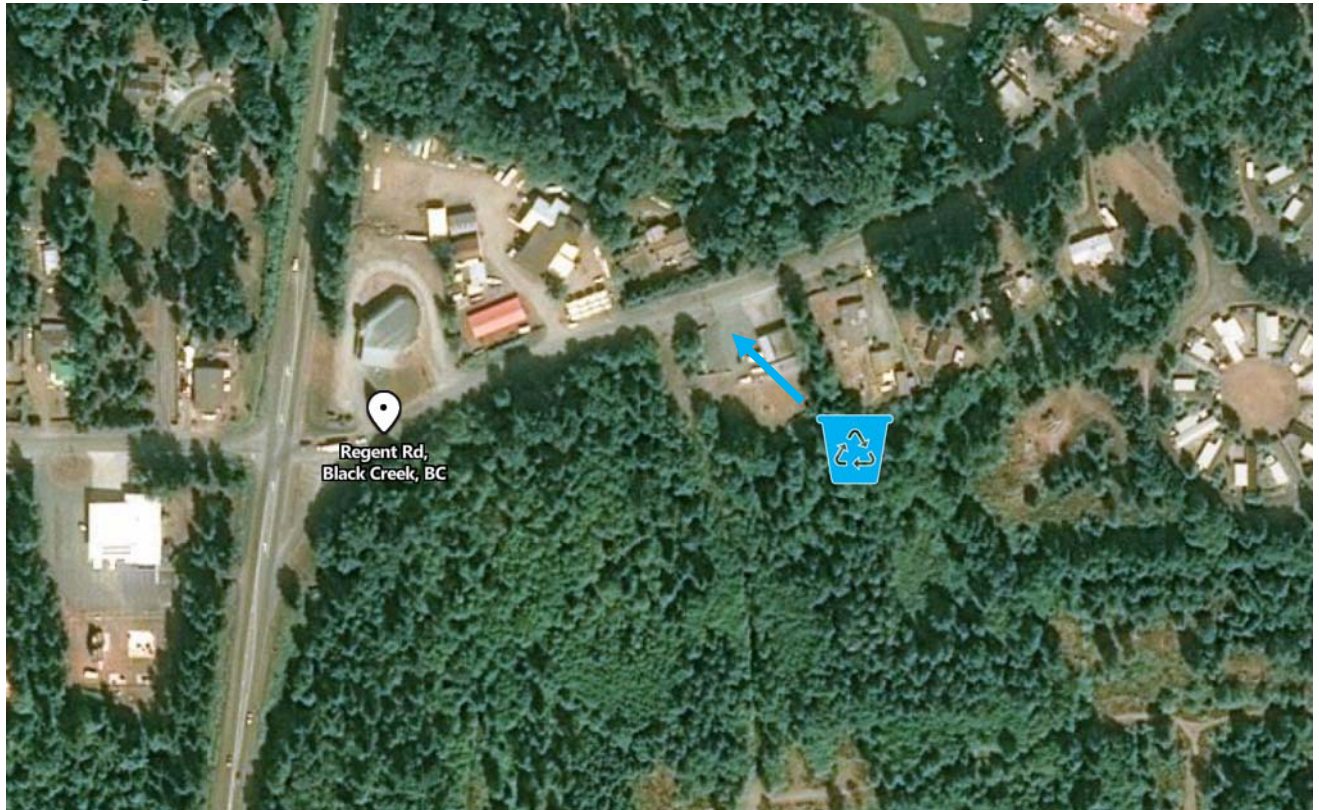
Services provided at this facility are funded entirely through CVRD Function 391; there is no service area established specifically for the residents of this area.

5.5.3 Photos



(Recycling Drop-off Area)

5.5.4 Map



5.6 Quadra Island Recycling Depot

5.6.1 Site Location and Information

The CSWM recycling depot is located at the end of Harper Road on Quadra Island. The recycling depot is located a short distance from the ferry to Campbell River, it's centrally located near the Tru-Value, Library, Credit Union and adjacent to a shopping plaza. This site is a road right of way and provided to the CSWM service by Ministry of Transportation and Infrastructure (MOTI). The recycling depot serves the Quadra Island community, but many residents take their recycling along with their waste when they travel to Campbell River for waste disposal at the CRWMC. There is no garbage service provided by the SRD, nor a centralized collection of garbage by the CSWM on Quadra Island.

5.6.1.1 *Community Population:*

The census population of Quadra Island was 2,737 people in 2021, with the majority of residents residing full time on the Island. The ferry to Quadra Island from downtown Campbell River is only 10 minutes in duration, and runs over 25 times a day making travel between the two communities relatively convenient.

5.6.1.2 *Operations*

The depot is staffed part time by a local person, the operator is under contract with CSWM. CSWM staff oversee the operations and maintenance at this site. There are ten front load bins that accommodate six yards of recycling in each. They are emptied twice a week throughout the year by Emterra Environmental. The recycling accepted is the same as what is accepted in a single-stream curbside program; no glass, foam or film plastics are allowed. A garbage bin is onsite, but not accessible, for responsible management of abandoned or misplaced recycling materials. The CSWM 391 service pays for the transportation and processing cost of the recyclables that are accepted at this location.

The Quadra Island depot has been identified by Recycle BC as a service gap, and it is eligible to join as a collection site for the program with some changes to the site. The main changes required to join are that the site is only accessible to the public when staffed, that it is fenced off, and that commercial recycling is not commingled with residential recycling. CSWM staff are working towards building in a new location to undertake this transition. An expanded offering of materials will be accepted for recycling by residents with this shift, and all transportation and processing of Recycle BC materials would be funded by their program.

Acceptable materials include most common household paper, plastic and cartons plus some steel and aluminum materials.

5.6.1.3 *Hours of Operation*

The current depot is accessible to the public 24 hours a day, 7 days a week or 8,760 hours per year.

5.6.1.4 *Parking*

There are approximately eight parking spaces on site.

5.6.1.5 Solid Waste Events in the Community

In 2021 the CSWM service hosted an EPR collection event on Quadra which accepted many more materials such as electronics and light bulbs. There were over 400 residents that participated. This was the first of its kind and it is planned to happen annually once the new depot is established.

5.6.1.6 Free Store

There is no free store in the area, however, a local community group is attempting to establish one.

5.6.1.7 Complementary Operations

There is a private company (Waste Management) offering residential and commercial curbside garbage collection on Quadra Island for a fee. This material is delivered to the CRWMC for disposal.

5.6.2 Financial Information

5.6.2.1 Assets and Land

There are no assets at this site, all of the bins are provided by the collection contractor.

The future Quadra Island depot will be located on industrial property that is leased by the 391 service. The CSWM has budgeted for a building to be constructed on site to support the expanded operation.

5.6.2.2 Expenses - CSWM Regional Service 391

• Non-RecycleBC depot operation	\$45,000
• Depot operator contract	\$40,000
• Lease – New Quadra Island Depot	\$13,000
• Garbage bin	\$ 8,800
• EPR clean up event	\$ 4,000
• Advertising	\$ 3,000

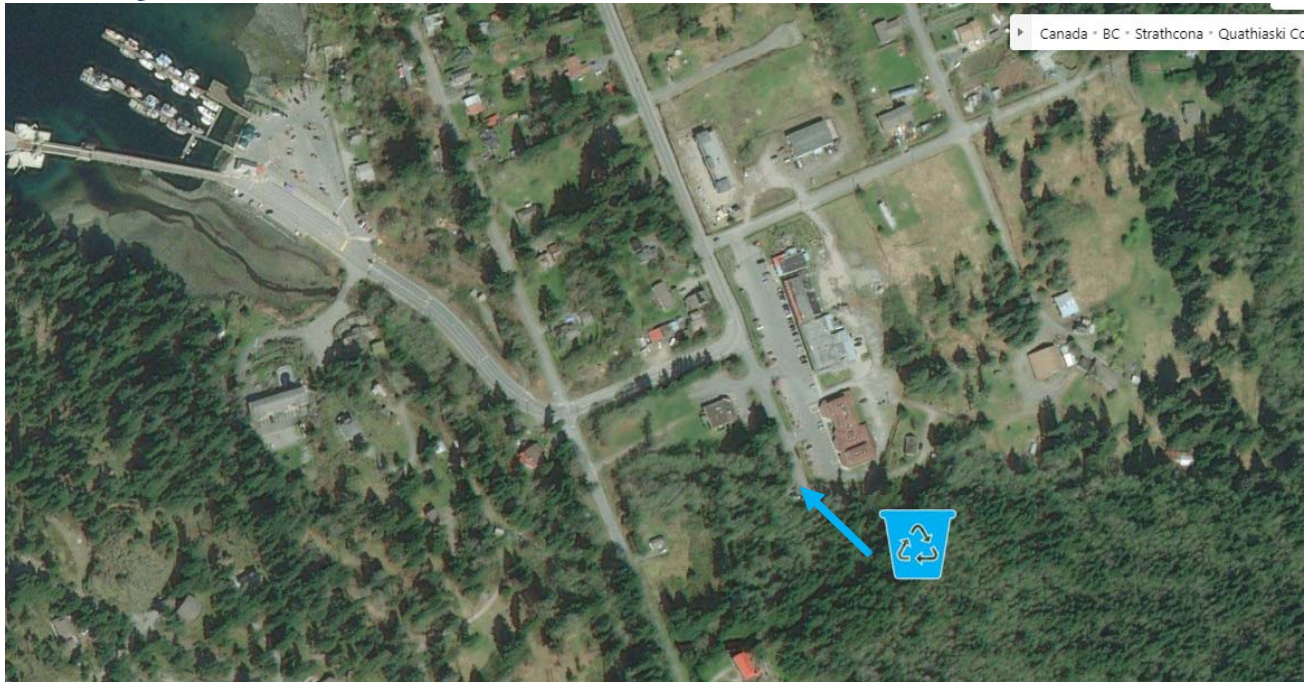
\$

5.6.3 Photos



(Bins at end of Harper Road)

5.6.4 Map



5.7 Cortes Island Waste Management Centre

5.7.1 Site Location and Information

The Cortes Island Waste Management Centre is located at 1300 Squirrel Cove Road on Cortes Island. The facility is a transfer station and recycling depot providing garbage and recycling services. The site was previously a landfill which was closed in 1995.

5.7.1.1 *Community Population:*

This facility serves the community of Cortes Island (SRD Electoral Area B), which has 1,059 permanent residents. The community is known to grow to around 3,000 residents in the summer months, not including tourists.

5.7.1.2 *Operations*

The facility is operated by a contractor hired by the CSWM service. There are four staff members who work in the transfer station. There is a CSWM skid steer on site that is utilized as a loader, forklift, and plough contract. Full bins of waste, drywall and scrap metal are transferred off the island as needed. Recycling brought to the site from the curbside collector is stored and loaded from the facility onto Recycle BC's contractor by depot staff.

