

# Squamish-Lillooet Regional District

## Solid Waste & Resource Management Plan Review

Prepared for: Marie-Lou Leblanc  
Resource Recovery Coordinator  
Squamish-Lillooet Regional District

Prepared by: Sue Maxwell  
Principal  
Ecoinspire Planning

December 11, 2023 -FINAL



Ecoinspire

## EXECUTIVE SUMMARY

---

Over 2013 to 2015 the Squamish -Lillooet Regional District (SLRD) developed the updated Solid Waste and Resource Management Plan (SWRMP). Submitted in 2016, it received provincial approval in 2019. The SLRD has been implementing this plan since its development and in 2023 conducted this review.

The review included an examination of each action to determine the progress made. Interviews were conducted with key stakeholders to determine their actions or perspectives on the progress to date. Information was gathered on key factors influencing the plan actions and analyses of the waste stream and greenhouse gas emissions were conducted. As recommended by the provincial guidelines, information was included on the economic development, significant changes and compliance aspects.

Looking ahead, information from partners and Plan Monitoring Advisory Committee (PMAC) members provided a commentary on the progress as well as what the future needs of the region are. Though not directly influenced by SLRD waste policies, First Nations on whose territory the SLRD operates have an interest in the SWRMP and so were invited to participate in the review. The review notes the work being done by some Nations as well as the need for closer collaboration for the next plan update.

Overall the SLRD has made progress on the target to reduce its waste though not meeting the goal of 350 kg/person and has met its target to have 75% of SLRD's population is actively engaged in organic waste diversion.

Successes and challenges noted will be helpful for the ongoing work of the SLRD as well as for the full plan update recommended to start in 2025 and be completed in 2027 (with a framework developed in 2024).

## LAND ACKNOWLEDGEMENT

---

The Squamish-Lillooet Regional District is found within the traditional territories of several First Nations, including the Skwxwú7mesh Úxwumixw (Squamish), St'át'imc and Líl'wat, which is a distinct Nation with linguistic, cultural, familial and political ties to the St'át'imc Nation. Each Nation is independent and self-governing. In the case of the St'át'imc, there are eleven distinct and self-governing communities (including Líl'wat) within the Nation.

Small parts of the SLRD also overlap with the traditional territories of the Stó:lō, Tsleil-Waututh, Nlaka'pamux, Tsilhqot'in, and Secwepemc Nations.

The SLRD does not provide direct services to the residents of the First Nations communities located within the region. However, the organization is committed to enhancing relations with the indigenous communities and First Nations within whose territories the SLRD operates.

## TABLE OF CONTENTS

---

1.0	Introduction and Overview .....	4
1.1	Vision & Objectives.....	4
1.2	Plan Targets .....	5
2.0	Action Review by Plan Section .....	6
2.1	Communications.....	6
2.2	Reduction and Reuse .....	11
2.3	Waste Diversion Through Policy .....	12
2.4	Extended Producer Responsibility .....	13
2.5	Residential Waste Management.....	15
2.6	Commercial and Multi-Family Waste Management.....	16
2.7	Organic Waste Management.....	17
2.8	Construction and Demolition Waste Management.....	17
2.9	Landclearing Waste Management.....	17
2.10	Residual Waste Management.....	18
2.11	Illegal Dumping .....	19
2.12	Wildlife and Waste Management.....	20
2.13	Land Use Planning.....	21
2.14	Monitoring and Measurement .....	21
2.15	Authority over Waste Management Activities in the SLRD .....	22
2.16	Additional Work Completed .....	22
2.17	Additional Work To Do .....	23
2.18	Key Factors.....	23
2.18.1	Population.....	24
2.18.2	Staffing.....	26
2.18.3	Budget and Costs .....	26
2.18.4	External plans.....	27
2.18.5	Other External.....	28
3.0	First Nations .....	29
4.0	Waste Disposal Analysis .....	30
4.1	Waste Generation, Disposal and Diversion Estimates.....	31

4.2	Waste Composition .....	35
5.0	Greenhouse Gas Emissions.....	36
6.0	Economic Development Summary .....	37
7.0	Compliance Activities .....	37
7.1	SLRD .....	37
7.2	Resort Municipality of Whistler .....	38
7.3	District of Squamish.....	38
7.4	Village Of Pemberton.....	38
7.5	District of Lillooet .....	39
8.0	Significant Changes.....	39
9.0	Key Partner & Plan Monitoring Advisory Committee Perspectives.....	39
9.1	Progress .....	40
9.2	Future Areas of Focus .....	40
9.3	Plan Update Timing .....	42
9.4	First Nations Engagement.....	42
10.0	Effectiveness Review .....	42
10.1	Targets .....	42
10.1.1	Waste per capita.....	42
10.1.2	Percentage of population actively engaged in organic waste diversion.....	42
10.2	Successes .....	43
10.3	Challenges.....	44
10.4	Summary.....	45
11.0	Recommendation .....	45
	Appendix A Action Status Summary Table.....	46
	Appendix B Key Partners .....	48
	Appendix C EPR Program Availability .....	49
	Appendix D EPR Program Data-SLRD .....	50
	Appendix E Waste Composition Studies Results .....	51
	Appendix F Estimated GHGs Avoided Through Diversion.....	52

## List of Figures

Figure 1-1 Priorities and Criteria from SLRD's SWRMP .....	5
Figure 4-1 Total Materials by Stream .....	31
Figure 4-2 Materials by Stream Per Capita .....	32
Figure 4-3 Combined Waste Composition -SLRD .....	35

## List of Tables

Table 2-1 Communications Initiatives .....	7
Table 2-2 Reduction and Reuse Initiatives .....	12
Table 2-3 Waste Diversion Policy Initiatives .....	13
Table 2-4 EPR-related Initiatives.....	14
Table 2-5 Residential Waste Management Initiatives .....	15
Table 2-6 Commercial and Multi-Family Waste Management Initiatives .....	16
Table 2-7 Organic Waste Management Initiatives .....	17
Table 2-8 C&D Management Initiatives.....	17
Table 2-9 Summary of Garbage Receiving Facilities in the SLRD .....	18
Table 2-10 Residual Waste Initiatives .....	18
Table 2-11 Initiatives to Prevent Illegal Dumping.....	19
Table 2-12 Wildlife Management Initiatives.....	20
Table 2-13 Monitoring Initiatives .....	21
Table 2-14 Population Data for the Service Areas within the SLRD.....	25
Table 2-15 Budget for Regional Solid Waste Management 2014-2022 in 1000's of dollars.....	26
Table 2-16 Product categories and target dates for programs -CCME EPR .....	27
Table 4-1 Garbage Disposal in Tonnes by Community .....	32
Table 4-2 Diversion (tonnes) for specific streams and select years.....	33
Table 4-3 Change in Materials Generation and Flow by Hierarchy Level .....	34
Table 5-1 GHG Emissions -Direct 2018-2022 .....	36
Table 10-1 Percentage of population actively engaged.....	43

## Abbreviations

C & D - construction and demolition  
ICI - institutional, commercial and industrial  
EPR - extended producer responsibility  
PMAC - Plan Monitoring Advisory Committee  
PPP-packaging and printed paper  
SLRD - Squamish-Lillooet Regional District  
SWRMP - Solid Waste and Resource Management Plan  
RMOW – Resort Municipality of Whistler  
DoS – District of Squamish  
DoL -District of Lillooet  
VoP -Village of Pemberton

## 1.0 INTRODUCTION AND OVERVIEW

---

Solid Waste Management Plans are a requirement of the provincial government under the *BC Environmental Management Act* and are to cover solid waste but do not include liquid waste, agricultural waste nor biosolids. The Squamish-Lillooet Regional District (SLRD) Solid Waste and Resource Management Plan (SWRMP) governs the management of municipal solid waste in the SLRD, though member municipalities may deliver their own services, have their own regulations and deliver waste-related programs and are part of the planning. The current plan started development in 2013, was submitted to the provincial government in 2016 and received Ministry approval in 2019. In 2023 a focused amendment to the plan was submitted to the Ministry of Environment and Climate Change Strategy (MOECCS) to allow for the District of Squamish Landfill to expand laterally or facilitate the export of waste if that is not possible; the approval is pending.

The province requires the plans to be reviewed every five years and renewed every 10 years. The current plan was an update of the 2007 plan. Despite the SWRMP only having been approved four years ago, due to the length of time since the initial planning process, the SLRD determined that an initial review of the current plan was warranted.

This review and report have been undertaken in accordance with the BC Ministry of Environment's *A Guide to Solid Waste Management Planning* (2016). The report reviews the intentions of the original plan, status of the actions by section, and the budget and costs. It also analyzes the waste data and greenhouse gas (GHG) emissions. Compliance activities, significant changes, partner perspectives and an effectiveness review round out the report leading to the recommended course of action.

Notes on the scope of review and language:

- The review looks at activities relating to the SWRMP in the SLRD but is not limited to the actions by, or responsibilities of, the SLRD.
- Solid waste service planning for First Nations communities is not under the jurisdiction of provincial nor regional governments so the 2016 plan did not include actions related to those services. This does not mean that collaboration and joint planning should not and is not occurring.
- The use of the name of a local government indicates that the action has been conducted by that organization or service delivered by that organization. Where the name of the community is used, it indicates that the service is available in that community, but not necessarily provided by the local government.

### 1.1 Vision & Objectives

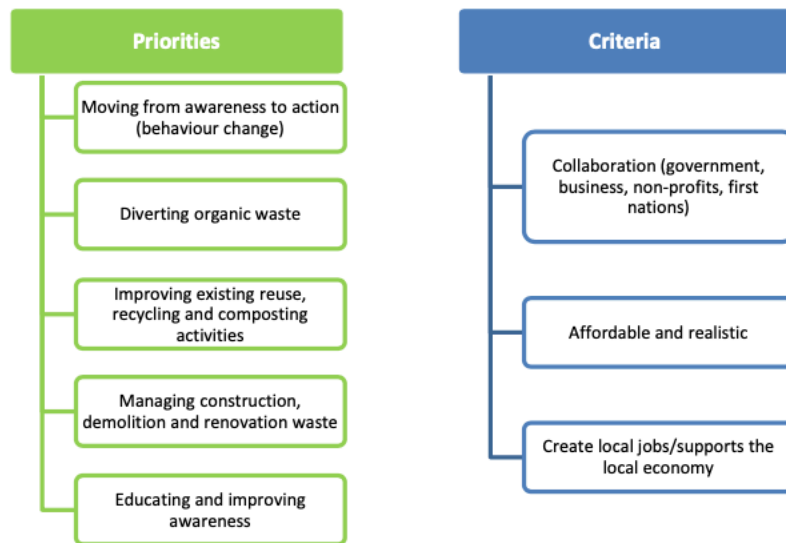
The 2016 SLRD SWRMP's long term vision is:

1. The ultimate goal is zero waste – all of our discards are regarded as resources.
2. To the greatest extent possible, these resources are used locally, thereby moving the SLRD towards a closed-loop economy.
3. The system to manage discards is financially self-sustaining. Embedded in this goal is to have the cost to purchase a product include the cost of managing it at the end of its useful life.

4. Citizens are actively engaged in behaviours that reflect the waste management hierarchy (i.e. reduce before reuse before recycle...).
5. Until we have achieved zero waste, the infrastructure to manage residual waste meets or exceeds provincial guidelines and regulatory requirements.

The plan's objectives are shown here as priorities and criteria:

Figure 1-1 Priorities and Criteria from SLRD's SWRMP



## 1.2 Plan Targets

The plan sets out the following targets, with a commitment to assess progress annually and revisit the target relevancy in five years,

1. The SLRD achieve an average municipal solid waste disposal rate of 350 kilograms per capita by 2020.
2. That 75% of SLRD's population is actively engaged in organic waste diversion. This engagement may take the form of implementing variable tipping fees to encourage source separation, implementing bylaws that require source separation of organics by businesses, provision of curbside collection services for residential organic waste, ensuring the availability of commercial organic waste collection services and providing or supporting organic waste processing infrastructure.



## 2.0 ACTION REVIEW BY PLAN SECTION

---

This section details the status of the actions in the order they appear in the plan and includes the status, implementation intentions in the plan (hours of staff time required and budget), responsible organizations and intended timing. Details are also provided on changes, if any, and work completed to date. The intention of the plan was to have the member municipalities and the SLRD collaborate on various initiatives. In some cases, one organization was to take the lead and then share the developed resources and knowledge gained with the others. For the following tables the organizations are abbreviated as the District of Lillooet (DoL), District of Squamish (DoS), Resort Municipality of Whistler (RMOW) and the Village of Pemberton (VoP). As both the RMOW and DoS operate their own facilities, have the larger populations and have more staff capacity to work on initiatives, the plan had highlighted these organizations to lead or collaborate on several actions. The DoL and VoP were also to lead or collaborate on actions specific to their communities as well as participate in the actions that applied to all municipalities. A summary of the action status is shown in Appendix A.

Many initiatives will be noted first in one section such as Communications but also have overlap with other content areas so they were also listed under those. This was to emphasize that some actions would cut across different aspects. It was not meant to designate that an action listed under Communications was to be implemented solely by the communications role, nor only have a communications focus.

For each section, there are also details on changes since the plan was developed as well as perspectives from key partners who were interviewed for this purpose. Key partners interviewed are listed in Appendix B.

### 2.1 Communications

The SLRD has worked hard to expand and improve its communications reach since the plan was developed. It has dedicated pages on the website, a Zero Waste YouTube channel, and an Instagram account (new in 2018) as online resources. A waste-specific Facebook page, Zero In On Waste SLRD, was deactivated in 2023 due to low interactions. All information is now shared on the main SLRD Facebook page. A suite of standard signage and toolkits is available in different formats to allow users to download and print signs and labels for their own homes, businesses or facilities. Regional depot recycling guides were created for Whistler, Gold Bridge, Lillooet, Pemberton, Devine and Squamish. Annual campaigns such as *Create Memories Not Garbage* and *What's Your Super Habit?* are shared as well as staff supporting Pitch In Week, Earth Day and Waste Reduction Week/Circular Economy Month. The SLRD is a partner with the *Love Food, Hate Waste Campaign* and staff develop their own campaigns to support site specific needs such as signage for the new Pemberton Transfer Station and supporting the Spring Scrap Metal Clean Up and Tires Collection event at Devine.

In addition to the work that the SLRD is doing, the RMOW and DoS are also conducting their own communications work and campaigns to support their Zero Waste strategies. For example, the RMOW created a Community Monitoring Dashboard so the public can see total landfilled waste, total materials and waste diversion and both the RMOW and DoS share Zero Waste tips in their e-newsletters and/or local papers. The DoS established an Outreach Sustainability Coordinator position to support its plan. Details on the RMOW and DoS's campaigns related to the plan actions are noted below.

Table 2-1 Communications Initiatives

Initiatives	
<b>Incorporate community based social marketing into major campaigns</b>	
Status: Ongoing	Implementation Plan: included with campaigns
Responsibility: SLRD, municipalities	Timing: 2015 ->
<p>Details: This has become standard practice in programs led by the SLRD, RMOW and DoS. The logo and tagline “Love this place. Reduce your waste” developed for SLRD solid waste communications was launched in 2015 with partners and a media campaign and is integrated into communications. Reusable bags with the logo were also given out at the launch. The SLRD has also created 11 Love this Place, Reduce your Waste videos for the waste management facilities within the region at the request of the Board for Earth Day in 2018.</p>	
<b>Residential food scraps reduction campaign</b>	
Status: Completed, now ongoing	Implementation Plan: 1000 hrs + \$66,000
Responsibility: SLRD, municipalities	Timing: 2015-17
<p>Details: The initial roll out of this campaign included distributing kitchen catcher totes of which 593 were given out by the SLRD from 2016 to 2019 as well as pledge cards, customizable signage, a contest, Facebook posts, and information handouts at the depots. Subsequently, a food storage guide was developed. Kitchen catchers are being given out on an ongoing basis with outreach events. There was a screening of <i>Just Eat It</i> in Squamish in partnership with Squamish Climate Action Network in 2015, and in Whistler in partnership with AWARE in 2016. There have been annual pumpkin smashes with Sea to Sky Soils in Pemberton and in Squamish at Carney’s (now GFL) before curbside organics were rolled out in Squamish. Carney’s/GFL also included information in their brochure on Food Scraps Composting. The Tit’q’et First Nation used the Love this Place branding for their community composting program in 2017 and the SLRD partnered with them to support the roll out. The SLRD is a partner for the <i>Love Food Hate Waste</i> Campaign. The SLRD rolled out year-round curbside organics collection programs in Britannia Beach and Furry Creek. Together the SLRD and DoS developed communications to support the curbside organics collection programs.</p> <p>The RMOW developed a solutions guide for recycling and reducing food waste in commercial properties in 2020 and continues to participate in the <i>Love Food Hate Waste</i> campaign. It also has a solutions guide for reducing food waste in multi-family accommodation properties. Kitchen catchers have been distributed in the community. The RMOW is partnering on the Sea to Sky project for food recovery and resiliency. A new food service solutions guide and diversion road map has been developed. Some of this work has been done in partnership with AWARE.</p> <p>The DoS has a solutions guide and a focus on reducing food waste. There have been communications focused on the ICI sector. The DoS rolled out residential curbside organics collection in 2015 with supporting communications. Food waste has been an ongoing focus and strategies have included an annual work shop series with sessions on food reuse, such as canning. Kitchen catchers were distributed in the community. Some of this work has been done in partnership with the Squamish Climate Action Network (Squamish CAN). DoS was also involved with the <i>Love Food, Hate Waste</i> program when it was a provincially-funded and supported program.</p>	

The SLRD, DoS and RMOW do not allow contamination of waste with organics or recycling and there are penalties in the tipping fees for mixed waste.

The VoP and DoL have no actions to report.

**Establish a mechanism for sharing, standardizing, and coordinating communication and education**

Status: In progress

Implementation Plan: no details

Responsibility: SLRD

Details: The SLRD has shared its communications resources with member municipalities, First Nations and non-profits in the past and is working on an improved mechanism for sharing and coordinating communications among organizations. Challenges exist when there is a vacancy in the partner organizations. The standardized signs are one of the most used resources.

**ICI and Multi-Family communication strategy**

Status: In progress

Implementation Plan: 1000 hrs + \$30,000

Responsibility: SLRD, municipalities

Timing: 2017-18

Details: The SLRD worked on a pilot of recycling and organics signage in multifamily buildings in Pemberton in 2016 and rolled it out in 2017. Next steps are to determine the location and number of buildings and businesses that fall into this category in the SLRD outside of the member municipalities. Past efforts included standardizing signage which was made available to everyone and was well used. Work is underway to incorporate recent Recycle BC changes. The DoS, RMOW and SLRD now have waste room technical guidelines. The SLRD Diversion Storage Technical Design Guidelines is part of the Development Permit requirements. A SLRD ICI and Multi-Family Strategy is planned for 2023-2024.

The RMOW developed a guide, changed bylaws to require 3 stream recycling (2017) and had a communications campaign. It developed a Zero Waste Guide for Whistler restaurants. AWARE started a program to train cleaning staff. The RMOW is now working with a facility managers group on three stream recycling and more. It will be looking at food services' waste rooms and advising them in the fall of 2023.

The DoS changed its bylaw to require source-separation in all ICI, multi-family homes, temporary use and residential properties. The DoS has both a Zero Waste Action Plan and a Circular Economy Roadmap, which support the business community on the topics of built environment, food and organics, and textiles. The DoS developed Solutions Guides for businesses, multi-family homes, and property managers; they are in the process of updating the guides and will then redistribute and promote them. In 2024, the DoS will be working with the food businesses to conduct a circular assessment, to provide feedback on waste reduction opportunities.

The VoP and DoL have no actions to report.

**Tourist accommodation communication strategy**

Status: Started

Implementation Plan: 500 hrs + \$20,000

Responsibility: Whistler, Squamish

Timing: 2019-20

Details: The RMOW has ongoing social media information on this and has strategy development in the work plan. The policy is in place for all ICI settings but there is a need to educate and develop

tools specific to this sector, smaller short term rentals in particular, and then to gradually enforce the bylaw.

The DoS has no actions to report.

#### **Construction & demolition communication strategy**

Status: In progress

Implementation Plan: 500 hrs + \$15,000

Responsibility: SLRD, municipalities

Timing: 2019-20

Details: The DoS approved a green demolition bylaw in 2021 and three internal deconstruction projects were completed afterwards using the tracking required in the bylaw. Current work is focused on streamlining internal processes for permits and interdepartmental alignment as well as assessing how the bylaw is working within the community and how similar bylaws are working in North America. Future work will look at enforcement, increasing diversion requirements and the refundable deposit that is collected, moving more towards deconstruction. Communications include site visits, a webpage, the Contractor's Guide and an e-newsletter targeted to builders. The DoS is also collaborating on support for construction and demolition materials reuse systems. The Squamish community, including the DoS, has rallied to preserve the capacity for reuse. The DoS has also developed an *Organics and Recycling Guide for Construction, Renovation, Demolition and Material Suppliers* which outlines why, how and where to divert materials. The Circular Economy grant work will be looking at Circular Economy assets for built environment as well.

The RMOW is working on a demolition waste diversion strategy and on communications around source separation and improving the process. The RMOW is looking at how to build capacity at the transfer station to set up a diversion system for C&D. It is also testing out a furniture diversion system.

The SLRD will be looking at this action for Electoral Areas C & D first then A & B using what has been learned from the work being done in the RMOW and DoS.

The VoP and DoL have no actions to report.

**No work has yet looked at building reuse or relocation, nor developed a comprehensive 3Rs education and information program for contractors.**

#### **Promote local C&D reuse/recycling opportunities**

Status: Started

Implementation Plan: 40 hrs + \$1,000/3 yrs

Responsibility: SLRD, municipalities

Timing: 2015 ->

Details: Both the DoS and RMOW's actions noted above will support the need for using local options but these have not been actively promoted and catalogued yet. The DoS is exploring the development of a wood salvaging program at its Transfer Station.

The SLRD, VoP and DoL have no actions to report.

#### **Coordination of local governments' internal zero waste initiatives**

Status: Started

Implementation Plan: 40 hrs + \$1,000

Responsibility: SLRD, municipalities

Timing: 2015-16

Details: The DoS committed to develop and implement a corporate zero waste program and set up foundational systems in its Zero Waste Action Plan. It has incorporated social and sustainability requirements into its Purchasing Policy. The RMOW's Zero Waste Action Plan has an action to implement an organization-wide education and training programs at RMOW to reduce waste. The RMOW will also be examining its purchasing policy. The VoP has established a green initiatives committee.

The intention is to be leading by example.

The DoL has no action to report.

#### **Expansion of zero waste workshops**

Status: Completed, ongoing

Implementation Plan: 0 hrs + \$5,000/yr

Responsibility: SLRD, municipalities

Timing: 2015 ->

Details: School workshops are held annually by the contracted Zero Waste educator and the SLRD is increasing the number of them to respond to the demands (with the RMOW and DoS willing to support additional ones in their communities). From 2016 to 2018, SLRD staff attended an average of 10 community outreach events each year, often at farmer's markets. It also partnered with local libraries to host movie nights with movies like the *Clean Bin Project* and *Fixed!* In 2017, the SLRD held its first Repair Café in partnership with Pemberton Men's Shed and in 2018 started funding for repair cafes in municipalities and electoral areas. The SLRD gave a community presentation in Pemberton in 2020 and hosted Recycling Pop Up depots in the summer 2023. The SLRD is working to further expand the zero waste workshops but has faced challenges in finding local organizations to partner.

The DoS has resumed and expanded its in-person events in partnership with Squamish CAN (Repair Cafés, Re-use It Fair, Zero Waste Workshop Series, clothing swap, mending workshop, and upcycling workshops) and have held pop up recycling depots in the summer months. It hosted the Dream Rider Zero Waste Heroes program in 2018 and online during the pandemic.

The RMOW has partnered with AWARE on Zero Waste stations in parks and the Farmers' markets, ZW Heroes (education and waste diversion at events), repair cafes, the Community Garage Sale, and Clothing Swaps.

The VoP has hosted a Zero Waste booth at the recent Canada Day event.

The DoL has no action to report.

#### **Bear Smart Back Yard Composting**

Status: Complete, ongoing

Implementation Plan: 20 hrs + \$1,000/3 yrs

Responsibility: SLRD, municipalities

Timing: 2015 ->

Details: Both DoS and RMOW solid waste bylaws allow for backyard composting as long as it does not attract wildlife but as both communities also have organics drop off or collection options, it has not been widely promoted.

The SLRD commissioned four "Make Soil, Not Waste" workshops in the Pemberton and Area C area (2022) with plans to expand this to Lillooet. It has also promoted this more widely in areas without

organics collection options and has an updated brochure and information on the website. The SLRD Wildlife Attractant Bylaw requires that any composting activity must not attract wildlife.

#### **Increase Extended Producer Responsibility (EPR) Awareness**

Status: Completed, Ongoing

Implementation Plan: 20 hrs + \$1,000/3 yrs

Responsibility: SLRD, municipalities

Timing: 2015 ->

Details: The SLRD is promoting the use of EPR collection facilities on its website, including the Recyclepedia, and has created a social media campaign *There's a Program for That*. It is also actively working with residents of Britannia Beach and Furry Creek to improve the quality of materials collected for the Recycle BC program. The SLRD promotes the EPR programs to Britannia Beach and Furry Creek residents using the ReCollect app as well through a Curbside Sorting Guide "What Goes Where".

The DoS participated in most of the consultations to improve EPR programs, with a focus on communications. It has also paid for newspaper ads promoting key consultation opportunities to inform the community. It is actively working with programs to improve systems locally and looking to increase collection sites within the community. It uses a Waste Wizard app to help residents and businesses determine how to correctly dispose of items including EPR materials. There is also a *What Goes Where Guide* for EPR and other materials, which is published in the newspaper once every two years, and is in the process of being translated into Punjabi.

The RMOW has been working with programs advocating for events and other ways to increase the presence and awareness of the programs. Information is provided on their website including the Recyclepedia.

The VoP has a link to the SLRD's website to assist residents with what goes where and has shared information on this at its Canada Day booth.

The DoL has no actions to report.

## **2.2 Reduction and Reuse**

Changes since the plan was written include:

- The relocation of the Whistler Re-Use-It Centre to the Nesters Depot location securing a long-term lease with the RMOW and the relocation of the ReBuild It Centre to the Function Junction depot location
- The opening of the Whistler Tool Library and an increase of items other than books available at the Whistler Library
- An increase in Whistler in the number of public water foundations and options to refill water bottles
- The development of the Sea to Sky Food Recovery Plan
- The closure of the Pemberton Re-Use-It Centre
- Squamish ReBuild undergoing restructuring
- The opening of a Squamish Men's Shed



- Temporary closures of the free stores at the SLRD transfer stations and the Lillooet Landfill during the pandemic. These have now been reopened at Gold Bridge, Devine and Pemberton
- Opening and some closures of refill stores in Pemberton, Squamish and Whistler

The plan does note that communications campaigns should encourage reduction and reuse behaviour (the first aspect was to be the food waste reduction one), which would align with the work to reduce single use items that has been done by the federal and provincial governments in recent years.

**Table 2-2 Reduction and Reuse Initiatives**

Initiatives	
<b>Campaigns to encourage reduction and reuse behaviour</b>	
Incorporated into Communications Initiatives	
<b>Re-Build-it Centre facility in Pemberton</b>	
Status: Delayed	Implementation Plan: 40 hrs + \$tbd
Responsibility: SLRD, Pemberton	Timing: 2017
Details: There have been challenges in finding space, a partner organization, and budget allocation. This, as well as re-establishing a Reuse it Centre, is still to be done by the VoP and the SLRD.	
<b>Re-Build-it Centre facility in Lillooet</b>	
Status: Delayed	Implementation Plan: 60 hrs + \$15,000 capital + \$tbd ops
Responsibility: SLRD, Lillooet	Timing: 2018
Details: There have been challenges in finding space, a partner organization, and budget allocation. Staff have been reaching out to potential partners for both Re-Use It and ReBuild-it, intending to start with cohosting reuse events.	
<b>Bear Smart Back Yard Composting</b>	
Incorporated into Communications Initiatives	
<b>Fund for local zero waste initiatives</b>	
Status: Started	Implementation Plan: 15 hrs + \$5,000/yr
Responsibility: SLRD	Timing: 2017->
Details: The SLRD is developing the application process with a temporary honorarium in place.	
There is a similar action is also in the DoS Zero Waste Action Plan and CE Roadmap, although they have not yet been initiated.	

## 2.3 Waste Diversion Through Policy

Over time the use of variable tipping fees and disposal policies have become more consistent, particularly in the southern part of the SLRD to drive better source separation and diversion. Waste diversion has also been



supported by increasing diversion options such as a temporary tires event and metals bin at the Devine transfer station.

The DoS has added requirements for clear bags in its bylaw so that this can be another tool to improve proper source separation and diversion of materials and enable visual audits to occur at ICI and multi-family properties, although this has not been enforced to-date.