Transportation costs are funded under CSWM Unified Transportation Model. There is no scale on site, waste is self-hauled by users and delivered to the transfer station by the SRD curbside collector. Residents are not charged to deliver waste, any waste brought in by users from outside the service area can be charged \$15 per cubic yard for MSW and \$20 per yard for construction and demolition waste, but these charges are rarely applied. In addition, there is one volunteer supervisor who operates the free store with various volunteers overseeing the store operations.

5.7.1.3 *Hours of Operation*

The depot and transfer station are open to residents four days a week, Thursday through Sunday from 9:00 am to 1:00 pm. Hours of operation do not change seasonally. The total annual facility hours available is 832 hours.

5.7.1.4 *Parking*

There are approximately 15 parking spots on site, available to users of the transfer station and free store.

5.7.1.5 *Free Store*

The free store on Cortes is very small and is staffed exclusively by volunteers. The free store was funded and built by donations utilizing volunteers for the labor. This was completed long before an official transfer station was put in place. The hours of operation of the free store are Mondays and Wednesdays from 9 am – 1 pm but are under review and will change seasonally so that the free store operations are not impacting the transfer station in the busy months.

5.7.1.6 *Complementary Operations*

Function 376 of the SRD - "Cortes Island Refuse Collection" provides residential curbside garbage and recycling collection for all residents on the island. The SRD utilizes a local contractor to collect and deliver the waste and recycling from the curb to the transfer station. Curbside recycling collection is funded in part by the Recycle BC incentive.

There are no tipping fees collected on site by the CSWM service, but they can be accepted by the contractor and directed to the SRD. Refuse fees incurred from waste generated on Cortes Island fund SRD Function 374 – Electoral Area “B” Refuse Disposal Grounds. This bylaw is up for review by the SRD.

In addition, Klahoose First Nation also operates their own curbside waste collection service that includes compost, garbage and recycling. The garbage and recycling material collected through this program also arrives at the transfer station. The Klahoose First Nation is listed as a commercial user and billed by the SRD under Function 374 for the waste coming to the CIWMC. The CSWM receives funding from Recycle BC under a pilot agreement for the weight of curbside recycling brought to the depot and consolidated with other Recycle BC material for hauling offsite.

5.7.2 Financial Information

5.7.2.1 *Assets and Land*

The CSWM service holds the lease for the transfer station property and Function 391 has funded the capital infrastructure for all buildings with the exception of the free store and barn, which were existing.

5.7.2.2 *Expenses - CSWM Regional Service 391*

• Facility Operations	\$124,000
• Unified Transportation – waste and metal	\$120,000
• Telus landline	\$1,100
• Hydro	\$2,260
• Misc. supplies	\$7,800
• Commercial Recycling	\$1,500
• Equipment & Site Maintenance	\$8,200
	\$264,860

5.7.2.3 *Expenses – SRD Function 374 and 376*

The waste bins from the transfer station are scaled at the CVWMC and the tipping fees are charged to the SRD. SRD Function 374 – “Electoral Area ‘B’ Refuse Disposal Grounds” provides the funding for the disposal of waste generated on Cortes Island through tax requisition. In 2023, the SRD financial plan indicates a tax requisition of \$76,972 for the service, and a total expense of \$94,544. Commercial customers are charged by the SRD based on their Bylaw No. 2851, which provides a flat annual fee for seven commercial users listed in the bylaw ranging from \$159 to \$2,855 per year, and a rate for generators from outside the service area. The average annual residential requisition amount for Area B residents for Function 374 is \$82 per year.

The user fee for the curbside collection service, SRD Function 376, is set at \$99 per year and is based on 673 dwellings. The total 2023 operating expense for this service is \$101,978.

5.7.2.4 Revenues - CSWM Regional Service 391

The 391 service receives the revenue for all EPR materials accepted (other than refundable alcohol and beverage containers) and scrap metal diversion. The revenues from Recycle BC at the depot are around \$9,300 annually.

There are also agreements with product stewardships on the site for Electronics, Small and large appliances, Paint and Paint plus. The annual revenue from scrap metal and all other EPR programs is approximately \$14,000.

5.7.2.5 Revenues – SRD Function 374 and 376

Recycle BC provides an incentive for the curbside collection of recyclables to the SRD of approximately \$23,400 per year, based on 603 homes and \$38.80 per household.

5.7.3 Photos



(Cortes Island Free Store)



(Bin Wall Photo's)



(Recycling building (left) Product Care building (right))



(“The Barn” – EPR storage area)



(Product Care building (paint +, bulbs, batteries))



(Scrap Metal Collection Area)



(BCUOMA Collection Area)

5.7.4 Map

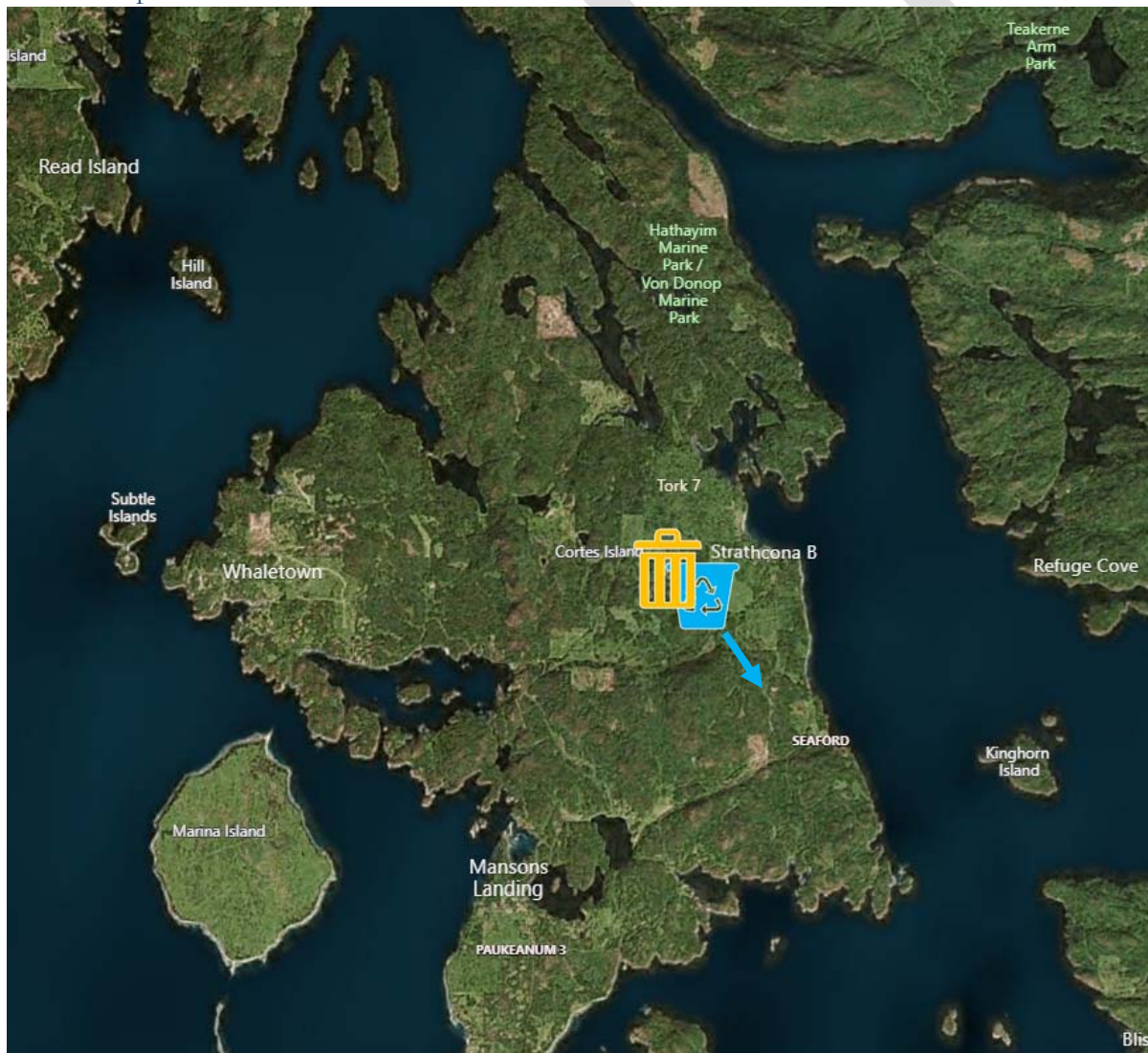




Table 13 Cortes Island Transfer Station and Recycling Depot Accepted Materials

EPR PROGRAM STREAMS			
Recycle BC (residential packaging and paper)	☐	Product Care Light Recycle (bulbs + tubes)	☐
BDL (alcoholic refundables)	\$	Product Care Plus (HHW + paint)	☐
Return-It (beverage refundables)	\$	Product Care (alarms CO ₂ + smoke)	☐
MARR (large appliances)	☐	Call2Recycle (small batteries)	☐
ElectroRecycle (small appliance & power tools)	☐	BUCOMA (used oil + antifreeze)	☐
EPRA (electronics)	☐	CBA (lead acid batteries)	☐
OPEIC (outdoor power equipment)	☐	Tire Stewardship BC (tires off rim)	☐
TRP (thermostats)	☐		

NON-EPR DIVERSION STREAMS			
Scrap Metal	☐	Drywall	☐
Commercial Cardboard	☐	Propane and Compressed Gas Tanks	☐
Commercial Mixed Recycling	☐	Fire Extinguishers	☐
Clean Wood Waste	☐	Mattresses	G
Yard Waste	☐	Tires on Rims	☐
Food Waste	☐	Automobiles	☐
Redux (cooking oil)	☐	Household Items	☐
Clothing and Textiles	☐	Books	☐
Furniture	☐	Ocean Plastics	G

WASTE ACCEPTED AND DESTINED FOR DISPOSAL			
Self-hauled Garbage	☐	Asbestos Waste	☐
Garbage from Curbside Collection	☒	Controlled Waste	☐
Construction, Renovation and Demolition	☐		

- ☐ Not Accepted
- ☐ Accepted and revenue goes to CSWM
- \$ Accepted and revenue goes to operator
- G Accepted as garbage

5.8 Sayward Valley and Village of Sayward

5.8.1 Site Location and Information

The recycling depot is located at 652 H'Kusam Way, located within the boundaries of the Village of Sayward, adjacent to the Kelsey Recreation Centre, school, library and municipal hall.

The recycling depot is located approximately 10 km from the Sayward Valley, where residents from SRD Area A reside.

5.8.1.1 *Community Population*

The recycling depot serves the residents of the Village of Sayward, and those in the surrounding SRD Electoral Area A, known as the Sayward Valley. There are approximately 334 residents in the Village of Sayward in about 165 homes, with approximately 254 homes in the Sayward Valley.

5.8.1.2 *Operations*

There is one part time staff member under employment with the CSWM service who operates the recycling depot, consisting of the collection of Recycle BC and BUCOMA materials. The Village operates a free store, scrap metal collection and yard waste drop off at the depot.