**Table 2-3 Waste Diversion Policy Initiatives**

Initiative	
<b>Establish regionally consistent tipping fee categories</b>	
Status: In progress and Ongoing	Implementation Plan: 10 hrs/yr
Responsibility: SLRD, Whistler, Squamish	
SLRD to coordinate	Timing: 2016 ->
<p>Details: The DoS and RMOW tipping fees are kept at very similar rates to avoid waste migration. Communications between the SLRD, DoS and RMOW ensure consistency as much as possible.</p> <p>The SLRD is slowly increasing tipping fees for SLRD-run facilities on a north-south basis. Lillooet materials do not flow to the south -fees there are reasonably consistent with the neighbouring Thompson-Nicola Regional District.</p>	

## 2.4 Extended Producer Responsibility

A review of the EPR programs using their annual reports and websites shows that the member municipalities have collection locations from all consumer-facing programs with the exception of thermostats, which can be mailed, and major appliances. This does not mean that the services have scaled with community growth or that the hours are adequate. Appendix C has the details by community for each program. For Gold Bridge and Devine which both have staffed transfer stations, only some programs are available in Gold Bridge and only batteries in Devine. The Shalalth Waste Management Centre (a First Nations community facility) is noted as having options for small appliances, outdoor power equipment, paint, Product Care household hazardous waste and PaintShare. The Ministry is working on addressing the inequities for service delivery in smaller communities and this work may benefit the SLRD should it mandate service levels. Given a reluctance to ban materials where there are no collection options, the Ministry's work can support making it easier to ban materials in smaller transfer stations.

With this in mind, the SLRD has been trying to increase offerings to collect EPR materials in smaller locations by collecting materials and consolidating them at larger centres or partnering with programs for collection events (for example, Devine tire collection events). The Recycle BC depot in Squamish (GFL Queens Way) is facing capacity constraints, and there are concerns about its ability to service the growing population of Squamish, as well as Electoral Area D residents in Britannia Beach and Furry Creek. The SLRD has asked Recycle BC to set-up a collection site within those two communities, although it may not align with Recycle BC's proposed amendment to their Program Plan about where collection sites should be located. Some locations are accepting both ICI and residential packaging and printed paper to provide the service to the whole community but this means that the service is not supported financially by Recycle BC.



The work to maintain bans of EPR materials will be ongoing (unless a blanket ban is in place) as the Ministry has committed to ongoing expansion of the EPR programs with upcoming ones to include:

- mattresses and foundations,
- more battery types including EVs,
- moderately hazardous products like compressed canisters and fire extinguishers, medical sharps as well as a commitment to evaluate policy options for ICI packaging and paper.<sup>1</sup>

**Table 2-4 EPR-related Initiatives**

Initiatives	
<b>Landfill bans on specified EPR materials/products</b>	
Status: In Progress	Implementation Plan: 40 hrs
Responsibility: SLRD, Whistler, Squamish	Timing: 2016
<p>Details: The SLRD has surcharges for mixed waste with loads containing more than 5% recyclable and organics. This is in place at the Lillooet Landfill and the Pemberton, Gold Bridge and Devine transfer stations.</p> <p>For EPR materials, the SLRD also specifically bans:</p> <ul style="list-style-type: none"> <li>• <b>Pemberton:</b> antifreeze and containers, household hazardous waste, tires, used paint, electronic waste, large appliances, lead acid batteries, light bulbs, power tools, smoke and CO alarms, small appliances, oil and filters, recyclable materials</li> <li>• <b>Lillooet:</b> antifreeze and containers, household hazardous waste, tires, used paint, electronic waste, large appliances, lead acid batteries, light bulbs, power tools, smoke and CO alarms, small appliances, oil and filters, recyclable materials</li> <li>• <b>Gold Bridge:</b> electronic waste, large appliances, lead acid batteries, oil and filters, tires, recyclable materials antifreeze and containers, household hazardous waste, paint and cans</li> <li>• <b>Devine:</b> household batteries, recyclable materials, household hazardous waste, tires, large appliances, e-waste</li> </ul> <p>The SLRD has prohibited materials list for all the materials that are not accepted at the SLRD facility and cannot be recycled nor landfilled.</p> <p>The DoS 2021 bylaw update states EPR materials are banned from disposal (although there is also a detailed list of banned materials of many EPR materials) so there is no need to update the bylaw for each new program. Landfill bans are also part of the Official Community Plan. A mixed waste surcharge is charged for loads with over 5% recyclable material at more than double the regular tipping fees.</p> <p>The RMOW have specifically banned household hazardous waste, medications and batteries; and charges a surcharge for mixed waste where over 25% of the load is made up of recyclables or organics (more than double the regular tipping fees).</p>	

<sup>1</sup> BC Ministry of Environment and Climate Change Strategy. Advancing Recycling in BC - 5-Year Action Plan 2021-2026. [https://www2.gov.bc.ca/assets/gov/environment/waste-management/recycling/recycle/extended\\_producer\\_five\\_year\\_action\\_plan.pdf](https://www2.gov.bc.ca/assets/gov/environment/waste-management/recycling/recycle/extended_producer_five_year_action_plan.pdf).

## Increase EPR Awareness

Incorporated into Communications Initiatives

## 2.5 Residential Waste Management

Changes to the residential waste systems are shown below by community:

**Squamish** Existing at time of 2016 plan development: Door-to-door collection of garbage, recycling and seasonal yard waste, depot and landfill options for recycling, organics and garbage. Added seasonal curbside food waste collection to yard waste collection in 2015 and changed it to year-round collection and joined Recycle BC in 2017.

**Whistler** Existing at time of 2016 plan development: Depot-based collection of garbage, recycling and food waste. Added staffing to both depot locations in 2014 and Nesters Depot enhanced in 2017.

**Lillooet** Existing at time of 2016 plan development : Door-to-door collection of garbage; depot-based collection of garbage, recycling and yard waste. No change.

**Pemberton** Existing at time of 2016 plan development: private door-to-door collection of garbage if wished; depot-based collection of garbage, recycling and food waste. No change but depot enhanced in 2022 with increased diversion options.

**Britannia and Furry Creek** (in Electoral Area D) Existing at time of 2016 plan development: Door-to-door collection of garbage and recycling in; drop off facilities for seasonal collection of yard waste. Added collection of organics as well as glass drop off.

**Electoral Areas A, B and C** Existing at time of plan development: Depot-based collection of garbage and recycling. Added yard waste/fire smart materials for areas A/B.

Table 2-5 Residential Waste Management Initiatives

Initiatives	
<b>Curbside collection Pemberton</b>	
Status: Cancelled	Implementation Plan: 270 hrs + \$tbd
Responsibility: SLRD or Pemberton	Timing: 2015-2017
Details: The VoP council opted to rebuild the transfer station instead after a lengthy process including securing locations, studies and an RFP for design and build.	
<b>Assess provision of curbside recycling and/or yard waste collection services – Lillooet</b>	
Status: Started	Implementation Plan: 20 hrs
Lead: District of Lillooet	Timing: 2016
Details: The District of Lillooet will require the approval and financial support of Recycle BC, which currently restricts services to communities of a certain size.	

## 2.6 Commercial and Multi-Family Waste Management

Table 2-6 Commercial and Multi-Family Waste Management Initiatives

Initiatives
<b>Commercial and multifamily communications plan</b>
Incorporated into Communications Initiatives
<b>Improve recycling at tourist accommodations</b>
Incorporated into Communications Initiatives
<b>Require recycling &amp; waste minimization at events</b> Status: Complete: SLRD, RMOW, DoS; not started VoP, DoL Implementation Plan: 20 hrs to coordinate yr 1, 10/y for each local government to implement and maintain+ \$1,000 operating Responsibility: SLRD, municipalities, coordinated by Whistler    Timing: 2016 ->
Details: The SLRD has implemented a permit system requiring a solid waste plan for events over 200 people.  The RMOW requires events to fill in an application for which, if waste is to be generated or there is a food component, there is a requirement to develop a solid waste plan.  The DoS requires special events develop a solid waste management plan through the permitting process.  There are no actions to report for the VoP and DoL.
<b>Require new developments to design for 3 stream waste management</b> Status: Complete: SLRD, RMOW, DoS, VoP; not started DoL Implementation Plan: 40 hrs to coordinate yr1, 20hrs for each local government to implement+ \$2,000 operating Responsibility: SLRD, municipalities, coordinated by SLRD    Timing: 2016 ->
Details: The RMOW added these requirements in its bylaw in 2017 for ICI and multi-family residences. It also applied this to existing buildings and created a guide and worked with the building department to make accommodations for existing buildings where additional space was needed for the waste rooms.  The DoS has requirements in bylaw and it is part of the Official Community Plan.  The SLRD recently created its own Design Guidelines for Diversion Storage, based on the work done by the RMOW and DoS, which is now part of the development application permit process requiring plans to facilitate three stream collection.  The VoP requires it for new buildings but not existing yet.  There are no actions to report for the DoL.

<b>Local government leadership</b>
Incorporated into Communications Initiatives

## 2.7 Organic Waste Management

Details on the actions are captured in other sections.

**Table 2-7 Organic Waste Management Initiatives**

Initiatives
<b>Investigate organic waste collection in Pemberton</b>
Incorporated into Residential Waste Management Initiatives
<b>Assess yard waste collection in Lillooet</b>
Incorporated into Residential Waste Management Initiatives
<b>Financial incentives to encourage diversion to yard waste</b>
Incorporated into Policy Initiatives

## 2.8 Construction and Demolition Waste Management

Details on the actions are captured in other sections.

**Table 2-8 C&D Management Initiatives**

Initiatives
<b>Establish a Re-Build-It Centre type of facility in Pemberton and Lillooet</b>
Incorporated into Reduction and Reuse Initiatives
<b>Promote local C&amp;D waste reuse and recycling opportunities</b>
Incorporated into Communication Initiatives
<b>Establish a communications plan targeting the C&amp;D industry</b>
<b>Incorporated into Communication Initiatives</b>

## 2.9 Landclearing Waste Management

Since the plan was developed, removal of yard waste for firesmart purposes has become more common with programs run by the SLRD, DoS and the RMOW. To assist this fire smart home assessments are offered in all

electoral areas, Pemberton, Squamish and Whistler; and firesmart materials can be dropped off (often for free), supported by chipper days in some communities. Burning of this debris by the public is no longer encouraged.

## 2.10 Residual Waste Management

The table below shows the changes since the plan was developed. While changes have also happened for the First Nations communities within the SLRD, these are not detailed here, though as landfills are transitioned to transfer stations, more waste is flowing to or through the facilities noted below. In 2016, waste from the Pemberton transfer Station was redirected from the Squamish Landfill to the Whistler Transfer Station. In late 2020, Whistler started sending the waste to the Campbell Hill landfill located in BC instead transporting waste to Roosevelt Landfill located in Washington State.

**Table 2-9 Summary of Garbage Receiving Facilities in the SLRD**

Location	Services Area(S)	Destination Of Residual Waste Received -2014	Destination Of Residual Waste Received -2023
<b>Squamish Landfill</b>	Squamish and Area D	Squamish Landfill	Squamish Landfill
<b>Whistler Transfer Station</b>	Whistler, Pemberton and Areas C,D	Roosevelt Regional Landfill (Washington)	Campbell Hill (BC)
<b>Pemberton Transfer Station</b>	Pemberton and Area C	Squamish Landfill	Whistler Transfer Station -> Campbell Hill
<b>Lillooet Landfill</b>	Lillooet and Area A,B	Lillooet Landfill	Lillooet Landfill
<b>Devine Transfer Station</b>	Area C	Squamish Landfill	Whistler Transfer Station -> Campbell Hill
<b>Gold Bridge Transfer Station</b>	Area A	Lillooet Landfill	Lillooet Landfill

**Table 2-10 Residual Waste Initiatives**

Initiatives
<b>Expand Squamish Landfill</b> Status: In progress Responsibility: Squamish Implementation Plan: DoS staff time Timing: tbd
Details: This is a multi-year process. In 2022, the DoS and SLRD completed public engagement for the Focused Amendment to the SLRD SWRMP to allow for the lateral expansion; approval is pending from the Ministry. The DoS is working on acquiring the land, has conducted an archaeological impact assessment, has initiated a debris-flow risk assessment and is finalizing the Concept Design for the Landfill Expansion. Work is ongoing.

<b>Establish a working group with the responsibility of evaluating residual waste management options</b>	
Status: Started	Implementation Plan: 20 hr
Responsibility: SLRD, municipalities	Timing: 2016
Details: The SLRD has established this working group which includes the SLRD, RMOW, DoS, VoP and DoL. It met in 2019.	
<b>Evaluate the requirements for the Lillooet Landfill remain compliant with new BC Landfill Criteria</b>	
Status: Complete except to finalize documents and install a new well	
Implementation Plan: 20 + \$15,000 for assessment	
Responsibility: SLRD	Timing: once new BC Criteria finalized
Details: This assessment, the Lillooet Landfill Criteria Conformance Review and Upgrading Plan, was completed in 2017 and has resulted in several new actions which are mostly complete. This includes updating the design, operations and closure plan and installing soil probes for onsite landfill gas monitoring (will be completed in 2023); analysing the contaminating lifespan; installing landfill gas monitoring for onsite buildings; decommissioning a dry well; and maintaining a firebreak. Installation of a second groundwater monitoring well is planned for 2024.	

## 2.11 Illegal Dumping

Illegal dumping has been identified as an issue by the SLRD and also raised by local groups. Actions are shown below.

**Table 2-11 Initiatives to Prevent Illegal Dumping**

Initiatives
<b>Regional Illegal Dumping Strategy -Development</b> Status: Complete Implementation Plan: 220 hr + \$10,000 Timing: 2017 Responsibility: SLRD, municipalities
Details: Strategy developed and approved in 2022. Additional actions stemming from the Strategy and Action Plan at a high level, these include: <ul style="list-style-type: none"> <li>• Make it easier to dispose properly</li> <li>• Make it harder to illegally dump</li> <li>• Communicate</li> <li>• Partner</li> <li>• Facilitate clean ups as soon as possible</li> <li>• Monitor</li> <li>• Enforce</li> </ul>
<b>Regional Illegal Dumping Strategy -Implementation</b> Status: Started Implementation Plan: 120 hr + \$20,000 + enforcement costs tbd Timing: 2018 Responsibility: SLRD, municipalities

Details: Prior to the strategy development, some signage was established and a few clean-up events were supported. The SLRD also conducted spot clean ups as well and now has a specific budget for these as of 2023. As the CAO and Director are new so the work to streamline the process is yet to occur. Additional rotating diversion options for mattresses, drywall and yard waste were added in 2022 to the Pemberton Transfer Station and a temporary metals bin in 2021 and tire removal in 2022 to Devine. Due to limited staff capacity, a request for additional funds to implement the strategy was not submitted in 2023.

## 2.12 Wildlife and Waste Management

Concern for wildlife continues in the SLRD with an increased focus on also preventing human-wildlife conflicts as work is done to help the grizzly bear population recover.

**Table 2-12 Wildlife Management Initiatives**

Initiatives	
<b>Require commercial collection containers to be animal-proof in electoral areas</b>	
Status: Complete	Implementation Plan: 20 hr
Timing: 2016	Responsibility: SLRD
<p>Details: The SLRD Wildlife Attractant Bylaw no. 1551-2018<sup>2</sup> applicable to Areas A, B,C &amp; D states that:</p> <ul style="list-style-type: none"> <li>• A person must not store any Solid Waste that is an Attractant in such a manner that it is accessible to Wildlife.</li> <li>• A person must not leave, place or store outdoors any Solid Waste that is an attractant unless stored in both a Wildlife Resistant Container and in a Wildlife Resistant Enclosure except on collection days.</li> <li>• Every owner and occupier of real property must ensure that a Wildlife Resistant Container or a Wildlife Resistant Enclosure located on the property is of a size that is suitable for the amount of refuse generated and is kept clean, secure and good working condition. “ It has fines of up to 2000.</li> </ul> <p>The Board direction was to make an amendment so it would apply to Electoral Area A once it had a noise, nuisance and disturbance service establishment bylaw.<sup>3</sup> This was adopted and the amendment made in 2018.<sup>4,5</sup> The bylaw applies to solid waste from all sources including commercial.</p> <p>Member municipalities of Whistler, Squamish, Pemberton and Lillooet also have bylaws mandating wildlife-resistant containers.</p>	
<b>Enforce animal-proofing bylaw requirements</b>	
Status: Ongoing	Implementation Plan: tbd

<sup>2</sup> SLRD Wildlife Attractant Bylaw 1551-2018.

[https://slrd.civicweb.net/document/100980/Wildlife%20Attractant%20Bylaw%20No.%201551\\_Stamped.pdf](https://slrd.civicweb.net/document/100980/Wildlife%20Attractant%20Bylaw%20No.%201551_Stamped.pdf)

<sup>3</sup> SLRD Board Minutes Feb 28, 2018, item 7.1.3. <https://slrd.civicweb.net/document/98229/>

<sup>4</sup> SLRD Bylaw 1583-2018. <https://slrd.civicweb.net/document/103420/>

<sup>5</sup> SLRD Bylaw amendment 1593-2018. <https://slrd.civicweb.net/document/103420/>

Responsibility: SLRD, municipalities	Timing: 2016
<p>Details: Once the SLRD Bylaw was in place in 2018, communications tools were developed by the SLRD including a handout and stickers. The SLRD has a webpage with information on the bylaw, tips, and info on how to report infractions. The SLRD has collaborated to add a seasonal WildSafe BC Coordinator starting in 2021 to help educate on managing attractants. The coordinator works with the Bylaw Officer to do joint rounds and the Bylaw Officer responds to complaints.</p> <p>While much of the focus has been on residents (being the majority of the land users in these areas), the bylaw would also apply to commercial uses as well.</p> <p>The DoS Bylaw for solid waste requires information and signage to be provided to new residents, tenants, employees , etc. on the Wildlife Attractant Bylaw.</p>	

## 2.13 Land Use Planning

No changes are noted and there were no actions under this section.

## 2.14 Monitoring and Measurement

**Table 2-13 Monitoring Initiatives**

Initiatives	
<b>Monitor greenhouse gas from solid waste operations on an annual basis; collect and compile data from available SLRD and Municipality Reports for solid waste operation</b>	
Status: Ongoing	Implementation Plan: 10-20 hr
Responsibility: SLRD	Timing: 2016 ->
<p>Details: Annual reports are filed by the SLRD. The DoS and RMOW also track and report as required. The DoS has installed an active landfill gas collection system, and will begin to assess what can be done as beneficial utilization with the gas as they monitor the data.</p> <p>The SLRD files reports to the MOECCS on the total amounts of waste (ReTrac) as well as GHGs (CARIP) reports as required. It also files information with Recycle BC and the federal government (waste amounts). The DoS and RMOW also track their own waste in detail.</p>	
<b>Waste Composition Study</b>	
Status: Complete	Implementation Plan: 20 hr + \$30,000
Responsibility: SLRD, municipalities	Timing: 2018
<p>The SLRD conducted waste composition studies for Lillooet, Gold Bridge, Pemberton, Britannia Beach and Furry Creek between 2020 and 2022.</p> <p>DoS has conducted waste composition studies every two years from 2016-2022, including single-use items and streetscape materials.</p> <p>RMOW has waste composition studies from 2019, 2020, 2022 and 2023 including single-use items.</p>	



## 2.15 Authority over Waste Management Activities in the SLRD

Currently authorized facilities from the plan include:

- District of Squamish Landfill and Transfer Station;
- Lillooet Landfill;
- Lillooet Materials Recovery Facility (at the Lillooet Landfill);
- Resort Municipality of Whistler Transfer Station;
- Resort Municipality of Whistler Composting Facility (at the Whistler transfer station);
- Resort Municipality of Whistler Nesters and Function Junction Depots;
- Gold Bridge Transfer Station;
- Devine Transfer Station;
- Pemberton Transfer Station;
- Carney's/GFL Materials Recovery Facility; and
- Sea to Sky Soils.

The Lillooet Landfill Compost Facility opened in 2015.

No additional facilities have been authorized.

First Nation's facilities are outside the jurisdiction of this policy and so are not listed here.

## 2.16 Additional Work Completed

Some other projects have been completed that were not specified as actions in the SWRMP but move the SLRD towards the objectives set out in the plan or had emerged as needs since the plan was developed. These are outlined below:

- Relocation of Pemberton Transfer Station. This included planning , building, rebranding of the Reuse Shed and including additional services for yard waste, drywall and mattress diversion.
- The ReUse Centre in Pemberton closed since the initial plan was developed and some work has been done to look at what is needed to have this capacity. More work is needed to resurrect this option.
- Britannia Beach and Furry Creek - roll out of curbside organics collection (2019) -biweekly except May -Oct weekly, recycling and waste tune ups in 2021,2022 and 2023. A glass depot option was added at Britannia Beach. Ongoing work is required to reduce contamination of recycling and organics streams including the development and implementation of a Contamination Remediation Plan.
- The SLRD created a yard waste program across the region to support Fire Smart Program (2021)
- Pandemic-related operational changes were made including closure of all free stores at SLRD facilities. These have now been reopened and rebranded at Gold Bridge, Devine and Pemberton.
- Devine Transfer Station- worked on tenure process. Also diverted yard waste, tires and scrap metal.
- The Devine bylaw was updated in 2021 and Gold Bridge and Pemberton Transfer Station bylaws were updated in 2022.
- The Septic Trench Risk Assessment at the Gold Bridge Transfer Station.
- Changes dictated by WorkSafe BC regarding drywall-containing asbestos required the SLRD, DoS and RMOW to enact policy and process changes at disposal locations and to communicate these changes to the public and through partners. Prior to that the SLRD developed communications around asbestos management (2017, 2018).

- The RMOW and DoS conduct training to remove invasive species from organics collection. The SLRD also does this for the Pemberton and Lillooet facilities.

In addition to the work done by SLRD staff, both the DoS and RMOW renewed their Zero Waste Action Plans which drove specific actions within those municipalities.

The DoS ZW strategy was developed in 2016 and renewed in 2022 including a waste generation target. It also developed a Circular Economy Roadmap and looked at emerging sectors. The DoS has a Zero Waste action team and is working on improving the recycling system and quality of materials. It enacted a single use item bylaw, and requires clear bags for ICI and multi-family building waste. The Solid Waste bylaw was revised to mandate source separation for ICI, multi-family and events with outreach support.

The RMOW Zero Waste Action Plan was updated in 2021. In 2017, the solid waste bylaw mandated three stream collection for ICI and multifamily as well as requiring zero waste plans from foodservices and events. It established a Zero Waste Select Committee. The RMOW also supports the Sea to Sky food recovery strategy and action plan. The RMOW also funded a reusables program feasibility study to understand options for coffee cups and is examining how to redesign the transfer station to increase reuse. It is looking at how to balance of funding from utilities fees, property taxes and tipping fees to fund the depots, transfer station and solid waste program. Some Zero Waste initiatives are funded through the Community Enrichment Program.

## 2.17 Additional Work To Do

Aside from implementing the rest of the plan and maintaining the ongoing operations of the solid waste system, some additional actions have emerged. These include:

- The need to develop a regional plan for managing emergency debris
- Expansion of collection options for EPR materials
- Formalizing the tenure for the Devine Transfer Station, pending Ministry approval
- Increasing communications around decreasing the use of single use items as the federal and provincial governments enact regulatory changes
- Revision of Lillooet Landfill Bylaw
- The ReUse Shed at the Lillooet Landfill was closed and reopening it will be included in the RFP for operations
- Increasing diversion options. For example, for wood, concrete, mattresses, etc. in Lillooet
- Improve efficiency at some SLRD facilities
- Advocacy for a Recycle BC depot that can provide hours of operation that are convenient and accessible in Squamish, and that can handle the population growth and demand of the serviced population (including the Electoral Area D)

## 2.18 Key Factors

Significant factors that have influenced the plan implementation are noted below.



### 2.18.1 Population

The population has been growing quickly in the SLRD, with Pemberton, Squamish and Whistler being ranked as some of the fastest growing locations in southwestern BC in recent censuses.<sup>6</sup> As the table below shows, between 2014 and 2022, Pemberton grew by 31%, Squamish 22% and Whistler 18%; Lillooet's population decreased by 7% and the unincorporated areas grew by 2%. This was a 17% increase over these 9 years. Also included in the population considerations are the significant number of visitors to the region, in particular Whistler, but also a growing amount to the whole region. Whistler receives over 3 million visitors each year<sup>7</sup> and the resort holds over 55,000 people on its busiest days.<sup>8</sup> Squamish had an estimated 615,600 visitors in 2018, a 290% increase over 2008.<sup>9</sup> Visitor numbers were decreased by the pandemic restrictions for 2020 -2021. Though it can be hard to quantify the impact on material flows relative to residents, tourists have a significant impact on the amount of materials and so are included in the final row below for a number to use when calculating materials per capita.

---

<sup>6</sup> CBC (Feb. 2022). The fastest growing population centres In Canada are in BC.  
<https://www.cbc.ca/news/canada/british-columbia/census-data-population-growth-british-columbia-interior-1.6344994>

<sup>7</sup> Tourism Whistler. <https://media.whistler.com/all-about-whistler/stats-and-facts/>.

<sup>8</sup> Resort Municipality of Whistler. Official Community Plan: Growth Management.  
<https://www.whistler.ca/ocp/growth-management/>.

<sup>9</sup> District of Squamish (March 10, 2020). Economic Development Report to Council.  
<https://squamish.ca/assets/grid-item-files/aa57c8b370/RTC-Tourism-Impact-Study.pdf>.

Table 2-14 Population Data for the Service Areas within the SLRD<sup>10</sup>

Jurisdiction	2014	2015	2016	2017	2018	2019	2020	2021	2022	change
Lillooet	2,346	2,326	2,383	2,363	2,297	2,232	2,212	2,157	2,179	-7%
Pemberton	2,640	2,647	2,751	2,884	2,958	3,061	3,114	3,289	3,460	+31%
Squamish	19,373	19,782	20,791	21,200	21,274	21,336	21,891	22,867	23,652	+22%
Whistler	11,498	11,950	12,727	13,156	13,536	14,133	14,370	13,326	13,537	+18%
Unincorporated	6,784	6,662	6,878	7,069	7,162	7,077	7,050	7,100	6,919	+2%
<b>SLRD Total</b>	<b>42,641</b>	<b>43,367</b>	<b>45,530</b>	<b>46,672</b>	<b>47,227</b>	<b>47,839</b>	<b>48,637</b>	<b>48,739</b>	<b>49,747</b>	<b>+17%</b>
<b>SLRD Total adjusted for visitors</b>	<b>56,721</b>	<b>55,603</b>	<b>62,665</b>	<b>63,274</b>	<b>68,518</b>	<b>69,020</b>	<b>62,679</b>	<b>66,293</b>	<b>67,301</b>	<b>+19%</b>
Visitor numbers*	14,080	12,236	17,135	16,602	21,291	21,181	14,042	17,554	17,554	+25%
Annual growth	1.70%	4.99%	2.51%	1.19%	1.30%	1.67%	0.21%	2.07%	1.70%	

\* visitor numbers are from the Province as adjusted in the annual reports except 2022 is an estimate based on 2021. These are lower than Whistler estimates for just visitors to Whistler which can number close to 3.5 million per year.<sup>11</sup>

The Regional Growth Strategy predicted an average of 1.5% growth each year in residents from 2016 to 2036 which so far is tracking correctly with an average of 1.49% growth from 2016 to 2022 but possibly would have been higher than predicted without the dip in 2020 due to the pandemic.<sup>12</sup>

Visitor numbers as adjusted by the Province peaked in 2018 and with concerns about the overall impact and over tourism, there has been a shift from a focus on maximizing the number of visitors to achieving the right balance of visitation.<sup>13</sup>

Despite the growth being predicted, it will take careful planning to ensure the actions in the SWRMP are scaled to meet the increased demand.

<sup>10</sup> BC Government (2023). BC Regional District and Municipal Population Estimates.

<https://www2.gov.bc.ca/gov/content/data/statistics/people-population-community/population/population-estimates>.

<sup>11</sup> RMOW. Facts and Figures (for 2016/17 visitor numbers). <https://www.whistler.ca/about/facts-and-figures/>.

<sup>12</sup> SLRD Regional Growth Strategy Bylaw 1062, 2008. <https://www.slrd.bc.ca/sites/default/files/bylaws/pdf/RGS-Consolidated%20up%20to%201562.pdf>.

<sup>13</sup> Destination British Columbia (2019). Sea-to-Sky Corridor Destination Development Strategy.

[https://www.destinationbc.ca/content/uploads/2019/09/Sea-to-Sky-Corridor-Destination-Development-Strategy\\_Final.pdf](https://www.destinationbc.ca/content/uploads/2019/09/Sea-to-Sky-Corridor-Destination-Development-Strategy_Final.pdf).



### 2.18.2 Staffing

In the summer of 2015, a Communications Coordinator was added at 0.6 full-time equivalent (FTE) as a contract position which was made a permanent full time position by 2021. Since 2015, there has been significant turnover for some of the positions including lengthy gaps when positions went unfilled. With this, in addition to some turnover at other key partners, it has delayed the implementation of some plan actions.

Besides a lower staffing complement, there were also additional demands on staff time. Some of these related to the pandemic which presented challenges in holding meetings or having people gather, required implementing and addressing new requirements at facilities, and created impacts to partner organizations as well. Other disasters such as floods and fires have also required staff to redirect their focus at times.

### 2.18.3 Budget and Costs

An analysis of the budget at a high level In Table 2-15 below shows that the staffing challenges also impacted the budget. From 2014 to 2022, approximately \$911,000 of the budget was unspent, of which \$245,000 was on direct staff costs.

It is challenging to determine the rationale for changes in budgets for individual years: it is not always possible to tell if budget allowances were made for specific aspects of the plan in a given year and it may also be that projects not done in a given year may have had those budgets moved to the next year. Budgets in 2014 and 2015 were higher than usual due to work on the SWRMP and supporting projects.

**Table 2-15 Budget for Regional Solid Waste Management 2014-2022 in 1000's of dollars**

Budget*	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Costs</b>									
Budgeted Costs	376	329	221	232	247	238	262	281	357
Actual Costs	183	275	156	137	140	141	102	231	267
<b>Revenue</b>									
Tipping Fees -Actual	139	133	160	153	142	136	135	129	126
Funds from taxes - Actual	255	211	72	78	96	101	114	161	174

\*this does not include work done directly for individual solid waste facilities. Minor sources of revenue such as interest and miscellaneous are not shown here.