5.8.1.3 *Hours of Operation*

The recycling depot in Sayward is open Monday, Wednesday and Friday from 7:30 am to 8:30 pm and Sunday 8:30 am to 5:00 pm. The total annual facility hours for the recycling depot are 2,158 hours.

5.8.1.4 *Parking*

There are no designated parking spaces at the depot, however it's located within the parking lot of the Kelsey Center and Library, so there are approximately 20 parking spaces available on site.

5.8.1.5 *Solid Waste Events in the Community*

Three times per year in April, July and October, the CSWM service hosts a Sayward Days event where residents from the Valley or Village can bring large household garbage that is too large for placement on the curb. The service also facilitates the collection of gently used goods for resale and EPR materials; the revenue goes to Habitat for Humanity.

5.8.1.6 *Free Store*

The free store in the Village of Sayward is operated, maintained and paid for by the Village of Sayward.

5.8.1.7 *Complementary Municipal Operations*

There is curbside garbage collection in the Village and Valley operated under a single contract, coordinated between the Village of Sayward and the SRD staff. Waste collected in curbside trucks by a contractor is delivered to the CRWMC.

5.8.2 Financial Information

5.8.2.1 *Assets and Land*

The Village of Sayward owns the land where the recycling depot is located but the 391 service has paid for the capital infrastructure for the Recycle BC collection structures. The capital infrastructure for the BUCOMA container was paid for by the program. There is no lease charge for the use of the land.

5.8.2.2 *Expenses - CSWM Regional Service 391*

• Clean-Up Days Grant to Municipality	\$6,000
• Sayward days – Village trucking portion	\$10,332
• Sayward Valley (Area A) trucking portion	\$21,000
• Operational Contract – Recycle BC depot	\$26,010
• Garbage bin at depot	\$6,500
	\$69,842

5.8.2.3 *Expenses – Municipal Revenues*

The SRD administers the annual Clean-up Days program for the region where residents can drop off waste and recycling on designated weekends in spring, summer, and fall. The CSWM service provides grants to offset the costs of these events. This service is shared with the Village of Sayward and a portion of Electoral Area A surrounding the Village the Sayward.

The authority for this service (SRD Function 368) was originally established November 1, 1973 through SLP #24 (Div xxiv), with subsequent amendments with Bylaws 244 and 1281.

The SRD 2023 financial plan function 368 includes provisions for both the Sayward Valley and Village of Sayward refuse disposal. The estimated tax requisition per average household for the Area A and Sayward refuse is \$17.43 for 2023. The annual budget for Electoral Area A – Sayward Valley is \$19,807.

The SRD administers the weekly garbage collection service in the Sayward Valley through an external contract while the Village of Sayward contracts its collection service to Waste Management Services under a separate contract. The tipping fees are combined and billed to the SRD, with the Village of Sayward paying for their portion based on the respective number of dwellings served.

The SRD provides curbside garbage collection through function 370 for residents in the Sayward Valley. The typical residential fee for this service is \$264.04 per household and the service has a budget of \$93,938. The annual budget for solid waste operations, including curbside garbage collection for 2023 through the Village of Sayward 5 year financial plan for solid waste was \$45,612.

The revenue for the scrap metal program goes to the Village of Sayward so the value is unknown. The revenue for the BUCOMA and Recycle BC programs are received by the CSWM service and is around \$4,000 per year.

5.8.3 Photos



(Habitat collecting gently used household goods at Sayward days)



(EPR diversion at Sayward days)



(Main Road's yard - Sayward days)



(Sayward Depot BUCOMA Collection Area)



(Recycle BC And Yard Waste Area)

5.8.4 Map



Table 14 Sayward Recycling Depot Accepted Materials

EPR PROGRAM STREAMS			
Recycle BC (residential packaging and paper)	✓	Product Care Light Recycle (bulbs + tubes)	E
BDL (alcoholic refundables)	☒	Product Care Plus (HHW + paint)	E
Return-It (beverage refundables)	☒	Product Care (alarms CO ₂ + smoke)	E
MARR (large appliances)	\$	Call2Recycle (small batteries)	E
ElectroRecycle (small appliance & power tools)	E	BUCOMA (used oil + antifreeze)	✓
EPRA (electronics)	E	CBA (lead acid batteries)	E
OPEIC (outdoor power equipment)	E	Tire Stewardship BC (tires off rim)	✓
TRP (thermostats)	E		

NON-EPR DIVERSION STREAMS			
Scrap Metal	\$	Drywall	☒
Commercial Cardboard	☒	Propane and Compressed Gas Tanks	E
Commercial Mixed Recycling	☒	Fire Extinguishers	☒
Clean Wood Waste	☒	Mattresses	☒
Yard Waste	✓	Tires on Rims	E
Food Waste	☒	Automobiles	☒
Redux (cooking oil)	☒	Household Items	E
Clothing and Textiles	E	Books	✓
Furniture	E	Ocean Plastics	☒

WASTE ACCEPTED AND DESTINED FOR DISPOSAL			
Self-hauled Garbage	E	Asbestos Waste	☒
Garbage from Curbside Collection	☒	Controlled Waste	☒
Construction, Renovation and Demolition	E		

- ☒ Not Accepted
- ✓ Accepted and revenue goes to CSWM
- \$ Accepted and revenue goes to operator
- E Accepted at a community event

5.9 Zeballos Recycling Depot and Landfill

5.9.1 Site Location and Information

The Zeballos recycling depot is centrally located in the Village of Zeballos, across from the school. The site is fully fenced and has modified sea containers to facilitate storage of materials.

The Zeballos landfill is located 9 km from the Village of Zeballos on the Fair Harbour forest service road. This road is an unpaved Forest Service Road which passed through Ehatis, the community of the Ehattesaht/Chinehkint First Nation.

5.9.1.1 *Community Population:*

The recycling depot and landfill serve the communities of the Village of Zeballos, BC's smallest incorporated municipality, Ehattesaht/Chinehkint First Nation (104 on reserve members) and members of the Nuchatlaht First Nations (23 on reserve members) who live in the community of Oclucje. There are approximately 126 residents in the Village of Zeballos, and approximately 253 residents in the three communities combined.

Waste and recycling from the Ka:'yu:'k't'h'/Chek'tles7et'h' First Nations (KCFN) and from residents of Walters Island are not generally brought to the facilities in Zeballos, however their water only communities are mainly accessed by Fair Harbour, a part of the KCFN lands. In Fair Harbour there is a store, dock, staff accommodation, lodging, and camping, accessible to the KCFN and to visitors to the region. Waste from Fair Harbour is brought to the Zeballos landfill.

5.9.1.2 *Operations*

The Village of Zeballos landfill is operated by a contractor to the CSWM, and tip fees are collected by a part time Village staff member.

There is one part time staff member who operates the recycling depot and under employment with the Village of Zeballos. The depot operator ensures the facility is tidy, material is well sorted and open and close the site each day it's open. In addition, residents have full use of the landfill, which includes diversion of scrap metal and tire recycling. A village staff member collects tipping fees during operational hours. For a full list of materials accepted in the community see Table 15 below.

5.9.1.3 *Hours of Operation*

The recycling depot in Zeballos is open Monday to Saturday from 8:30 am to 4:30 pm. The total annual facility hours for the recycling depot are 2,496 hours.

The landfill in Zeballos is open Wednesday 1:00 pm to 3:00 pm and Saturday 12:00 pm to 3:00 pm. The total annual facility hours available for the landfill in Zeballos is 260 hours.

5.9.1.4 *Parking*

There are no designated parking spaces at the depot or landfill but both sites can accommodate over 6 vehicles on site.

5.9.1.5 *Solid Waste Events in the Community*

Each year in May the Village of Zeballos hosts a clean-up event where residents can bring their garbage to the landfill for free for the entire month. The CSWM service has arranged for additional recycling programs to be available so residents can further divert waste from landfill. In 2022, the

service added additional storage at the recycling depot to accommodate EPR programs for electronics and small appliances.

5.9.1.6 *Free Store*

There is no free store in Zeballos.

5.9.1.7 *Complementary Municipal Operations*

There is no curbside garbage collection provided to residents in the village of Zeballos, however Village public works have multiple bear proof dumpsters located around the Village for residents to place bagged household garbage in. There are approximately 16 large bins, and 12 small bins in the Village. These bins are emptied twice weekly and brought to the landfill for disposal.

There are also bins serviced by Village staff located in other communities, as well as one outside of the landfill for use outside of operating hours: Oclucje, 3 large; Ehatis, 3 large 2 small; Fair Harbour, 2 large.

5.9.2 *Financial Information*

5.9.2.1 *Assets and Land*

The Village of Zeballos owns the land where the recycling depot is located and does not charge a lease amount, but the 391 service has paid for the capital infrastructure at the recycling depot which includes a covered forty-foot sea can and a twenty-foot used for storage. The Crown land lease for the landfill property is with the CVRD. There is no capital infrastructure at the landfill, with the exception of a bear proof fence, which was paid for and is maintained through the 391 service. All equipment on site at the landfill (an excavator) is provided by the contractor through their agreement with CSWM.

5.9.2.2 *Expenses - CSWM Regional Service 391*

• Landfill Operations	\$8,160
• Recycling depot operation	\$8,160
• Landfill Operation Contract	\$75,000
• Scrap Metal Transportation	\$4,000
• Hydro at landfill	\$139

5.9.2.3 *Expenses - Municipal*

There is no scale at the landfill, material is accepted by volume at the tipping fees set by the Village of Zeballos as follows:

	PICKUP TRUCK 1/2 LOAD	PICKUP TRUCK FULL LOAD	3 YARDS
Household Waste	\$12.85	\$25.70	\$38.55
Corrugated Cardboard	\$20.55	\$41.15	\$61.65
Garden & Wood Waste	\$12.85	\$20.25	\$30.35
Construction & Demolition Waste	\$20.55	\$41.15	\$61.65
Gypsum	\$20.55	\$41.15	\$61.65
Scrap Metal	\$20.55	\$41.15	\$61.65

	PICKUP TRUCK 1/2 LOAD	PICKUP TRUCK FULL LOAD	3 YARDS
Tires 16" and Less	\$2.35 per tire		
Tires over 16"	\$6.45 per tire		
Shingles	\$7.70 per bundle		
Steel Cables	\$64.25 per spool		
Vehicles & Trailers	\$41.15 per vehicle		
Appliances	\$12.85 per unit		
Carcasses	\$6.45 per carcass		

5.9.2.4 Revenues

Tipping fees collected at the site are set by the Village of Zeballos and exact tipping fee rates per load are decided by the operator at the landfill. In addition the [Village sets user rates](#) for solid waste from residential and commercial properties to fund the collection and disposal of waste from the bins around Zeballos. Residents in single family dwellings and manufactured home parks pay \$7.10 per month or \$85.00 annually. Multi-family dwellings and businesses with less than 5 employees pay \$85.00 annually. RV sites and vacation rentals pay \$42.50 annually. The school and businesses with over 5 employees pay \$170.00 annually. Motels, hotels and motor inns pay \$340.00 annually.