Revenue from tipping fees (SLRD facilities and a portion of RMOW and DoS) has been decreasing since 2016 despite increasing tipping fee rates and population which could indicate that the actions are having an impact and waste is decreasing. The percentage of actual revenue from tipping fees has varied from 35% - 66% and is more related to the size of the budget in a specific year; the rest of the revenue is made up of funds from taxes.

In addition to the above, it is important to note that operating costs have been increasing significantly.

The numbers above do not include the budgets that each municipality has for its own services and staff relating to solid waste.

#### 2.18.4 External plans

The BC and Canadian governments have also been developing and enacting plans that impact solid waste.

In 2014 when plan developed, it was expected that Province of BC would be delivering on its commitment to Canadian Council of Ministers of Environment (CCME) Canada-wide Action Plan on Extended Producer Responsibility.<sup>14</sup> Under that plan, there were to be programs for a variety of product and packaging types as shown in the table below.

**Table 2-16 Product categories and target dates for programs -CCME EPR**

By 2015	By 2017
Packaging and print materials	Construction and demolition
Electronics and electrical products	Furniture
Mercury containing	Textiles/carpet
Household hazardous waste	Appliances (ozone-depleting)
Automotive products	

BC already had programs for many of the items in the first column (as noted in Appendix C) and a program for residential packaging and print materials was just rolling out in 2014. Since then, despite a few adjustments such as adding dairy beverage containers to the deposit system or Ziploc bags and packaging-like products to the packaging category, no new product categories were regulated. The categories in the 2017 column remain unregulated except for appliances. This has meant that the progress on reducing and diverting these product categories has not advanced in the SLRD through new EPR programs making it harder to reach the waste reduction target.

In 2021, the Ministry released its Five-Year Action Plan<sup>15</sup> which commits to:

- Regulating EPR for hybrid and electric vehicle batteries and other battery types
- Regulating EPR for mattresses and foundations
- Regulating EPR for a broader range of regulated moderately hazardous products (such as compressed canisters and fire extinguishers plus medical sharps)
- Expanding existing product categories to cover gaps
- Evaluating opportunities and policy options for ICI materials.

This last one is quite important for the SLRD as packaging remains a significant component of the remaining waste and there are ongoing challenges and inefficiencies with the need to keep ICI packaging and print material recycling separate from residential materials. Despite this plan, there are still many categories of products from the CCME plan that still need to be addressed such as all of the 2017 categories except appliances and new categories beyond that such as car seat, sports, equipment, safety equipment and household goods.

<sup>14</sup> CCME (2009). [https://ccme.ca/en/res/cap-epr\\_e.pdf](https://ccme.ca/en/res/cap-epr_e.pdf).

<sup>15</sup> BC MOECCS (2021). [https://www2.gov.bc.ca/assets/gov/environment/waste-management/recycling/recycle/extended\\_producer\\_five\\_year\\_action\\_plan.pdf](https://www2.gov.bc.ca/assets/gov/environment/waste-management/recycling/recycle/extended_producer_five_year_action_plan.pdf)

The Clean BC Plastics Action Plan<sup>16</sup> aims to address single use plastics and transition to a circular economy. In July 2023, the ministry announced that certain uses of single use plastic (shopping bags, foodservice ware, some straws) using certain kinds of plastic (compostable, biodegradable, polystyrene foam, PVC, PVDC) would be banned by Dec 20, 2023 with polystyrene foam trays for meat being banned by July 1, 2030.<sup>17</sup> It will require disposable food service accessories to be given out upon request or in self-serve stations. It also bans the sale and distribution of oxo-degradable plastics.

Prior to this the Province had approved some municipal bylaws regulating single use items, of which the District of Squamish's was one (while Whistler had had a voluntary system and the Regional Districts had remained without the power to regulate single use items).

The Province is also making changes to the Organic Material Recycling Regulation which may be challenging for some composting facilities to meet and could drive more materials from outside the SLRD to facilities within the SLRD. It will be harder for small communities to meet the same requirements, provide adequate budget and take the same time to manage them as larger facilities.

The Province has committed to develop a Circular Economy Strategy as part of Clean BC and communities are waiting to see what this will look like.

At the national level, the federal government has a Zero Plastic Waste Agenda<sup>18</sup> with CCME's Canada-wide Strategy on Zero Plastic Waste and Action Plan developed as a result. That work has included support for ocean clean ups, greening the national government, research, support for businesses, developing the Global Plastics Treaty, and regulatory measures. Regulatory measures under development include requiring recycled content, new labelling laws and a registry for plastics producers. There is also work being done to require pollution prevention plans from large grocers to reduce the use of plastic and creation of plastic pollution. Regulations on single-use plastics come into effect starting Dec 20, 2023 with bans on sales of plastic checkout bags, cutlery, stir sticks, foodservice ware (certain kinds of plastic) and some straw. A later date of June 20, 2024 will bring a ban of sales of ring carriers.

In addition to that, the Government of Canada is developing requirements for the right to repair for home appliances, electronics and farm equipment and is proposing requirements around landfill methane which include the option to measure methane emissions and pursue organics reduction instead of gas capture.<sup>19,20</sup>

### 2.18.5 Other External

The pandemic impacted the plan implementation in many ways:

---

<sup>16</sup> BC MOECCS. <https://engage.gov.bc.ca/plastics/about/>.

<sup>17</sup> BC MOECCS (2023). Plastics. <https://www2.gov.bc.ca/gov/content/environment/waste-management/zero-waste/plastics>.

<sup>18</sup> Government of Canada. <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/reduce-plastic-waste/canada-action.html>.

<sup>19</sup> Minister of Environment and Climate Change (2021). Mandate letter. <https://www.pm.gc.ca/en/mandate-letters/2021/12/16/minister-environment-and-climate-change-mandate-letter>.

<sup>20</sup> Government of Canada (2023). <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/consultations/proposed-regulatory-framework-reducing-landfill-methane-emissions.html>

- A redirection of focus from existing work to adapting to policy changes and facility operations to meet pandemic requirements
- Inability to meet in person or gather
- Changes in peoples' habits (resulting in more single use items, more residential waste and less ICI, more home clean outs, less food waste, more home renovations)
- Lower tourism rates, fewer visitors, fewer seasonal staff but more second home owners choosing to be in the SLRD
- Changing waste flows and volumes so data for those years is anomalous

Other trends that may influence solid waste in the SLRD include:

- Major changes globally with a focus on climate change, biodiversity and circular economy
- More communities including zero waste in their climate plans and more are evaluating consumption-based emissions inventories
- Online shopping is growing
- Increasing interest in reuse and thrift stores
- Concerns around fast fashion and growing action on textile waste
- Increase in EPR options and recycling but not necessarily a corresponding increase in the value of materials
- Challenges with hazardous waste hidden in recycling streams and an increase in fires at recycling plants and landfills due to lithium batteries resulting in disruptions and increases in insurance
- Labour expense and uncertainty around health measures mean some places that switched to single-use items during the pandemic have not changed back
- Fewer facilities accepting wood waste with pulp mills shutting down and other users of wood waste declining while supply increases with more deconstruction policies
- Increasing rate of disasters and emergencies (many from climate change) resulting in the need for Emergency Debris Waste plans, and ways to reach citizens quickly about changes (some communities have used waste apps to alert resident to ongoing changes to services). This also pulls staff capacity away from working on programming to participate in the emergency response

### 3.0 FIRST NATIONS

---

Though First Nations' communities were not included in the plan as responsibility for solid waste is a federal responsibility and thus not governed by the Provincial requirements for solid waste management planning, the plan does support collaboration with First Nations. Information from one First Nation highlighted many possibilities for further collaboration.

For the Lil'wat, their facilities changed from historically having a landfill to now having a staffed transfer station with improved processes and recycling. They have worked on decreasing contamination of recycling, and some baling of materials. They conducted audits with the Indigenous Zero Waste Technical Advisory Group and the results are driving further actions. They are currently working to convert the transfer station into a Recycle BC depot at the transfer station. This conversion could lead to Lil'wat becoming a regional depot, packaging and printed paper recycling materials from the Lower St'at'imx communities to bale and process. The composting program is expanding with education and provision of bins. A small event was held on Earth Day for Zero Waste and a competition for backyard clean ups. They also hosted a free bike repair day. Similar to many communities, they are examining a Swap and Drop option but this would require space and a manager. To address bear issues at





the transfer station, waste and organics are secured as the fence is not electric. They are interested in partnering on communications and often will translate materials into Ucwalmícwts. There is a need for a strategy for C & D materials, particularly wood.

It is important to note that the Indigenous Zero Waste Technical Advisory Group was founded in 2019 with the aim to assist First Nations to implement Zero Waste programs. Improving facilities for First Nations has also been a focus of Indigenous Services Canada. The results are that many changes have happened in First Nations' communities for their waste, some of which have been noted above.

## 4.0 WASTE DISPOSAL ANALYSIS

---

The SLRD, DoS and RMOW gather information on materials flows on an ongoing basis and this information is reported to the province by the SLRD. EPR programs are also required to file annual reports on the amount of materials collected and collection systems in each regional district. These are the key sources of data for the sections below.

### **Data quality**

It should be noted that while data exists, there are some challenges with consistency of data, how it is reported, and lack of data available from some authorized facilities. In addition, although materials may flow to an authorized facility, the information reported may only be for waste coming from a specific jurisdiction and materials coming from within the SLRD from other jurisdictions (such as private residential, commercial or C&D materials) may not be captured or may have been assigned to the wrong community in the past. Smaller facilities do not have scales and so information on their quantities is at best an estimate, however the volumes are very small and would not significantly change the results. Materials from smaller locations may also be included in the information of larger communities for some streams. Materials from First Nation communities are not included in these totals (except for some communities whose waste goes to the Lillooet Landfill) nor some anomalies such as for materials from the 2021 flood and work done in the Meager and Rutherford areas. Biosolids going to the Whistler Composter are seen as part of the liquid waste management system and are not included though the small amount of sewage sludge going to the Squamish Landfill and to Lillooet Landfill is counted as solid waste.

In addition, there are new waste haulers in the southern part of the region and so data on their loads may not be consistently captured and materials may be leaving the region. Gathering data on reuse has been challenging but collecting this information in a more concerted way will also be helpful going forward and the reuse data in this report is intended to be a marker for the future rather than an accurate portrayal. EPR programs report data by regional district but not municipality making it difficult to know the local amounts unless the collection facilities report it to a local government. The information presented below is based on what data was available as well as estimates where data was missing.

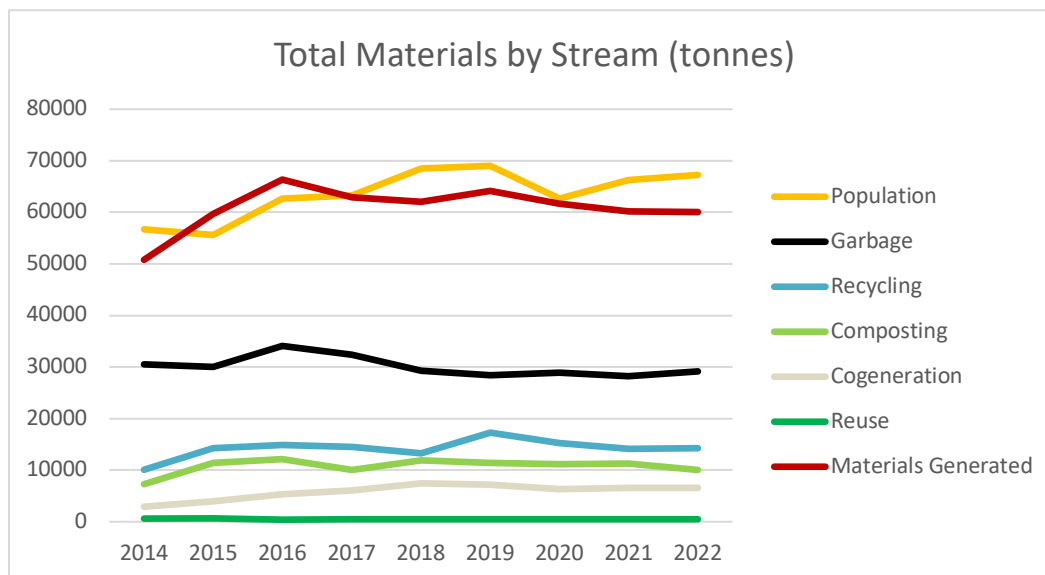
The data presented below is from 2014 until 2022 to show the year before the plan was to start until the last full year.

## 4.1 Waste Generation, Disposal and Diversion Estimates

As noted above, the population of the SLRD has increased significantly since 2014 (19%). Figure 4-1 below shows the population change tracked against the total amount of materials generated, garbage, reuse, recycling, composting and cogeneration. Materials generated are the sum of garbage, recycling, composting and regeneration and are a reflection of the amount of materials that are consumed. Ideally both materials generated and garbage would decline over time.

The figure below shows that although the population increased, the total materials generated also increased but not at the same rate. Total waste increased initially but then declined to be very slightly lower than in 2014, while levels of recycling, composting and cogeneration have increased overall. Note that work has also been done to reduce the contamination of recycling and composting streams.

Figure 4-1 Total Materials by Stream

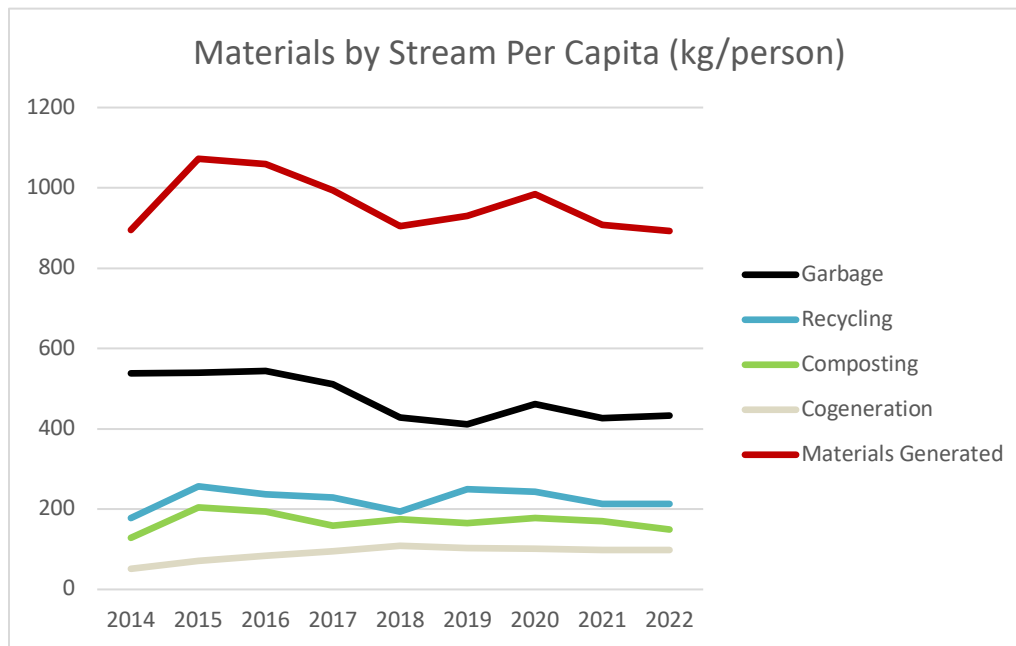


\*Note reuse numbers are a placeholder for better data in the future. Materials under cogeneration may include some that are composted as for some collection points wood data was not marked as dirty and clean but all in one category so it is likely an overestimate.