None of the revenue collected by the Village of Zeballos for disposal of waste at the landfill is provided to the CSWM service.

The revenue for the scrap metal program (\$1,500 in 2022) goes to the CSWM service, but is offset by the cost to haul the metal out. The acceptance of Recycle BC materials generates about \$600 per year from the Zeballos depot. There are no other revenues collected for waste streams as there are no established EPR programs, with the exception of the BUCOMA diversion program located on reserve in Ehatis.

5.9.3 Photos



(Recycle BC Depot)



(Paper and Cardboard Bin for Residents)



(Zeballos Landfill Entrance)



(Scrap Metal and Tire Pile at Zeballos Landfill)



(Household Waste Ready for Burial)

5.9.4 Map



Table 15 Village of Zeballos Landfill and Recycling Depot Accepted Materials

EPR PROGRAM STREAMS			
Recycle BC (residential packaging and paper)	✓	Product Care Light Recycle (bulbs + tubes)	E
BDL (alcoholic refundables)	☒	Product Care Plus (HHW + paint)	E
Return-It (beverage refundables)	☒	Product Care (alarms CO ₂ + smoke)	E
MARR (large appliances)	✓	Call2Recycle (small batteries)	E
ElectroRecycle (small appliance & power tools)	E	BUCOMA (used oil + antifreeze) - Ehatis	\$
EPRA (electronics)	E	CBA (lead acid batteries)	E
OPEIC (outdoor power equipment)	E	Tire Stewardship BC (tires off rim)	✓
TRP (thermostats)	E		

NON-EPR DIVERSION STREAMS			
Scrap Metal	✓	Drywall	☒
Commercial Cardboard	☒	Propane and Compressed Gas Tanks	✓
Commercial Mixed Recycling	☒	Fire Extinguishers	☒
Clean Wood Waste	☒	Mattresses	☒
Yard Waste	✓	Tires on Rims	\$
Food Waste (Pilot)	✓	Automobiles	✓
Redux (cooking oil)	☒	Glass (windows, glassware)	☒
Clothing and Textiles	☒	Books	☒
Furniture	☒	Ocean Plastics	☒
Household Items	☒		

WASTE ACCEPTED AND DESTINED FOR DISPOSAL			
Self-hauled Garbage	✓	Asbestos Waste	☒
Garbage from Curbside Collection	✓	Controlled Waste	☒
Construction, Renovation and Demolition	✓		

- ☒ Not Accepted
- ✓ Accepted and revenue goes to CSWM
- \$ Accepted and revenue goes to operator
- E Accepted at a community event

5.10 Tahsis Recycling Depot and Landfill

5.10.1 Site Location and Information

The Village of Tahsis Recycling Depot is centrally located in front of the village's public works yard. There is a free store operated by the municipality, a community composting program and bear proof garbage dumpsters all in one location adjacent to the public works yard. In addition, the CSWM service owns and operates a landfill for waste from the Tahsis area. The community is located 145 km from the CRWMC, or a 2.5 hour drive; the drive between Gold River and Tahsis is a gravel road.

5.10.1.1 *Community Population:*

This depot serves the community of Tahsis with an estimated population of 393, as well as residents accessing properties by water from Tahsis. In the summer months this is a popular destination for anglers and outdoor recreationalists, with multiple fishing resorts in the area accessible by boat, plane or some by road.

5.10.1.2 *Operations*

Village of Tahsis public works staff manage the recycling depot and landfill under contract with CSWM. The recycling depot accepts all Recycle BC materials and some additional EPR materials such as, motor oil, and electronics. Municipal curbside vehicles and customers with extra bagged household waste are able to deliver waste directly to the landfill. The landfill has an area for customers to segregate yard waste, tires and scrap metal. The metal is transferred to ABC recycling in Campbell River, paid through the 391 service. Yard waste and wood waste is either burned onsite, per our landfill operating certificate, or ground up and used for cover at the landfill. For a full list of materials accepted see Table 16 below.

5.10.1.3 *Hours of Operation*

The recycling depot is open to residents Tuesday through Saturday from 8:00 am to 3:30 pm. Hours of operation do not change seasonally, and there are no hours specifically available for commercial users. The total annual facility hours for the recycling depot is 1,950 hours.

The landfill is open Wednesdays from 8:00 am to 3:30 pm and Saturdays from 10:00 am to 3:30 pm. The total annual facility hours for the landfill is 676 hours.

5.10.1.4 *Parking*

There is parallel parking available outside the recycling depot that can accommodate 4-5 cars.

5.10.1.5 *Free Store*

There is small building at the public works yard which allows for residents to set aside reusable goods. Limited quantities of materials are repurposed here and any waste deposited is taken to the landfill by public works staff.

5.10.1.6 *Complementary Municipal Operations*

The municipality has their own solid waste collection vehicle and staff pick up curbside garbage weekly from households every Wednesday. There are also multiple bear proof dumpsters located around the Village accessible to the public and visitors. In addition, the Village has dumpsters for businesses as part of their fees and charges bylaw.

5.10.1.7 Complementary Community Initiatives

The CSWM service offers a community composting site adjacent to the recycling depot at the public works yard. The site utilizes a Joracan tumbler style composter, located in a shipping container to secure it from bears. The composting program is managed by the Village staff and paid for by the CSWM service.

5.10.2 Financial Information

5.10.2.1 Assets and Land

The Village of Tahsis owns the land and holds the operating contract for the public works yard where the recycling depot is located; no lease is charged to CSWM for use of this site. The landfill crown lease is with the CSWM service and the operation is funded by the 391 service. The onsite equipment used to support the landfill is a front-end loader, which is provided by the Village as a part of their contract with CSWM.

5.10.2.2 Expenses - CSWM Regional Service 391

• Facility Operations – Landfill and Recycling depot	\$131,300
• Unified Transportation –metal	\$6,000
• Operational Contract Support	\$45,000
• Allowance for landfill maintenance	\$15,000
	\$197,300

5.10.2.3 Expenses - Municipal

Residents and businesses are charged a utility fee for the collection of garbage at curbside by the Village of Tahsis. This fee is \$95.00 annually for residential single-family dwellings, and \$190.00 for multi-family and commercial properties.

5.10.2.4 Revenues

The 391 service receives the revenue for all scrap metal and diversion materials accepted, with the exception of revenue from Product Care Association programs; that revenue goes to the Village of Tahsis. Village staff collect abandoned paint and electronics, which are hauled by a local transport company to Campbell River. The approximate annual revenue from scrap metal in Tahsis is \$7,800; the cost to haul the scrap metal out negates any revenue. The revenue from Recycle BC and all other EPR programs is an estimated \$5,000 annually.

5.10.3 Photos



(Scrap Metal and Yard Waste)



(Tire Recycling and Reuse Area)



(Yard Waste)

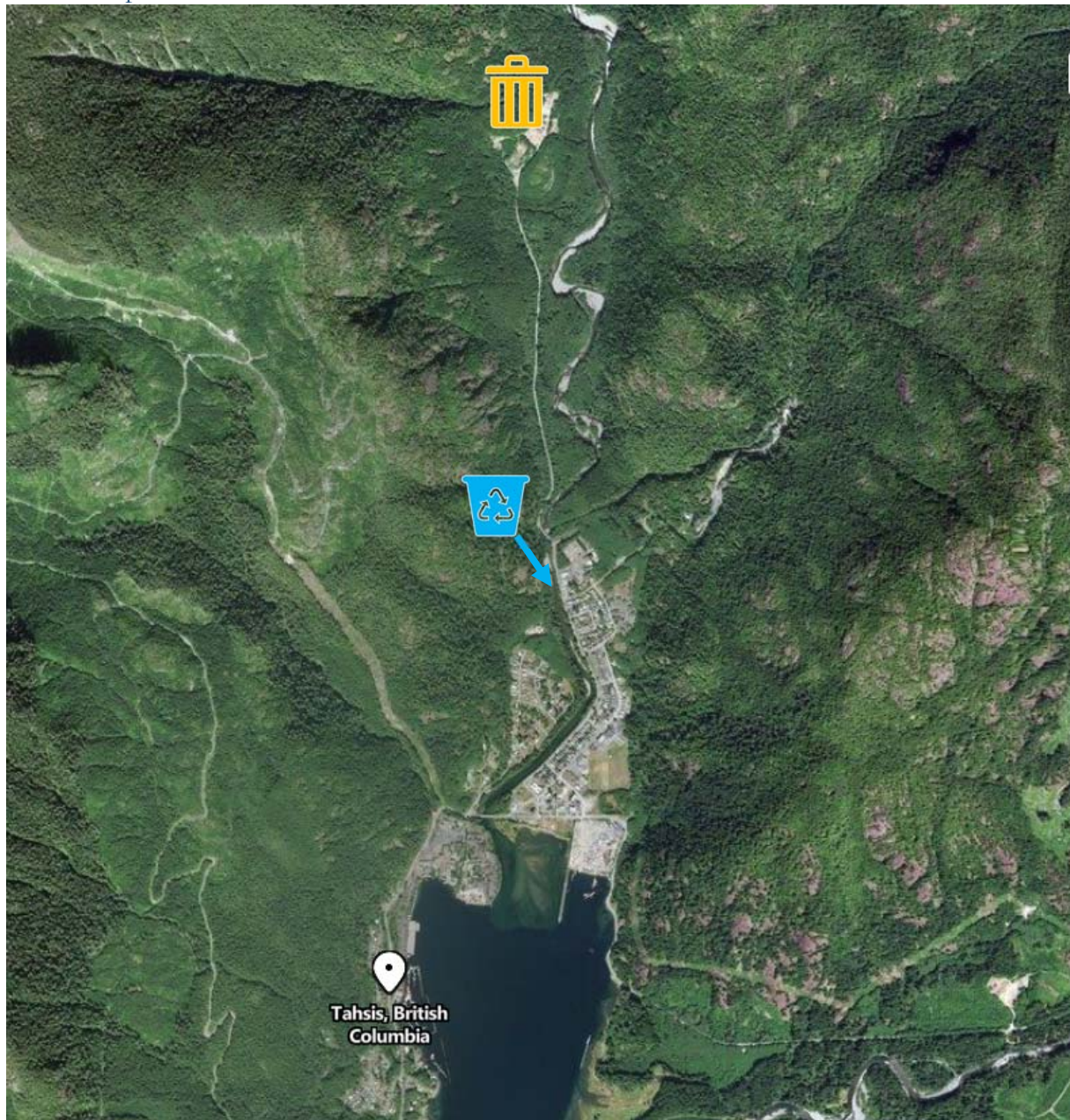


(MARR and Scrap Metal)



(Tahsis Recycling Depot)

5.10.4 Map



Blue – Recycling depot, Red – Landfill

Table 16 Tahsis Recycling Depot and Landfill Accepted Materials

EPR PROGRAM STREAMS			
Recycle BC (residential packaging and paper)	✓	Product Care Light Recycle (bulbs + tubes)	□
BDL (alcoholic refundables)	□	Product Care Plus (HHW + paint)	\$
Return-It (beverage refundables)	☒	Product Care (alarms CO ₂ + smoke)	\$
MARR (large appliances)	✓	Call2Recycle (small batteries)	\$
ElectroRecycle (small appliance & power tools)	✓	BUCOMA (used oil + antifreeze)	✓
EPRA (electronics)	✓	CBA (lead acid batteries)	✓
OPEIC (outdoor power equipment)	☒	Tire Stewardship BC (tires off rim)	✓
TRP (thermostats)	☒		

NON-EPR DIVERSION STREAMS			
Scrap Metal	✓	Drywall	✓
Commercial Cardboard	✓	Propane and Compressed Gas Tanks	✓
Commercial Mixed Recycling	✓	Fire Extinguishers	✓
Clean Wood Waste	✓	Mattresses	G
Yard Waste	✓	Tires on Rims	✓
Food Waste	✓	Automobiles	✓
Redux (cooking oil)	☒	Household Items	☒
Clothing and Textiles	✓	Books	✓
Furniture	✓	Ocean Plastics	☒

WASTE ACCEPTED AND DESTINED FOR DISPOSAL			
Self-hauled Garbage	□	Asbestos Waste	□
Garbage from Curbside Collection	□	Controlled Waste	□
Construction, Renovation and Demolition	□		

- Collected but no revenue generated
- ☒ Not Accepted
- ✓ Accepted and revenue goes to CSWM
- \$ Accepted and revenue goes to operator
- E Accepted at a community event
- G Accepted as Garbage

5.11 Gold River Transfer Station and Recycling Depot

5.11.1 Site Location and Information

The Gold River transfer station and recycling depot are centrally located in the Village of Gold River (VoGR), near the city center, aquatic center and arena. The facility is co-located with the Public Works site for the VoGR and is fully fenced and gated.

5.11.1.1 Community Population:

This transfer station serves the community of Gold River including the Mowachaht/Muchalaht First Nation. The estimated VoGR population is 1,246 and there are 223 Mowachaht/Muchalaht First Nation members living in Tsaxana.

5.11.1.2 Operations

There is one full time staff member under employment with the VoGR who operates the scale and diversion area. Municipal curbside vehicles and customers with extra bagged household waste, large/bulky items dump waste directly into the transfer station building; where it is then loaded into 40-yard bins for transport to the CVWMC for disposal.

In addition to a full diversion area for Recycle BC and EPR materials, there is also a bin wall for customers to segregate yard waste, inert waste and scrap metal. The yard waste and metal are transferred through the 391 service to CVWMC and Campbell River. The inert waste is hauled nearby to be disposed at the landfill in Gold River. It is a funded Recycle BC depot, and there is no Recycle BC funded curbside collection available to residents. For a full list of materials accepted see Table 17 below.

Gold River is the receiving and consolidation facility for waste collected at the dock in Kyuquot, on Walters Island. The bins are loaded onto a barge where they are delivered by water to the marina in Gold River, loaded onto a truck and delivered to the transfer station where garbage is consolidated. This garbage is then shipped to the Comox Valley for disposal.

The Ka:'yu:'k't'h'/Chek'tles7et'h' First Nations community in Houpsitas does not have access to the Walters Island bins. The waste is collected by private barge in 40-yard bins and is trucked from Fair Harbour, through Zeballos to the landfill in the Comox Valley.

5.11.1.3 Hours of Operation

The depot and transfer station are open to residents and commercial users Wednesday through Sunday from 9:00 am to 3:45 pm. Hours of operation do not change seasonally, and there are no hours specifically available for commercial users. The total annual facility hours available is 1755 hours.

5.11.1.4 Parking

Although there are no parking spaces on site, this location can accommodate over one dozen vehicles at once, in various diversion and waste collection areas.

5.11.1.5 Solid Waste Events in the Community

Each year around earth week (April) the community hosts a clean-up day where they all pick-up litter around the community and either put it in their curbside or deliver it to the transfer station. In

2018 the CSWM service combined this with an illegal dumping clean-up event in May and the community was very happy with the turn out.

5.11.1.6 Free Store

There was a small building and covered area at the transfer station which allowed for residents to set aside reusable goods. It closed at the onset of COVID in 2020, and has not reopened. The building is not in good repair and is the responsibility of the VoGR to repair or replace under the current contract. Staff reported it challenging to oversee and maintain a clean facility, misuse was frequent with residents leaving waste.

5.11.1.7 Complementary Municipal Operations

Staff at the VoGR have their own solid waste collection vehicle and pick up curbside garbage weekly from households. Households are limited to two cans per week, extra waste must be brought to the transfer station for a minimum fee of \$5.70.

Businesses are also compelled to use the collection service and can select from different sized containers and request a different frequency of pick-ups to meet their needs. Rental fees for container are also charged, and can be provided to support construction and demolition waste as well (VoGR Bylaw No. 612.12, 2022).

The Mowachaht-Muchalaht First Nation has a Municipal Services Agreement for Solid Waste Collection and Disposal Services with the Village of Gold River for service to their community; the agreement was renewed for a five-year term, effective May 2023.

5.11.1.8 Complementary Community Initiatives

The thrift store in town accepts and sells clothing, household items, and furniture. They work with Diabetes Canada to refresh their inventory when overwhelmed. There is a resident in town who sets out bins in a few locations to accept refundable containers, including a bin at the recycling depot.

5.11.2 Financial Information

5.11.2.1 Assets and Land

The Village of Gold River owns the land and holds the operating contract for the scale, recycling depot, waste drop-off and diversion area funded by the 391 service. The scale building, bin wall and Recycle BC collection container were constructed by 391 and are the responsibility of CSWM for capital improvements and repairs. The VoGR is responsible for the transfer station building, scale, fencing, roads, equipment and the shared covered storage area. The onsite VoGR equipment used to support the facility is a front-end loader and a forklift. CSWM pays the VoGR for the use of the site and for operations.

5.11.2.2 Expenses - CSWM Regional Service 391

• Facility Operations	\$118,453
• Site Lease	\$34,500
• Unified Transportation – garbage and metal	\$80,000
• Operational Contract Support	\$15,000

• Tires Processing	\$400
• Commercial Recycling	\$7,000
• Yard Waste Processing	\$2,500
	\$257,853

5.11.2.3 Expenses – Municipal and Other Governments

Residents and businesses are charged a utility fee for the collection of garbage at curbside, which includes the disposal fee. As of Jan 1, 2022, residents were charged \$275.55 per year, or \$23 per month for garbage collection.

5.11.2.4 Expenses SRD Kyuquot Electoral Area A - CSWM Regional Service 391

The SRD collected \$7,463 through tax requisition for the solid waste services provided in Kyuquot in 2022, which was increased to a proposed \$12,517 for 2023. This service is funded through SRD Function 364 for the garbage tipping fees from the defined portion of Kyuquot-Nootka in Electoral Area A. Transportation is provide by the CSWM service under the Unified Transportation agreement.

The Ka:'yu:'k't'h'/Che:k:tle7et'h' First Nations fund their own management of garbage, and these services are private services contracted by the band. Although there is a Recycle BC funded roadside recycling program in the community, no data is available on the volumes.

5.11.2.5 Revenues

Tipping fees collected at the site are set by the VoGR through their Bylaw No. 612, and customers are charged by the VoGR staff at the scale. The 2022 rate to tip garbage or construction waste was set higher than CSWM rates at \$174.70 per tonne or a \$5.70 minimum charge. Mattresses are \$15 per unit, and automobiles are \$30 per vehicle. These rates and revenues are collected by the VoGR to offset their cost to dispose of waste at the CVWMC.

Once waste is transported to the CVWMC, CSWM tipping fees are charged to the Village of Gold River account and they are billed according to weight.

The 391 service receives the revenue for all EPR and scrap metal diversion materials accepted, with the exception of revenue from Product Care Association programs, that revenue goes to the Village of Gold River. The approximate annual revenue from scrap metal and all EPR programs is \$18,000.

5.11.3 Photos



(Transfer station building (right) RecycleBC (left))



(Bin Wall)



(Bin wall Metal and inert waste (left) yard waste (right))



(EPR Collection Area)



(EPR Collection Area)



(Landfill)



(Landfill)