Figure 4-2 looks at material streams per capita to see as the population has grown, how the rates of materials generated have changed. The materials generated per person has increased and then declined to be similar to 2014; however a decline in garbage and increase in recycling, composting and cogeneration can be seen as the roll out of new programs and enhancement and communications around existing ones have taken place.

A factor to consider is the population estimate for visitors -is this factor correct to determine number of visitors? Do visitors generate the same level of waste as residents?

Figure 4-2 Materials by Stream Per Capita



More details on the garbage in each community is shown below in Table 4-1. Of note is the fact that Squamish and Whistler waste has not increased despite the significant increases in population, while the Lillooet and surrounding area waste has increased even with a decline in population. Overall the garbage per capita has decreased from 538 kg to 433 kg from 2014 to 2022.

Table 4-1 Garbage Disposal in Tonnes by Community

Disposal	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Squamish</b>	12213	12283	13987	12108	11178	12211	12489	12283	12508
<b>Britannia Beach and Furry Creek</b>	100	147	336	80	203	117	100	92	91
<b>Whistler</b>	13596	12596	14390	13756	13317	11841	11607	10884	11432
<b>Pemberton + Area C</b>	2000	2000	2175	2871	1402	1258	1653	1871	2083
Pemberton Transfer Station-included in above	468	533	598	515	473	464	525	544	488
<b>Lillooet and surrounding communities</b>	2454	2851	3053	3386	3102	2807	2948	2939	2863
<b>Gold Bridge TS</b>	147	156	151	149	128	144	113	152	157
<b>Total disposal</b>	30510	30033	34092	32350	29330	28378	28911	28221	29134
<b>Per capita disposal (kg/capita)</b>	538	540	544	511	428	411	461	426	433

Table 4-2 looks at materials that are diverted through recycling and composting with a placeholder for reuse. Recycling consists of both EPR programs and non-EPR materials. The analysis of diversion separates recycling into three streams:

- packaging and printed paper (PPP),
- non-PPP EPR materials (i.e. tires, lightbulbs, oil, electronics, beverage containers, etc.) and
- non-PPP, non-EPR recycling (such as scrap metal and drywall).

These categories were developed because PPP is only regulated for residential materials but some collection sites collect from both residential and ICI generators. In addition, the Recycle BC program has been adding to and assuming the management of existing services within the SLRD since its inception in 2014 (as Multi Materials BC) so distinguishing between ICI and residential PPP recycling and having a complete picture of the PPP recycling using only Recycle BC data is not possible.

In addition to the data challenges already noted, there are sometimes spikes in numbers for recycling for which the reason is unclear but may relate to changes or start of recycling/organics collection systems, markets, timing of collection from small facilities or other conditions like an increase in construction. This table does not include data from Sea to Sky Soils (collected independently of the SRLD, RMOW or DoS system), includes limited data on private collection of recyclables, and minimal data on reuse.

Policy and service changes by the SLRD, DoS and RMOW noted in Section 2 can be seen to impact the waste and diversion numbers.

The numbers below reflect materials collected but better insight is needed into where materials go after that for example if wood is going to compost or cogeneration or if asphalt and concrete are being recycled or used as landfill cover as this may change over time.

The main streams of recycling and organics are noted below for select years but data is not available for all years. The years below were selected to show data over time.

**Table 4-2 Diversion (tonnes) for specific streams and select years**

Diversion	2014	2017	2020	2022
<b>Squamish curbside recycling program</b>	918	927	1020	945
<b>Squamish other recycling (commercial, depot, at the LF) -estimated</b>	2416	5076	5327	4472
<b>Squamish composting -all including clean wood</b>	3255	4958	6611	5918
<b>Britannia Beach &amp; Furry Creek curbside recycling + glass</b>	No data	No data	56	52
<b>Britannia Beach &amp; Furry Creek organics</b>	-	-	123	116
<b>Whistler PPP (residential and ICI)</b>	2528	3162	3106	3356
<b>Whistler other recycling (non-EPR, non -PPP)</b>	798	1633	1518	1536
<b>Whistler wood*</b>	789	1726	1727	2004
<b>Whistler organics (not including wood)</b>	4025	4784	4033	3680

<b>Pemberton Recycling (non-EPR, non -PPP)</b>	130	57	116	98
<b>Pemberton organics(not including wood)</b>	7	21	28	32
<b>Pemberton wood*</b>	0	31	140	88
<b>Lillooet Landfill yard waste</b>	0	271	331	271
<b>Lillooet Landfill recycling (non-EPR, non-PPP)</b>	0	0	208	144
<b>SLRD -all -Recycling PPP materials (both residential and ICI)</b>	4991	6107	7247	6826
<b>SLRD -all EPR collection services (non-Recycle BC)</b>	3758	4171	3769	3600
<b>Total Reuse -estimate (low)</b>	583	516	516	530

\*Note that Pemberton and Whistler wood numbers reflect both clean wood and dirty wood so a portion of this will be burned for cogeneration and is not composted.

A closer look was taken at the data reported by EPR programs for the SLRD in their annual reports and on their websites. Details can be seen in Appendix D. This data shows that there are more programs collecting more products. Some interesting facts can be seen. For example the Heating Refrigeration and Air Conditioning Institute which collects mercury-containing thermostats has not reported any collection for the SLRD despite having collection locations. The amount collected by Electronics Products Recycling Association has declined over time but the individual weight of the type of products collected has declined as well. Changes in reporting to actual units instead of an estimate resulted in significant difference in weights for the Major Appliance Recycling Roundtable. Recycle BC accounts for slightly less than half of all the EPR programs' collection and Encorp represents another 1/5.

Overall when the changes per capita are examined (Table 4-3) by waste hierarchy level, material generation has remained constant but increases in recycling (14%) and composting (16%) along with cogeneration (92%) have led to a decrease in garbage (-20%). The diversion rate (not including cogeneration) has risen to 40% (though at times it has been higher).

**Table 4-3 Change in Materials Generation and Flow by Hierarchy Level**

<b>Per Capita Changes (in kg/capita)</b>	<b>2014</b>	<b>2022</b>	<b>change (kg)</b>	<b>% change</b>
<b>Population</b>	56721	67301		+19%
<b>Materials throughput</b>	895	893	-3	0%
<b>Reuse</b>	10	8	-2	-23%
<b>Recycling</b>	189	213	24	+13%
<b>Composting</b>	128	149	20	+16%
<b>Cogeneration</b>	51	98	47	+92%
<b>Disposal</b>	538	433	-105	-20%
<b>Diversion rate</b>	35%	41%	6%	+16%
<b>Diversion rate when cogeneration included</b>	41%	52%	11%	+27%

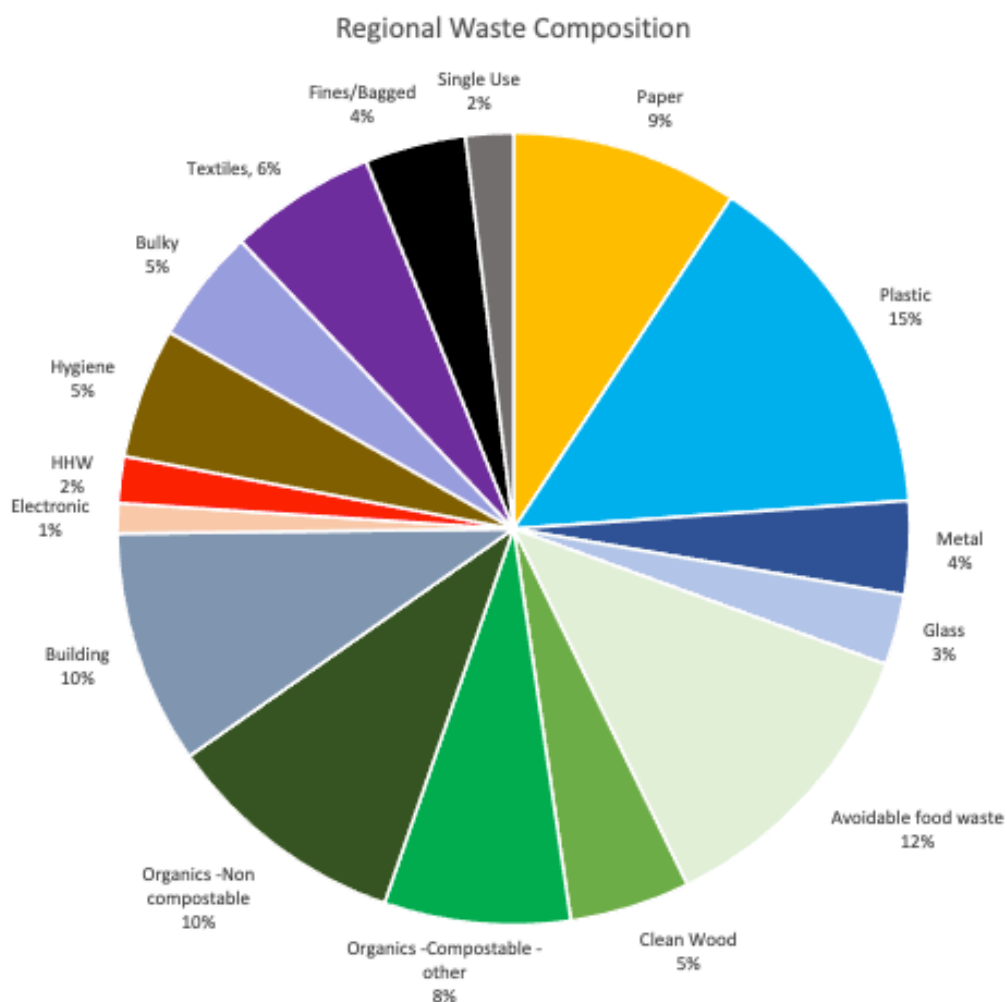
\*Note this table was created using the data noted above so the same constraints on accuracy exist.

## 4.2 Waste Composition

Waste composition studies have been completed in Squamish, Whistler, Lillooet, Gold Bridge, Britannia Beach, Furry Creek and Pemberton between 2021 and 2023. More detailed results for each community are shown in Appendix E. While results vary, a common theme is that a high percentage of materials that are avoidable (like avoidable food waste and single use items), compostable (organics) and recyclable (including EPR materials) remain in the waste. The range of diversion potential between communities ranges from 48% to 71% of the materials that could be avoided or diverted.

The figure shown below is the composite waste composition for the region when weighting the results from each area's studies.

Figure 4-3 Combined Waste Composition -SLRD



## 5.0 GREENHOUSE GAS EMISSIONS

There is a greenhouse gas impact from solid waste management and the materials used. Table 5-1 below shows the direct emissions for the years 2018-2022. This is the best available data which includes information from SLRD CARIP, RMOW Climate, and SLRD and DoS landfill reports. It does not include the emissions from collection (both private and DoL) in Lillooet, nor collection and operations of the Squamish Landfill. There was also an anomaly for Whistler in 2021.

Of note is that the waste from the Whistler Transfer Station is sent to landfills with gas capture and utilization which means that despite similar amounts to Squamish of garbage disposed and much further distances for the waste to travel, the GHGs for Whistler waste were much lower. Landfill gas capture was installed for the Squamish Landfill in 2019 and is being flared, though ways to utilize it will be assessed. Data on the impact of this for GHGs at the Squamish Landfill is pending so the data below does not reflect this change which will be significant. The Lillooet Landfill now composts yard waste instead of burning.

The increase noted below from 2018 to 2022 is mainly due to increased services being offered such as curbside organics collection in Britannia and Furry Creek, composting at the Lillooet Landfill and adding/expanding electric services at the Devine and Pemberton Transfer Stations.

**Table 5-1 GHG Emissions -Direct 2018-2022**

Source of Emissions (tCO <sub>2</sub> e)	2018	2019	2020	2021	2022
<b>Lillooet Landfill</b>	2016*	2100*	2184	2268	2352
<b>Squamish Landfill</b>	18760*	18956	18844	18732*	18760*
<b>Whistler TS -Campbell Hill/Roosevelt</b>	2289	2391	2935	690	2156
<b>Transport (included above)</b>	nd	nd	808	252	373
<b>SLRD waste operation and collection</b>	2500*	2547	3632	4089	4000*
<b>Total direct emissions</b>	25565	25994	27595	25779	27268

\* All asterisked numbers are estimates based on other years. nd=no data

Aside from direct emissions, there are also avoided emissions. Using the provincial GHG tool for organics, it showed that a rough estimate of the GHGs avoided by the composting of over 8,400 tonnes of material (food and yard waste) in 2022 was over 6000 tonnes for that year. This shows the impact that composting has when comparing it to the table above and looking at the remaining organics in the waste stream.

Using another tool to try to evaluate the impact of the plan, the waste in 2014 was scaled to the population of 2022 assuming the waste composition and amount per capita had remained the same (in other words, business as usual but scaled to the higher population). This was then compared to the actual waste composition and amount for 2022. Using factors for GHG impact by material where available, the results show that the avoidance of 7,000 tonnes of waste resulted in 9,000 tonnes of CO<sub>2</sub>e avoided. This is an approximation but shows the climate potential of waste avoidance. The details can be seen in Appendix F .

## 6.0 ECONOMIC DEVELOPMENT SUMMARY

---

While all changes have costs and make an impact, some direct impacts (whether from the SLRD or its member municipalities) that have been seen are partnerships with local non-profit associations to deliver key programs such as the school program, zero waste events, developing materials, reducing contamination in recycling, waste audits and giving workshops. As waste facilities scale up and offer more services, there is also a need for more employment to staff the facilities to provide the level of service required.

A provincial grant to the SLRD was used to expand private composting operations that service the region and beyond.

Some requirements introduced have also created more demand for services to reduce waste at events and source separate waste in the ICI and C&D sectors.

Indirect changes that are not directly related to the plan are new businesses that have opened to offer refill options, collect beverage containers or deconstruction services.

Unfortunately, some locations that offer reuse, refill and rebuild options have struggled with some closing and although these are not the responsibility of local government, it does impact the options available to residents and businesses to decrease waste.

Changes continue to occur, in part, shaped by policy and differential tipping fees. In general, the employment generated from this results in local jobs (as opposed to those outside the region).