5.11.4 Map

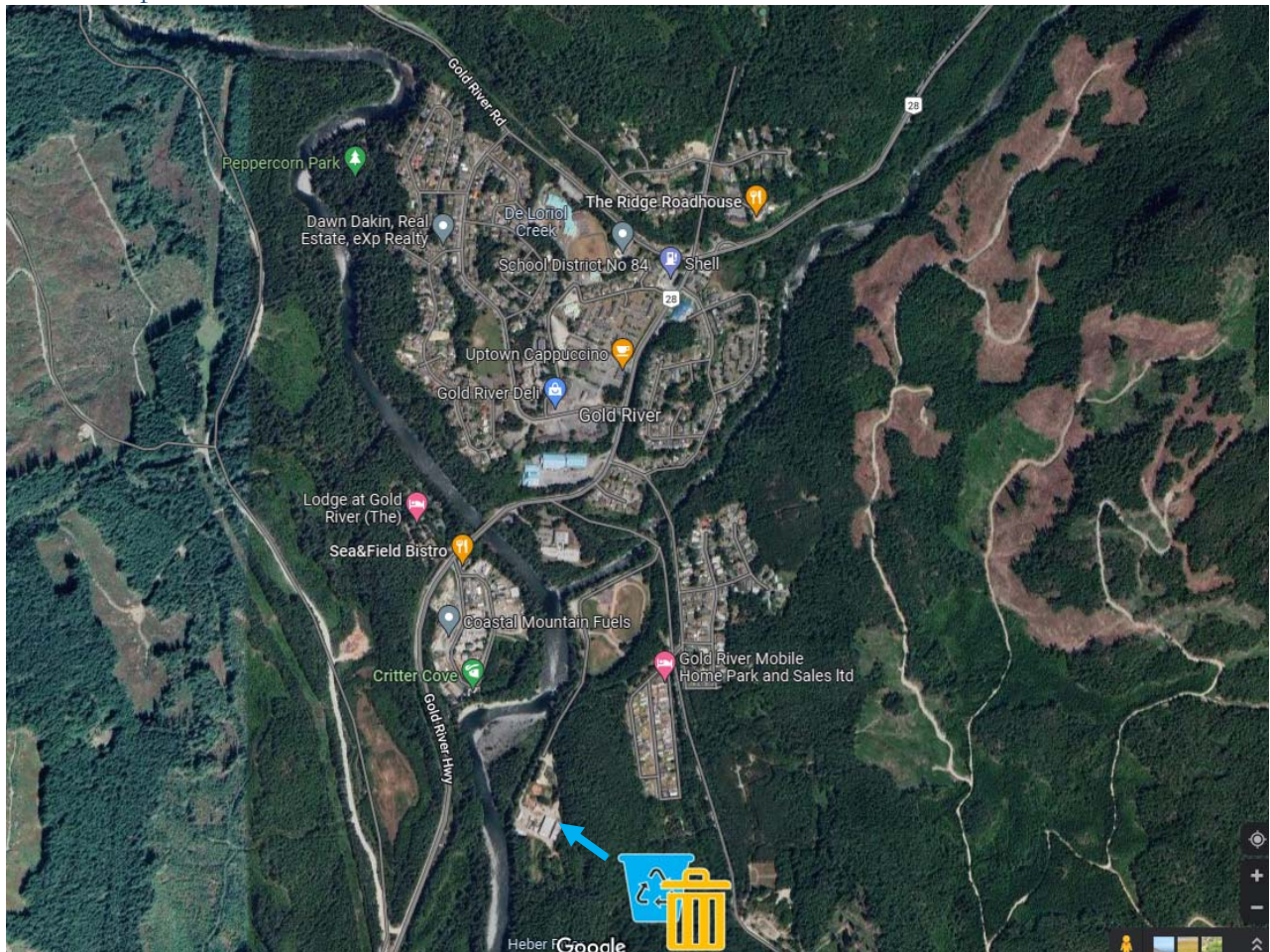


Table 17 Gold River Transfer Station and Recycling Depot Accepted Materials

EPR PROGRAM STREAMS			
Recycle BC (residential packaging and paper)	✓	Product Care Light Recycle (bulbs + tubes)	□
BDL (alcoholic refundables)	□	Product Care Plus (HHW + paint)	\$
Return-It (beverage refundables)	☒	Product Care (alarms CO ₂ + smoke)	\$
MARR (large appliances)	✓	Call2Recycle (small batteries)	\$
ElectroRecycle (small appliance & power tools)	✓	BUCOMA (used oil + antifreeze)	✓
EPRA (electronics)	✓	CBA (lead acid batteries)	✓
OPEIC (outdoor power equipment)	☒	Tire Stewardship BC (tires off rim)	✓
TRP (thermostats)	☒		

NON-EPR DIVERSION STREAMS			
Scrap Metal	✓	Drywall	✓
Commercial Cardboard	✓	Propane and Compressed Gas Tanks	✓
Commercial Mixed Recycling	✓	Fire Extinguishers	✓
Clean Wood Waste	✓	Mattresses	✓
Yard Waste	✓	Tires on Rims	✓
Food Waste	☒	Automobiles	✓
Redux (cooking oil)	☒	Household Items	☒
Clothing and Textiles		Books	
Furniture		Ocean Plastics	

WASTE ACCEPTED AND DESTINED FOR DISPOSAL			
Self-hauled Garbage	✓	Asbestos Waste	☒
Garbage from Curbside Collection	✓	Controlled Waste	☒
Construction, Renovation and Demolition	✓		

- Collected but no revenue generated
- ☒ Not Accepted
- ✓ Accepted and revenue goes to CSWM
- \$ Accepted and revenue goes to operator
- E Accepted at a community event

6 Landfill Gas

The BC Landfill Gas Management Regulation required a LFG Generation Assessment to be completed for landfills that accept MSW on or after January 1, 2009 and has greater than 100,000 tonnes or more of MSW in place, or receives 10,000 or more tonnes of MSW in a calendar year after 2008. The Tahsis, Zeballos and Gold River landfills do not qualify as regulated landfills by these provincial criteria. The CRWMC and CVWMC did exceed the threshold and a LFG generation assessment was completed for each in 2010 by Conestoga-Rovers & Associates (CRA).

6.1 CRWMC

The generation estimate for the CRWMC from this 2010 report concluded that the methane generation in 2009 was approximately 1,300 tonnes and that a landfill gas management facility design plan was required at the site. An updated LFG generation model completed in 2020, with updated closure timing for the CRWMC, concluded that LFG emissions peaked in 2021 at 1,425 tonnes of methane. The LFG collection system will need to remain operational until less than 500 tonnes of methane are generated per year (anticipated to be in 2034), according to the BC Landfill Gas Management Regulation. A landfill gas management regulation substitution application was made to ENV in 2019 for an extension to the timeline for system installation, to align with the filling and final closure of the CRWMC; the application was denied in June 2019.

Thirty-one (31) vertical landfill gas wells were installed as part of the closure works in 2022. Delays on the flare and blower skid have not allowed the system to be commissioned yet, but it is expected to be finalized in summer 2023. Exploration of beneficial use of the LFG at this site are underway with WAGA Energy from France, an established landfill gas upgrading technology provider using cryogenic technology. An application to the Federation of Canadian Municipalities has been submitted to undertake feasibility study work for this project. As a regulated closed landfill with no natural gas pipeline nearby the economics of the project are challenging. Regulated landfills are not eligible to take advantage of carbon offsets for the capture of the fugitive landfill gas, only the replacement of natural gas if renewable natural gas is the product.

6.2 CVWMC

The results from the 2010 LFG generation assessment for the CVWMC indicated that the methane generation in 2009 was approximately 1,750 tonnes. The total estimated quantity of LFG generated at the CVWMC (including the Pidgeon Lake Landfill and Cell 1) in 2022 was 280,580,306 standard cubic feet (7,945,193 m³). The estimate is based on the 2022 estimated LFG generation of 907.0 m³/hr, extrapolated from the 2010 LFG Generation Assessment performed by GHD (then CRA). The 2010 LFG Generation Assessment was updated with the tonnage of waste landfilled from 2010 to 2022 to estimate the 2022 LFG collection efficiency.

Twenty-four (24) LFG wells are active on the Pidgeon Lake Landfill, mostly vertical wells, and seven (7) horizontal wells are active in Cell 1 of the Engineered Landfill. LFG was first collected and destroyed through an onsite candlestick flare in 2016. Since then additional wells were added to the Pidgeon Lake Landfill in the second phase of closure in 2019, and lifts of horizontal wells continue to be added to Cell 1 as filling progresses.

- The total quantity of LFG collected in 2022 was 157,778,060 scf (4,467,770 m³).

- Average gas in 2022 was 50.7per cent methane, 36.0per cent carbon dioxide, and 0.0per cent oxygen, with the remainder being balance gas (nitrogen and trace gases).
- The total estimated methane destroyed in 2022 was 75,784,398 scf (2,145,972 m³).
- Of the total volume of methane destroyed, approximately 96.7per cent or 73,288,878 scf (2,075,306 m³) was flared and 3.3per cent or 2,495,520 scf (70,665 m³) was utilized at the leachate boiler.
- LFG utilization at the boiler for leachate treatment was limited in the summer months when leachate temperatures are naturally warm enough to support microbial activity.
- The estimated collection efficiency for the LFG system in 2022 was 56.2 per cent.

A small amount of LFG is used in the leachate treatment plant to pre-heat the leachate in the winter time using the boiler. More extensive beneficial use of the landfill gas is being considered with Fortis BC as a partner. The LFG would be upgraded on site and Fortis would construct a natural gas pipeline extension to the CVWMC to transport the renewable natural gas (RNG) to users. Local Governments within the CSWM service area would have access to purchase this RNG from Fortis BC on a priority basis, if they wanted to reduce their carbon footprint from the consumption of natural gas. Construction of this facility would follow 18-24 months after an agreement is signed and approval by the regulator, the BC Utilities Commission.

6.3 Federal Methane from Landfill Regulations

As of May 2023, Environment and Climate Change Canada (ECCC) is undergoing consultation on a proposed regulatory framework for landfills in Canada. This framework outlines requirements under consideration for new regulations to reduce methane emissions from MSW landfills. There are many aspects of this regulatory framework which align with the BC regulations, however some differences which are notable are:

- Lower threshold for LFG management to 664 tonnes from 1000;
- Requirements for surface emission monitoring and drone monitoring of the site;
- Leak detection and timeline for repair completion; and
- Set frequency for monitoring LFG wells based on LFG generation.

These changes will impact the labour and capital expenditures for the service to comply with the regulations for landfill gas if mandated at the federal level.

7 Greenhouse Gas Emissions

Methane is responsible for around 30 percent of the global rise in temperatures to date and accounts for about 13 percent of Canada's total GHG emissions. MSW landfills account for about 23 percent of Canada's methane emissions. Methane emissions from landfill are the largest source of greenhouse gases from the CSWM service, but have been significantly reduced from the installation of landfill gas collection and destruction at the CVWMC. In 2023, with the commissioning of the CRWMC LFG collection system emissions will be reduced even further.

At the CVWMC additional emissions are created from operation of the landfill and leachate plant, use of equipment on site, and building heating. The regional service also contributes to emissions from the transportation of materials, and the limited use of heat and equipment on site. For operational emissions, best practice is that if the site is under the control of the service then the emissions can be considered part of the service. If the site is owned, operated or contracted directly by the service for example. This excludes some solid waste services such as municipal curbside collection, CVRD or SRD controlled services.

Table 18 Estimate of 2017-2021 GHGs by Facility and Emission Source

CSWM Facility	Example of Emission Source	Solid Waste Tonne CO ₂ e			
		2021	2020	2019	2018
CVWMC	CVRD Equipment fuel use and building heating	406	314	353	352
	Landfill Fugative Emissions	27,075	15,800	24,050	24,700
	Emissions from Flare and Boiler	2,653	3,155	2,380	2,258
	<i>Landfill Gas Capture Rate</i>	<i>51.0%</i>	<i>62.7%</i>	<i>50.5%</i>	<i>47.6%</i>
CRWMC	Contractor Fuel Consumption Onsite and Transfer of Recycling	262	244	337	341
	Landfill Fugative Emissions	40,275	39,650	39,325	38,825
	<i>Landfill Gas Capture Rate</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>
Transfer of Waste and Recycling	Contractor Fuel Consumption All Other Routes	92	107	96	97
Waste Transfer	Contractor Fuel Consumption for Transfer of Waste CR to CVWMC	125	n/a	n/a	n/a
Cortes Island	Use of skid steer	1.5	0.9	0.8	1.2
Hornby Island	Use of backhoe	4.1	3.9	4.1	3.4
CSWM Recycling Drop-Off Locations	Contractor Fuel Consumption	57	85	95	90
Approximate Tonnes of GHGs for CSWM Service		70,951	59,359	66,641	66,668

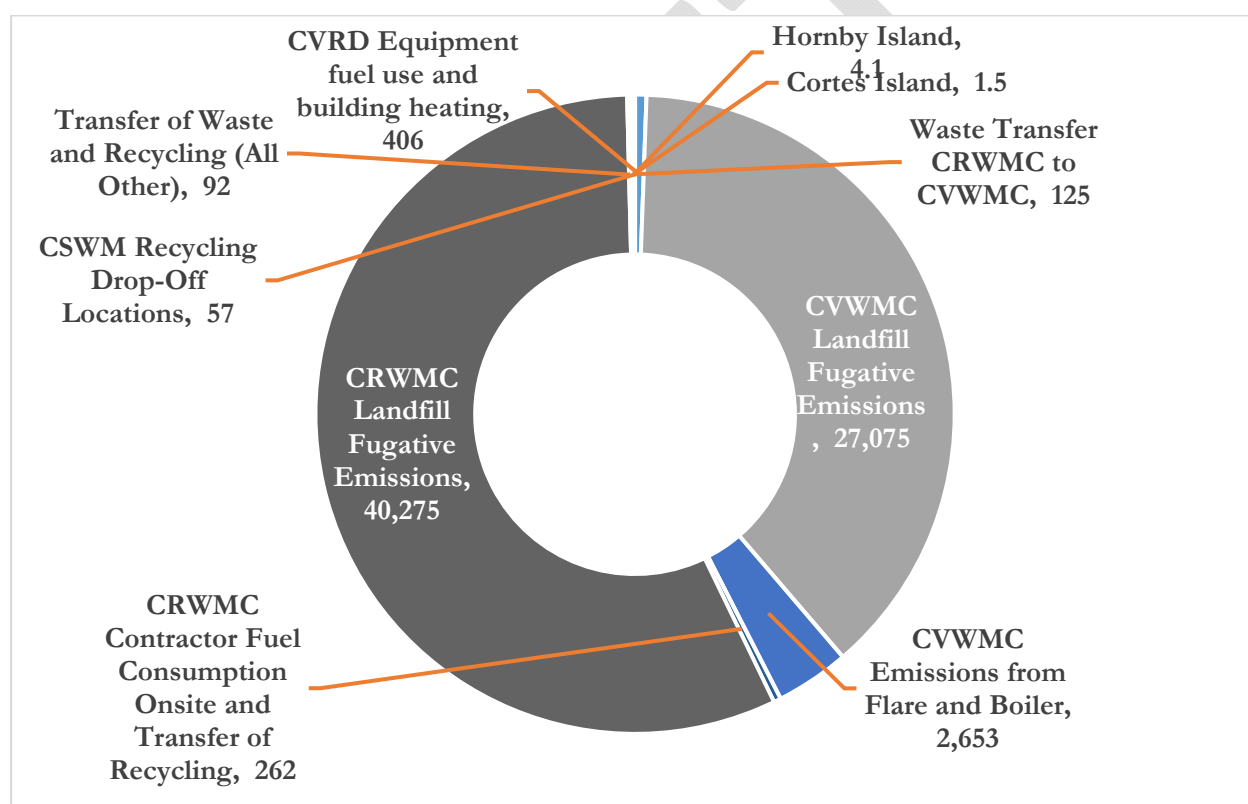
Movement of materials from more rural and remote parts of the service to urban areas for recycling and disposal does contribute to the emissions, however it has a much lower impact than the landfills

themselves. For example, there were over 1,600 trips to manage all of the drywall, wood waste, metal, MSW, and commercial cardboard in 2021, but that contributed only 217 tCO₂e, or 0.3 per cent of the CSWM service emissions.

Downstream emissions to sort and process diverted materials are not included in the table above as that is beyond the scope of this report and operational control.

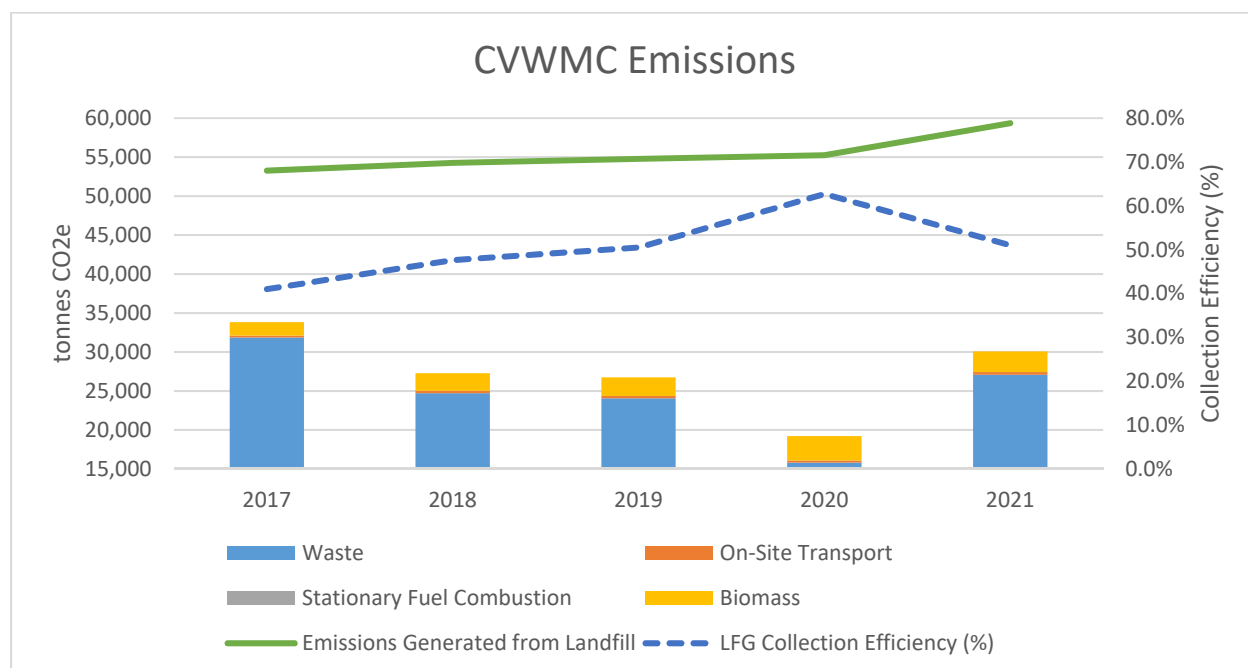
The total emissions in 2021 are estimated to be 70,951 tCO₂e, up from 59,359 in 2020. The landfill capture rate in 2020 was higher because the Pidgeon Lake Landfill had just been closed and limited waste was in the Engineered Landfill contributing to fugitive emissions. Closed areas of landfills have higher rates of LFG capture than active landfills.

Figure 10 Estimate of 2021 Greenhouse Gases from CSWM Service in Tonnes of CO₂ Equivalent



The BC Landfill Gas Management Regulation requires landfill gas collection systems in landfills that generate greater than 1,000 tonnes of methane, and have more than 100,000 tonnes of waste in place or accept more than 10,000 tonnes of waste a year. Of all of the landfills within the CSWM, only the CVWMC and CRWMC are required under the provincial regulation to have landfill gas capture. At this time the CRWMC is not yet in compliance; installation of the LFG collection system was timed to coincide with the final closure of the landfill and will take place in 2023. A federal regulation for methane from landfills is also under development, and is proposed to target landfills releasing greater than 664 tonnes of methane per year, which is unlikely to capture any additional landfills in the service. Additional requirements for leak detection, surface emission monitoring and reporting are anticipated as part of the federal regulations requiring additional staffing and budget for 2025.

Figure 11 Estimate of Greenhouse Gases and Collection Efficiency from CVWMC Landfills 2017-2021



Efforts to reduce fugitive emissions through the closure of the Pidgeon Lake Landfill at the CVWMC, and the installation of landfill gas collection systems has resulted in 140,000 tCO₂e less GHGs being emitted into the atmosphere between 2017 and 2021. Although there are emissions from the flaring of the LFG, methane is known to be up to a more potent GHG, with 25 times the warming potential of carbon dioxide formed from flaring.

The reduction in landfill gas emissions can be seen as the difference between the green emissions generated from landfill, and the total tonnes emitted in each bar. Note that the chart begins at 15,000 and not zero.

For comparison, the emissions related to the collection, transportation, sorting and baling of all blue box and depot materials in the province by Recycle BC was 40,246 tCO₂e, less than the emissions from the CRWMC. Improved diversion at the organics composting facility and more participation in recycling will remove paper, cardboard, yard waste and food scraps from the waste stream and will reduce future emissions.

8 Financing

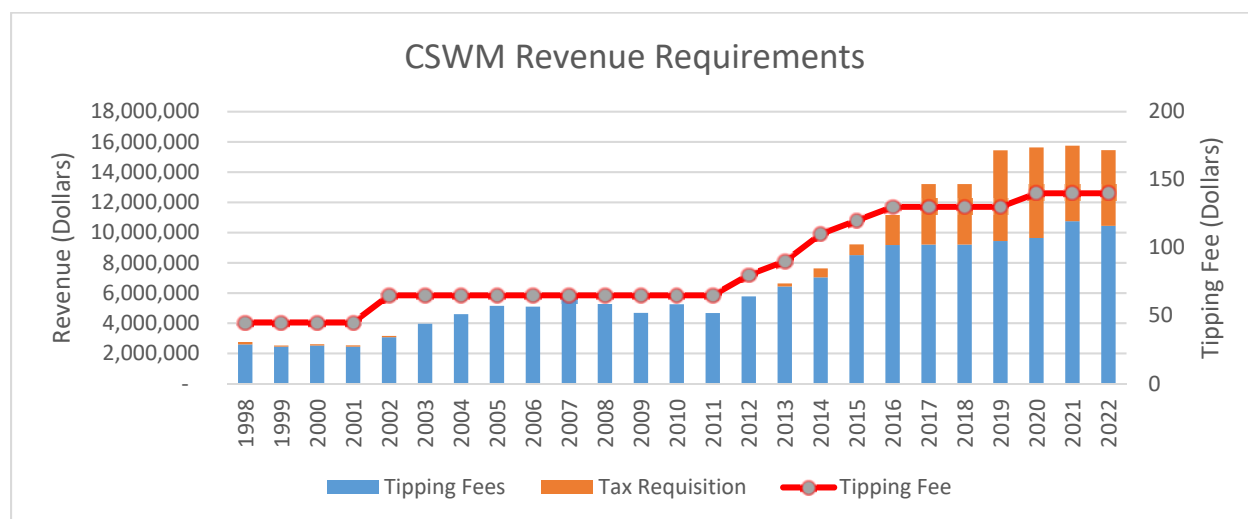
The CSWM service is funded primarily by CVRD Function 391 which raises funds through a combination of tipping fees paid at the CRWMC and CVWMC, a tax requisition, and recoveries from EPR and scrap metal sales. Landfill standards were previously not as strict as they are today, and many services benefited from the burial of waste on existing natural attenuation landfills that were already established, and had lower operating and capital costs. Updated in 2016, the *Landfill Criteria for Municipal Solid Waste* are the new standard for landfill construction in BC.

During the last SWMP update it was known that the capacity of the two large historical landfills in the CSWM region were reaching their limit, and that additional disposal capacity would need to be found which met the new guidelines for landfill construction and operation. Very low tipping fees had been maintained in the service area at that point, and reserve funds had not been put aside in anticipation of the closure costs, and the cost of building a new landfill.