## 7.0 COMPLIANCE ACTIVITIES

---

In the SWRMP section 20 there are several authorized waste management facilities within the SLRD. Aside from depots and transfer stations (which do not require provincial approval), there are several locations that have provincial compliance requirements. These include requirements for closed landfills. The compliance activities are listed below categorized by the holder of the operating certificate or permit, or the organization taking action.

Note that First Nations' waste management facilities do not fall under the same regulatory requirements and so are not listed here. Similarly, historic locations for dumping waste exist but ongoing monitoring is not required and so are not listed.

Section 2 has already noted the education, behaviour change campaigns, surcharges for contaminated loads as well as the focus on illegal dumping. The SLRD and its member municipalities have bylaw officers that responds to complaints.

To date the SLRD (nor its member municipalities) have not specifically licensed companies involved in managing waste streams nor established agreements to provide disposal data.

### 7.1 SLRD

In the SLRD, there is a closed Pemberton Landfill site (closed in 1994) and an operating landfill in Lillooet for which the environmental monitoring is conducted and an annual report filed as per the requirements of the permits.





Annual groundwater monitoring reports (2015 -2022) show compliance with provincial guidelines. A landfill gas generation assessment report is required every five years. Annual reports are filed for the Lillooet Landfill. The SLRD also holds a permit for the composting of yard waste at the Lillooet Landfill.

For instances of non-compliance or spills at the Lillooet Landfill, notification must be given to the Province but there have not been any instances requiring this.

The SLRD has surcharges for loads with over 5%.

It is actively working on reducing contamination in curbside recycling at Britannia Beach and Furry Creek.

## 7.2 Resort Municipality of Whistler

The RMOW has a closed landfill, a transfer station and a compost facility. The only permit required at this time is held for the closed Whistler landfill. The RMOW conducts annual environmental monitoring and reporting as required by the Landfill Operational Certificate and Whistler Landfill Closure Plan, including monitoring and maintaining the landfill gas system as approved by the Province. The RMOW is in compliance.

Other compliance activities are:

- Assessments of waste rooms and buildings to ensure they meet the wildlife requirements.
- Assessments of waste rooms for foodservices to ensure they are meeting source separation requirements
- The surcharge for loads with over 25% recyclables.

## 7.3 District of Squamish

The District of Squamish operates a landfill under an operational certificate. It monitors groundwater quality, surface water quality, leachate, landfill gas, and methane detection in buildings with a report filed to the Ministry annually. It is also required to conduct a landfill gas assessment and report to the Ministry. The most recent assessment was completed in 2020 with additional analysis required in 2024. Though not required, DoS has installed an active landfill gas management system.

In addition to the compliance activities previously noted in Section 2 and above, other compliance activities are:

- An ongoing focus on reducing contamination for curbside recycling with increasing warnings and enforcement
- Visiting construction sites and educating them on wildlife attractants and diversion requirements
- Actively enforcing wildlife attractant issues related to collection totes and bins
- Assessing all new development plans to ensure their waste rooms and buildings meet the wildlife and diversion requirements
- Applying a banned item surcharge for loads with over 5% recyclables (by weight or volume)

## 7.4 Village Of Pemberton

VoP does not operate a waste facility but does conduct compliance activities. They are currently addressing an increase in household waste in public bins and the bylaw officer is providing education and enforcement (when the responsible party can be identified).

## 7.5 District of Lillooet

DoL does not operate a waste facility. Bylaw will respond to complaints.

## 8.0 SIGNIFICANT CHANGES

---

Section 2.18 outlines the key factors influencing the plan implementation. While the regional growth strategy has not been changed significantly, the planned growth is significant, especially in the southern part of the region. The growth is focused around Squamish, Pemberton and a significant development planned for Britannia Beach.

One possible change around large industry is the proposed development of Woodfibre LNG and the associated construction. The tourism industry and visitor numbers have grown and will likely continue to do so, though this results in impacts on many smaller businesses rather than one large industrial site. It also will continue to require a flexibility for waste services that can scale up to meet peak season demand, and beyond just Whistler, as tourism increases in other areas of the region.

## 9.0 KEY PARTNER & PLAN MONITORING ADVISORY COMMITTEE PERSPECTIVES

---

The Plan Monitoring Advisory Committee (PMAC) Terms of Reference in the SWRMP states that PMAC should meet three times a year to:

- Review and become familiar with the Solid Waste and Resource Management Plan;
- Review and become familiar with the existing solid waste management system in the SLRD;
- Identify methodologies to be employed in the monitoring and evaluation of the Plan's implementation;
- Monitor the implementation of the Plan and annually report to the Board on the effectiveness of the SWRMP at achieving its objectives; and
- Make recommendations to increase the effectiveness of the Plan or the solid waste management system.

Due to staff turnover and the pandemic, it has been challenging to meet three times a year but has met on:

- November 17, 2016
- Apr 6, 2017
- February 26, 2019
- June 29, 2021
- September 29, 2021
- January 19, 2022
- June 27, 2022
- Nov 18, 2022
- June 21, 2023



Key partners and member of the PMAC were interviewed to hear their perspectives on the progress on the plan to date, its effectiveness, and the future needs as well as for input on the Action Review, key factors, economic impacts and significant changes.

## 9.1 Progress

In terms of progress, the general sentiment was that some progress has been made but more could be done. Interviewees felt that the SLRD was moving in the right direction in small incremental steps. Staff were doing well with the capacity that they had but it was noted that there should be more capacity in order to properly implement the plan. It was felt that some member municipalities were ahead on some actions and the SLRD should catch up, though it was also noted that the SLRD had caught up from where it was ten years ago so that now the basics are covered.

The plan was seen as a good guiding tool and a way to keep member municipalities and the SLRD on the same path. However others were unaware of the plan so many years after its development and did not see it as driving change or were unaware of the regulatory importance of the plan to the entire region. Some people saw the SLRD as only representing the actions for its own facilities or for the electoral areas and smaller municipalities rather than the guiding body. Some felt some communities were more disconnected from the SLRD due to distance from a hub or lack of visibility. A concern was raised that the plan is too static for a changing industry and the landscape of waste reduction. There was a wish to increase the collaboration among partner organizations.

The plan was seen as comprehensive and covering the key subjects but it was noted that some actions are harder to implement than others and it was not always clear how to implement them. Despite the work being done, the landfills continue to fill up at a quick pace.

## 9.2 Future Areas of Focus

Interviewees continued to support actions within the plan but note that it requires more capacity to implement it and a stronger collective awareness of the plan. The existing plan focus areas mentioned to keep working on include:

- How to fund waste actions
- Engaging with VoP and DoL staff and elected officials, especially if turnover, to rebuild momentum
- Broader range of partnerships and more support of non-profits
- A focus on reduction and reuse behaviour, with reusables/decreased single use and furniture specifically mentioned
- A deeper focus on understanding specific audiences to ensure better communications
- Communicating progress including sharing a simple goal, waste composition data and providing feedback
- Connecting the communications tools with the practical aspects to ensure the system is working towards the same goal. Looking at resident/business experience and removing barriers.
- More outreach using learnings from other regions and engaging more at existing community events. Work on developing ongoing relationships with people
- Advocacy to EPR programs at a regional level for a focus on steps upstream of recycling, improving collection accessibility, expansion of product range covered and increasing frequency of pick-ups from smaller locations/depot support

- More support and emphasis on reducing food waste in Lillooet including collaboration with agricultural groups
- More workshops on backyard composting (Make Soil not Waste)
- Organics bans at all waste facilities but also requiring organics collection from all multifamily locations
- Assessing when/if curbside collection will be needed in Pemberton (growth)
- Ongoing work on source separation, especially multifamily. Education on sorting recyclables (like soft plastics). Requiring all private services to include three stream collection (in the southern part to start).
- C&D -more support for deconstruction in the Sea to Sky corridor, ensuring tipping fees are adequate to drive change, analyzing if a fee is different from a fine in terms of the ability to pass it along to the customer in most contracts
- ReBuild It location in Pemberton as well as more diversion options in Pemberton for C&D companies
- ReUse It and ReBuild It options in Lillooet
- Systems for film sets (as a type of event but with its own unique needs and opportunities for reuse of materials)
- Assessing option for residual waste
- Ongoing education and awareness for wildlife and waste management
- Enforcement and systems to share the requirements at point of contact (e.g. municipal business licensing)

Other areas of focus not specifically mentioned in the plan but possibly within the scope that were raised in the interviews are:

- Developing a zero waste/circular economy and factoring in GHG considerations for systems. This could include an incubator and partnering with reuse companies
- Enhancing reuse and rebuild it options in areas where the service stopped or is threatened
- Supporting organizations to innovate and to handle different materials; nurturing entrepreneurs
- Stronger, more coordinated advocacy work beyond the BC Product Stewardship Council on a broader range of topics, especially now that the senior levels of government are looking beyond solely EPR. Looking for ways for municipalities to also have a voice on EPR.
- Developing standards for accessibility of EPR programs in the SLRD and mapping out where depots will be and the hours required. Depots may be SLRD, municipally or privately run
- Developing systems for hard to handle durable plastics like car seats, thermosets, furniture; books; textiles; mattresses; all polystyrene
- Improving systems to handle textiles
- Inclusion of clear directions in business licensing process for their waste systems
- Recovery of products from waste that could have a second life and creating spaces for the resell of these materials

In addition, the plan notes the option under the Authority Over Waste Management Activities that:

“As tipping fees in the region increase to cover capital and operating costs, the development of a waste stream management licensing system and/or flow control bylaw be considered to ensure that waste generated in the region is managed at authorized facilities; and the SLRD and member municipalities regularly monitor the level of waste export to determine if there is a need to establish a bylaw mechanism to regulate where waste generated in the SLRD can be delivered.”

Interviewees noted the existence of additional waste haulers in the southern part of the region. They may not be supporting the directions of the SLRD or municipal governments and there is difficulty in having consistent,

reported data from multiple sources. The SLRD may wish to evaluate this option now. A recommendation was also made to ensure facility management contracts are set up with the hauling and processing fees separate for a fairer representation of costs.

### 9.3 Plan Update Timing

When asked about what the ideal timing for the full plan update, the general direction was to continue to work on the key actions of the current plan that have not yet been completed. There was concern that a plan update would take staff time away from meaningful action on the existing plan while the actions in the plan are still relevant. The ideal timing was seen within the next three to five years. That said, interviewees voiced support for more engagement around the plan and its actions to help make the issue of waste more visible. There was support for collaboration to do this as well as for more involvement by PMAC. Minor amendments to the plan could be done as needed or even a more simplified plan update.

### 9.4 First Nations Engagement

First Nations were contacted for this process but only one was available for an interview (which might also relate the timing of the project and the series of fires this summer). As the solid waste systems become more connected and there are more potential synergies, having relationships with the local Nations to work collaboratively is a key next step and will be important when the SWRMP goes through the update process. Work should begin on developing or enhancing these relationships now, including possibly some formal connections with the First Nations governments, the Indigenous Zero Waste Technical Advisory Group and Indigenous Services Canada.

## 10.0 EFFECTIVENESS REVIEW

---

Based on the information above, the results of the target goals and a summary of what is working well (strengths) and challenges to meeting plan goals and target is shown below.

### 10.1 Targets

The results for the two targets are noted below.

#### 10.1.1 Waste per capita

Target: The SLRD achieve an average municipal solid waste disposal rate of 350 kilograms per capita by 2020.

This target has not been met however the waste per capita did decrease from 538kg/capita in 2014 to 433 kg/capita in 2022.

#### 10.1.2 Percentage of population actively engaged in organic waste diversion

Target: That 75% of SLRD's population is actively engaged in organic waste diversion. This engagement may take the form of implementing variable tipping fees to encourage source separation, implementing bylaws that require source separation of organics by businesses, provision of curbside collection services for residential organic waste,

ensuring the availability of commercial organic waste collection services and providing or supporting organic waste processing infrastructure.

The table below highlights that there is a very high level of possible engagement with at least one form of support for organics waste diversion. Note that some of these are options available to residents and businesses but may not mean that all are participating. Variable tipping fees support source separation. Source separation is required for businesses in Squamish and Whistler but other locations only require space to be provided to accommodate source separation of organics but not require the actual service to be used (noted as “new only” in the table below). Curbside organics collection is available in southern communities that have curbside collection; commercial organics collection is available in larger communities and organics processing infrastructure is well developed in the southern part and available for yard waste in the northern locations. Devine (in Area C) is the only collection location without some form of organics diversion available. The percentage of the population is calculated using the community population as a percentage of the total SLRD population.

Target is met.

**Table 10-1 Percentage of population actively engaged**

Census area	Population*	% of SLRD population	Variable tipping fees	Source separation required	Curbside organics collection	Commercial organics collection available	Organics processing infrastructure in use
<b>Lillooet</b>	2302	5%	y				yard waste only
<b>Pemberton</b>	3407	7%	y	new only			y
<b>Squamish</b>	23819	50%	y	y	y	y	y
<b>Whistler</b>	13982	30%	y	y		y	y
<b>Electoral Area A</b>	305	1%		new only			yard waste only
<b>Electoral Area B</b>	373	1%		new only			yard waste only
<b>Electoral Area C</b>	2000	4%	y/n	new only			Pemberton TS yes, Devine no
<b>Electoral Area D</b>	1057	2%	y	new only	y - Britannia and Furry Creek		y
<b>total</b>	47245		96%	80%	52%	80%	98%

\*Population is from the Stats Canada 2021 Census and will vary from other numbers used in this report as it will not include visitors and may vary from the BC Statistics data.

## 10.2 Successes

There have been many successes of this plan to date as have been noted in section 2.

- Sharing and collaboration -Sharing of resources has been occurring even if not in a fully coordinated approach.
- Leadership -the SWRMP informs the staff workplan. The larger municipalities have their own plans which align with the SLRD SWRMP and staff to implement them
- Better understanding of waste composition -comprehensive work has been across the region.
- Infrastructure for organics and recycling -local governments have improved their systems as well as using tipping fees and policy. Basic infrastructure for, or access to, diversion is in place in most communities
- Strong community interest in zero waste events and diversion options
- Increased communications campaigns and tools
- Increasing share and refill options
- Actions are creating positive results
- All facilities are permitted and operating in compliance. Monitoring and reports are completed as required
- Strong political support has supported program implementation in the SLRD, DoS and RMOW

### 10.3 Challenges

Many of the challenges have been noted above but these include:

- Maintaining staff in the SLRD roles and for some key partners; sufficient capacity to implement plan (both at the SLRD and within member municipalities); over-reliance on some municipalities to deliver the plan while minimal participation by others; distraction from work on the plan due to emerging issues. In particular, turnover at VoP and DoL has meant lost continuity and even awareness of previous commitments or the plan itself
- Finding partner organizations for work on zero waste workshops and expansion of reuse options in underserved areas of the region
- Ministry capacity and flexibility (e.g. delay in plan approval, the need to consult on items in the plan)
- Perspective that the SLRD is only responsible for parts of the region; also diversity of needs in the region; new waste-related businesses may not know the potential to require authorization
- Data fragmented, inconsistent, not standardized and some missing. Data not made public. Sourcing EPR program data requires looking at each report.
- New haulers raise the potential for waste export, missing data and not complying with bylaws
- Lack of public awareness of the status of the waste targets and current levels
- Communications work needs to be linked to actions to reduce barriers at the same time (such as policy, infrastructure, etc.) and to ensure it is connecting with the right audiences
- EPR programs not following the Recycling Regulation -providing only limited services (locations/hours/frequency of pick up), not paying the full costs, low awareness of some programs, lack of focus on upstream elements of hierarchy
- Lack of delivery by the province on its commitment to enact EPR programs for ICI PPP, C&D materials, textiles, carpet and furniture; need for expansion of EPR materials beyond existing commitments
- Finding markets for wood waste and other materials
- Contamination levels in all waste streams (recycling, organics, garbage)
- Having PMAC fulfill its role and lack of connection to the Board or elected officials
- Lack of space to develop centralized shared space for those in the deconstruction industry
- No site in most communities that will take and resell furniture (larger items such as couches, desks, etc.)
- Non-profits have limited capacity to take on new projects and require funding sources

## 10.4 Summary

Overall, progress has been made on the plan despite the capacity challenges. More work at a quicker pace will be needed to get towards target 1 (waste per capita) and strengthen target 2 (organics diversion). The actions in the plan remain relevant and the strength of the future work will rely on relationships and partnerships.