The introduction of the updated second edition landfill criteria in 2011 combined with the third update of the SWMP in 2012 and the fact that the service had exhausted existing landfill capacity, drove significant change. Recycling and diversion programs continued to expand and the unified transportation agreement aimed at leveling transportation costs across the service was implemented. In addition, the 2012 plan identified that all five active landfills would need to close due to a combination of capacity and compliance. A new regional engineered landfill and leachate treatment system would be required. These requirements pushed costs higher and from 2013 to 2017 revenue requirements increased significantly from \$7.6 million to \$16.2 million per year (see Figure 12 below).

In 2014 a bylaw was passed, Bylaw No. 351 being the “Comox Strathcona Waste Management Service (Capital Projects) Loan Authorization Bylaw No. 351, 2014”, authorizing the borrowing of \$45,295,000 for construction of a new landfill cell, leachate treatment plant and the closure of the Campbell River Landfill and Pidgeon Lake Landfill. As the projects identified are nearing completion, final borrowing for these projects is expected to be \$36,511,058. The CSWM service will be required to pay down this debt over the next 20 years. The Board has also agreed to support putting aside money for future capital works and liabilities each year. For example, the recent construction of the Regional Organics Compost Facility was funded not by debt but by provincial and federal grant money, as well as through reserves from CSWM.

Figure 12 CSWM Service 391 Revenue Requirements 1998-2022



Changes in regulatory requirements and reporting standards has required the recognition of a liability for closure and post-closure care. To manage this liability in a fiscally responsible manner, funds are set aside within the Landfill Closure Reserve. The following table provides the estimated cost of closure and post closure liabilities for 30 years post closure for all landfills in the CSWM service, which includes closure of the existing landfill footprint (funding source: a funding mix of reserve, debt and grants), as well as annual cost of post-closure operations, monitoring, maintenance (surface water, landfill gas and leachate management where applicable, erosion, vegetation, settlement and rodents). The funding source for closure and post closure is functions 391 and 392. The projected year end value within the Landfill Closure Reserve is approximately \$3.2 million.

Table 19 CSWM Closure and Post-Closure Liability Estimates as of December 31, 2022

Landfill	Years to Closure	Capacity Used (as of Dec. 31, 2022)	Closure and Post-Closure Liability (as of Dec. 31, 2022)
Historical Natural Attenuation Landfills			
Campbell River Landfill	Closed 2022	100 per cent	\$4,505,377
Pidgeon Lake Landfill	Closed 2019	100 per cent	\$2,602,351
Gold River Landfill	8	96 per cent	\$2,179,591
Tahsis Landfill	10	96 per cent	\$2,214,657
Zeballos Landfill	7	77 per cent	\$1,344,079
Field Sawmill Landfill	Closed 1998	100 per cent	\$50,892
New Engineered Landfills			
Cell 1 - CVWMC	2	73 per cent	\$2,019,979
TOTAL			\$14,916,925

Effective for 2023, a further change in reporting standard (Public Accounting Standard 3280 Asset Retirement Obligations) will result in a larger liability. The valuation of this liability will no longer include a factor related to capacity used.

The CSWM service provides financial and administrative assistance to the smaller, remote facilities. The unified transportation model provides all of the funding required for transporting material from the closest transfer station to the Campbell River facility. There is currently no tipping fee for waste disposed of at the Village of Tahsis and the Village of Zeballos landfills. The Village of Gold River, Hornby Island and Cortes Island residents pay for waste disposal at those facilities before it is transferred to a regional landfill.

The annual financial planning process for CSWM is guided by a Board approved financial planning policy tailored for the regional solid waste service. This policy was recently updated in September 2022 and is presented at the start of each budget season. The CSWM approved budget summary for 2023 is detailed in the table below:

Table 20 2023 Approved Budget for Function #391 Comox Strathcona Solid Waste Management

 2023 Recommended Budget #391 Comox Strathcona Solid Waste Management			
Operating	2022 Budget	2023 Recommended Budget	Increase (Decrease)
Revenue			
Grants in Lieu	0	85,000	85,000
Requisition	5,000,000	5,000,000	-
Applications / Permit Fees	10,025,750	10,421,680	395,930
Other Revenue/Recoveries	285,000	343,000	58,000
Prior Years Surplus	2,533,451	2,937,329	403,878
	\$ 17,844,201	\$ 18,787,009	\$ 942,808
Expenditures			
Personnel Costs	3,051,973	3,301,227	249,254
Directors Remuneration	61,552	61,552	-
Operating	8,814,349	10,162,456	1,348,107
Contribution to Reserve	4,104,635	3,208,930	(895,705)
Transfer to Other Functions	0	5,000	5,000
Debt Charges	1,811,692	2,047,844	236,152
	\$ 17,844,201	\$ 18,787,009	\$ 942,808

The major shift in operating expense is related to the launch of the Regional Organics Composting Facility, and associated expenses. This operation of this facility will be offset by the tipping fees collected from the materials brought for processing.

8.1 Financial Contribution to CSWM 391 by Community

Historically, the CSWM service has relied on a cost recovery model whereby tip fees are used to fund the operations, and the tax requisitions are used to fund capital expenditures (by way of capital reserve contributions), debt servicing and post-closure liabilities. Environmental and facility liability risks to the service are provided for through maintenance of the solid waste function reserves. These reserve funds ensure compliance with provincial requirements, which require environmental monitoring and annual reporting. Furthermore, it is prudent to continue to contribute towards reserves in anticipation of pending regulations surrounding rural landfill closure requirements, landfill methane capture, as well as continual trends towards landfill upgrades for improved environmental protection measures.

As the CSWM works towards achieving the diversion goal of 70 per cent the amount of waste generated will be reduced per person, and thus without an increase in the tipping fee per tonne, the amount of revenue generated from tipping fees of waste will decline. Contribution from community members towards funding the solid waste service based on the assessed value of their property is an established way of fairly distributing costs among waste generators, and that the assessed valued matches the population in each community fairly well.

Further analysis into the funding of the service going forward will be explored at a Board discussion in June 2023, and in consultation through this SWMP.

Table 21 2023 Tax Requisition and 2022 Tipping Fees by Community in CSWM

Financing for Function 391 CSWM Service		2023 Assessed Values		Requisition Value	2022 Tipping Fees to 391 (self identified)		2021 Census Population	
CVRD		\$ 3,085,070,127	64.0%	\$ 3,201,642	\$ 6,074,401	58%	72,445	60%
Area A	Jur 771	\$ 477,164,028	9.9%	\$ 495,194	\$ 575,868	5.5%	7,926	6.6%
Area A Baynes Sound	Jur 771	\$ 285,990,264	5.9%	\$ 296,797	\$ 443,476	4.3%	5,310	4.4%
Area A Denman/Hornby	Jur 771	\$ 191,173,763	4.0%	\$ 198,397	\$ 132,392	1.3%	2,616	2.2%
Area B	Jur 771	\$ 345,574,768	7.2%	\$ 358,633	\$ 128,864	1.2%	7,392	6.1%
Area C	Jur 771	\$ 424,389,601	8.8%	\$ 440,426	\$ 385,615	3.7%	9,158	7.6%
Comox		\$ 539,887,436	11.2%	\$ 560,288	\$ 1,344,216	12.9%	14,806	12.3%
Courtenay		\$ 1,128,790,076	23.4%	\$ 1,171,442	\$ 3,227,860	31.0%	28,420	23.6%
Cumberland		\$ 169,264,219	3.5%	\$ 175,660	\$ 411,978	4.0%	4,447	3.7%
SRD		\$ 1,732,879,604	36.0%	\$ 1,798,358	\$ 4,348,272	42%	48,150	40%
Area A East	Jur 772	\$ 37,450,978	0.78%	\$ 38,866	\$ 28,953	0.28%	864	0.72%
Area A West	Jur 784	\$ 22,825,575	0.47%	\$ 23,688	\$ 12,037	0.12%		
Area B	Jur 772	\$ 60,459,464	1.3%	\$ 62,744	\$ 114,688	1.1%	1,059	0.88%
Area C	Jur 772	\$ 161,528,928	3.4%	\$ 167,632	\$ 129,675	1.2%	2,737	2.3%
Area D	Jur 772	\$ 195,602,890	4.1%	\$ 202,994	\$ 64,473	0.62%	4,153	3.4%
Campbell River		\$ 1,213,101,959	25.2%	\$ 1,258,940	\$ 3,858,695	37.0%	35,519	29.5%
Gold River		\$ 24,782,446	0.51%	\$ 25,719	\$ 121,192	1.2%	1,246	1.03%
Sayward		\$ 8,008,051	0.17%	\$ 8,311	\$ 18,551	0.18%	334	0.28%
Tahsis		\$ 7,260,416	0.15%	\$ 7,535	\$ 10	0.00%	393	0.33%
Zeballos		\$ 1,858,897	0.04%	\$ 1,929	\$ -	0.00%	126	0.10%
		\$ 4,817,949,731	100%	\$ 5,000,000	\$ 10,422,673	100%	120,595	

8.2 Local Service Areas

A number of local service areas also exist within the CVRD and SRD that support the cost of waste management services in a specific part of the larger service area, primarily for waste disposal costs or collection at the driveway. Some of these services were established as far back as the 1970s and were implementing waste diversion practices that were ahead of the curve, and not the standard that the Regional service supported. As the industry evolves and diversion initiatives increase, it may be necessary to determine a service level standard that the CSWM supports for each area through this SWMP update, to ensure equitable funding of minimum service levels, and to allow for communities to choose to elevate that minimum service level through local utility fees or tax requisition within their area.

Table 22 Local Service Areas in the CVRD and SRD for Solid Waste Management

2022 Budget Values	Governing Board	Service	Total Expense	Requisition Value	User Fees	Recycling Revenues	Prior Year Surplus	Transfer From Reserves	Contribution from 391
Hornby Island Waste Service	CVRD	360	\$ 586,675	\$ 400,000	\$ 126,226	\$ 23,935	\$ 36,514	\$ -	\$ -
Denman Island Waste Service	CVRD	362	\$ 127,500	\$ 127,500	\$ -	\$ -	\$ -	\$ -	\$ -
Royston Curbside Collection	CVRD	366	\$ 221,393	\$ -	\$ 136,493	\$ 44,168	\$ 40,732	\$ -	\$ -
Sayward Valley Curbside Collection	SRD	370	\$ 89,112	\$ -	\$ 77,415	\$ -	\$ 2,407	\$ 3,903	\$ 5,387
Sayward Valley Community Clean-Up	SRD	368	\$ 33,773	\$ 26,080	\$ -	\$ -	\$ 1,693		\$ 6,000
Cortes Island Waste Management Centre	SRD	374	\$ 79,113	\$ 60,832	\$ -	\$ -	\$ -	\$ 9,709	\$ 8,572
Cortes Island Roadside Collection	SRD	376	\$ 96,667	\$ -	\$ 83,395	\$ -	\$ 13,272	\$ -	\$ -
Kyuquot/Nootka Solid Waste Disposal	SRD	364	\$ 8,632	\$ 7,463	\$ -	\$ -	\$ 1,169	\$ -	\$ -