## 11.0 RECOMMENDATION

---

That the SLRD plan for a full SWRMP update in 2027 (with a framework of steps required being developed in 2024 and preparatory work starting in 2025) with the aim to complete as many of the actions of the existing plan as possible before then. This will allow for more actions to be completed. The current plan is sufficiently broad that many of the actions raised by interviewees fit within the scope of the plan already. The update process would start ten years from the completion of the previous plan but before the ten year requirement from the plan approval date.





## APPENDIX A ACTION STATUS SUMMARY TABLE

The Table below shows the actions from the plan, their status and the next steps

\*Note Status is S =started, I =in progress, O=ongoing, C=complete, D=delayed, X=cancelled

Action	Status	Detail
Incorporate community based social marketing into major campaigns	O	Ongoing for SLRD, RMOW and DoS. Not started VoP, DoL.
Residential food scraps reduction campaign	C, O	Ongoing for SLRD, RMOW and DoS. Not started VoP, DoL.
Establish a mechanism for sharing, standardizing, and coordinating communication and education	I	
ICI and Multi-Family communication strategy	I	In progress for SLRD, RMOW and DoS. Not started VoP, DoL.
Tourist accommodation communication strategy	S	Started for RMOW. Not started for DoS.
Construction & demolition communication strategy	I	In progress for RMOW and DoS. Not started SLRD, VoP, DoL.
Promote local C&D waste diversion opportunities	S	Started for RMOW and DoS. Not started SLRD, VoP, DoL.
Coordination of local governments' internal zero waste initiatives	S	Started for RMOW, DoS, VoP. Not started SLRD, DoL.
Expansion of zero waste workshops	C, O	Ongoing for SLRD, RMOW, DoS, VoP. Not started DoL.
Bear Smart Back Yard Composting	C, O	Ongoing for SLRD, RMOW, DoS, VoP. Not started DoL.
EPR Awareness	C, O	Ongoing for SLRD, RMOW, DoS, VoP. Not started DoL.
Re-Build-it Centre facility in Pemberton	D	
Re-Build-it Centre facility in Lillooet	D	
Fund for local zero waste initiatives	S	
Establish regionally consistent tipping fee categories	I, O	
Landfill bans on specified EPR materials/products	I	
Curbside collection Pemberton	X	
Assess curbside recycling and/or yard waste collection - Lillooet	S	
Require recycling & waste minimization at events	C, D	Complete for RMOW, DoS, SLRD. Not started VoP, DoL
Require new developments to design for 3 stream waste management	C, D	Complete for RMOW, DoS, SLRD. Not started VoP, DoL
Expand Squamish Landfill	I	
Establish a working group with the responsibility of evaluating residual waste management options	S	

Evaluate the requirements for the Lillooet Landfill remain compliant with new BC Landfill Criteria	C	
Regional Illegal Dumping Strategy -Development	C	
Regional Illegal Dumping Strategy -Implementation	S	
Require commercial collection containers to be animal-proof in electoral area	C	
Enforce animal-proofing bylaw requirements	O	
Monitor greenhouse gas from solid waste operations on an annual basis; collect and compile data from available SLRD and Municipality Reports for solid waste operation	O	
Waste Composition Study	C	



## APPENDIX B KEY PARTNERS

---

Thanks to the following members of the Plan Monitoring Advisory Committee and other key organizations who agreed to be interviewed for this review:

- Andrew Tucker, Resort Municipality of Whistler
  - Ari Bandel & Krystle tenBrink, Squamish Climate Action Network
  - Denise Imbeau, Green For Life
  - Jeremy Denegar, District of Lillooet
  - Misha Cossette, Village of Pemberton
  - Scott Kerr, Sea to Sky Soils
  - Shannon White, District of Squamish
  - Tom McColm, Canadian Home Builders Association, Sea to Sky Chapter and
  - Tom Laviolette, Lil'wat Nation
- as well as Marie-Lou Leblanc and Vanessa Lafontaine of the SLRD.

## APPENDIX C EPR PROGRAM AVAILABILITY

The table below shows the availability of EPR program services by community, of which some are delivered by the local government and some are private services commissioned by the EPR program. Note that there are no depots in Britannia Beach nor Furry Creek.

EPR Program Availability	Squamish	Whistler	Pemberton	Lillooet	Gold Bridge	BB & FC	Devine	Shalalth
AlarmRecycle (smoke and carbon monoxide alarms)	o	o	o	o				
BC Used Oil Management Association (Interchange) oil, filters, containers	o	o	o	o	o			
BC Used Oil Management Association antifreeze	o	o	o	o				
Encorp (non-alcoholic and wine, spirits, coolers and import beer in non-refillable containers)	o	o	o	o				
Brewers Distributed Limited (fillable and canned beer)	o	o	o	o				
batteries and cell phones -through EPRA, Call2Recycle or Recycle My Cell B=batteries only	o	o	o	o	o		B	
Canadian Battery Association -lead acid	o	o	o	o	o			
Canadian Electric Stewardship Association (small appliances, power tools, sports and exercise equipment, hobby, craft)	o	o	o	o				o
Electronics Products Recycling Association (EPRA) (electronics: Computers, televisions, audio-visual, medical equipment, office equipment)	o	o	o	o				
LightRecycle (lamps and lighting equipment)	o	o	o	o				
Major Appliance Recycling Roundtable (large appliances)	o	o						
Outdoor Power Equipment Institute (Outdoor Power Equipment)	o	o	o	o				o
Recycle BC (packaging and printed paper) C=curbside, D =depot, DO =drop off -nonprogram, MF =multifamily collection	C + D +MF	D + MF	D + MF	D	DO	C + glass	DO	
Heating Refrigeration and Air Conditioning Institute (thermostats)	o							
Product Care Paint	o	o	o	o				o
Product Care HHW	o	o	o	o				o
Product Care PaintShare -Reuse	o	o	o	o				o
Health Product Stewardship Association - Pharmaceuticals	o	o	o	o				
Tire Stewardship BC -Tires	o	o	o	o	o			

\*Under Recycle BC, “D” represents locations that are part of the Recycle BC program while “DO” indicates that the materials can be dropped off at locations that do not receive support from the Recycle BC program for delivery to a Recycle BC depot.



## APPENDIX D EPR PROGRAM DATA-SLRD

This information comes from the annual reports of the EPR programs, the latest set of which go to 2021. Where data was reported in units other than kilograms, a conversion was made to estimate the weight. Note that some programs started reporting, or reporting by regional district later and so early years may not have data. Shaw and Telus are programs that handle their own materials directly and so do not require public-facing depots. Similarly for the Canadian Beverage Association though they do not report for any regional district outside of Metro Vancouver. HRAI has not reported any collection for the SLRD despite having collection locations. The Major Appliance Program changed their accounting practices in 2019 resulting in lower numbers subsequently.

Appendix C shows what each program collects and the collection services. The data below is in tonnes with an additional decimal place for programs that collect smaller amounts.

Program (tonnes)	2014	2015	2016	2017	2018	2019	2020	2021
AlarmRecycle	0.0	0.1	0.2	0.1	0.2	0.1	0.2	0.2
BC Used Oil Management Association	493	568	565	551	569	579	826	571
Encorp	1713	1800	1859	1759	1867	1754	1547	1436
Brewers Distributed Limited	265	219	213	228	217	211	172	176
Call2Recycle	4	2	4	2	8	6	7	9
Recycle My Cell	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Shaw Telecom	0.0	9.7	7.8	2.4	6.0	2.5	0.7	0.0
Telus	0.0	0.7	1.7	74.9	2.9	1.7	2.6	1.5
Canadian Battery Association	0.0	166	180	204	217	202	210	234
Canadian Electric Stewardship Association	45.2	49.5	51.2	55.2	58.2	59.3	58.1	61.8
Electronics Products Recycling Association	255	234	204	171	166	151	145	139
Canadian Beverage Association	0	0	0	0	0	0	0	0
LightRecycle	7	16	11	14	18	23	32	28
Major Appliance Recycling	378	350	397	388	329	0	18	171
Outdoor Power Equipment Institute	0	0	0	0	0	0	1	3
Recycle BC	1379	1184	1807	1878	2908	3461	3492	3379
Heating Refrigeration and Air Conditioning Institute*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Product Care	41	42	46	53	54	47	56	58
Health Product Stewardship Association	0.6	0.7	0.5	0.7	0.4	0.8	0.6	0.6
Tire Stewardship BC	556	622	576	668	672	695	692	728
<b>Total</b>	<b>5137</b>	<b>5263</b>	<b>5922</b>	<b>6049</b>	<b>7093</b>	<b>7193</b>	<b>7261</b>	<b>6995</b>
<b>Total without Recycle BC</b>	<b>3758</b>	<b>4079</b>	<b>4115</b>	<b>4171</b>	<b>4185</b>	<b>3732</b>	<b>3769</b>	<b>3616</b>

## APPENDIX E WASTE COMPOSITION STUDIES RESULTS

The table below shows the results by community for the most recent waste composition studies. While each composition study included details by generator type, the numbers below are for the overall whole waste stream.

Percentages for each material								
	Squamish	Whistler	Gold Bridge + Area A	Lillooet	Britannia	Furry Creek	Pemberton	Regional
<b>Paper</b>	9	11	27	8	7	8	5	9
<b>Plastic</b>	18	13	11	10	14	15	14	15
<b>Metal</b>	4	3	4	5	3	2	4	4
<b>Glass</b>	2	4	3	4	2	4	2	3
<b>Avoidable food waste</b>	12	12	16	15	17	15	10	12
<b>Clean Wood</b>	6	5	0	1	0	0	4	5
<b>Organics -Compostable -other</b>	4	8	16	10	18	20	24	8
<b>Organics -Non compostable</b>	9	15	1	5	2	5	0	10
<b>Building</b>	6	12	1	17	2	5	10	10
<b>Electronic</b>	1	1	1	3	0	3	2	1
<b>HHW</b>	0	3	1	6	2	1	2	2
<b>Hygiene</b>	6	4	4	5	23	14	8	5
<b>Bulky</b>	10	0	0	3	0	0	0	5
<b>Textiles</b>	6	5	15	3	6	4	16	6
<b>Fines/Bagged</b>	6	4	0	2	2	1	0	4
<b>Single Use</b>	2	2	1	2	3	2	1	2
<b>Diversion potential -composting</b>	20%	26%	31%	31%	36%	34%	38%	25%
<b>Diversion potential-recycling -PPP</b>	6%	19%	28%	12%	16%	20%	7%	12%
<b>Diversion potential -other EPR &amp; drop off</b>	21%	6%	1%	10%	4%	6%	26%	14%
<b>Diversion potential -total</b>	<b>48%</b>	<b>51%</b>	<b>60%</b>	<b>53%</b>	<b>56%</b>	<b>60%</b>	<b>71%</b>	<b>51%</b>

This uses data from the SLRD 2022 Waste Composition Study (Gold Bridge and Area A, Britannia Beach, Furry Creek), SLRD 2021 Waste Composition Study (Lillooet & Pemberton), the District of Squamish Waste Composition Audit and the RMOW 2023 Waste Composition Study. The regional percentages were calculated through a weighted average by community (using 2022 waste weights). To align with the diversion potential analysis, compostable and food soiled paper was included in the Organics Compostable -other category and estimates made where categories differed between studies (such as for single use).

## APPENDIX F ESTIMATED GHGS AVOIDED THROUGH DIVERSION

The table below shows the estimated tonnes of each material using the estimated waste composition from 2014 (based on the 2012 waste composition study for the Regional District of North Okanagan with some edits to match 2022 categories) and calculating what the amount of waste would have been in 2022 using the same waste per capita amount and waste composition (Business As Usual (BAU)) and then comparing it to the actual amount of total waste in 2022 using the composite SLRD waste composition. A factor for each material type was applied where available to get the GHG impact for recycling or composting the material. This shows a savings of over 9,000 tonnes of CO<sub>2</sub> equivalent. This is not a cumulative impact estimate, but for if the change happened in one year so equals the savings for 2022.

	2014 waste composition	2014 Waste (t)	2022 Waste BAU (t)	2022 Waste composition	2022 Waste (t)	difference	GHG Impact (avoided t CO <sub>2</sub> e)
<b>Paper &amp; Paperboard</b>	12%	3661	4345	10%	2913	1,432	5,358
<b>Plastics</b>	10%	3051	3621	15%	4370	(749)	(1,470)
<b>Organics (compostable)</b>	29%	8848	10500	20%	5827	4,674	3,442
<b>Clean Wood</b>	5%	1526	1810	5%	1457	354	149
<b>Textiles</b>	3%	915	1086	6%	1748	(662)	(2,027)
<b>Organics (non-compostable)</b>	9%	2746	3259	10%	2913	345	618
<b>Metals</b>	7%	2136	2535	4%	1165	1,369	1,542
<b>Glass</b>	3%	915	1086	4%	1165	(79)	(13)
<b>Inorganic Building Materials</b>	8%	2441	2897	10%	2913	(17)	(8)
<b>Electronic Waste</b>	3%	915	1086	1%	291	795	2,017
<b>Household Hazardous</b>	3%	915	1086	2%	583	504	nd
<b>Household Hygiene</b>	6%	1831	2172	5%	1457	716	nd
<b>Bulky Objects</b>	1%	305	362	5%	1457	(1,095)	(462)
<b>Fines/Miscellaneous</b>	1%	305	362	3%	874	(512)	nd
<b>Totals</b>	<b>100%</b>	<b>30510</b>	<b>36208</b>	<b>100%</b>	<b>29134</b>	<b>7,074</b>	<b>9,147</b>

nd=no data