

Cowichan Valley Regional District Current Solid Waste Management System Overview



Presented by Wilbert Yang

BC Solid Waste Management Planning

- All regional districts in BC required to have Solid Waste Management Plans
- The Plan is comprehensive for next 10 years, with vision for next 20-30 years
- Include all material streams and aspects of solid waste management
 - Collection
 - Recycling and composting
 - Waste reduction
 - Disposal
 - Financing
 - Education



Provincial Guiding Principles

Promote zero waste approaches and support a circular economy

Promote the first 3 Rs (Reduce, Reuse and Recycle)

Maximize beneficial use of waste materials and manage residuals appropriately

Support polluter and user-pay approaches and manage incentives to maximize behaviour outcomes

Prevent organics and recyclables from going into the garbage wherever practical

Collaborate with other regional districts wherever practical

Develop collaborative partnerships with interested parties to achieve regional targets set in plans

Level the playing field within regions for private and public solid waste management facilities.

CVRD Guiding Principles

Support local industry

Engage with local municipalities

Engage with local First Nations

Support extended producer responsibility (EPR) initiatives

Use economic instruments for achieving waste diversion

Promote sound environmental management practices

Provincial Goals and Targets

- 75% of BC's Population covered by Organic Waste Disposal Restrictions
- 75% Recovery of Materials Covered by Extended Producer Responsibility Programs
- Provincial Disposal Rate of 350 kg per capita, per year

BC Solid Waste Management Planning

- Four step process
- Elements of consultation can be included throughout the plan



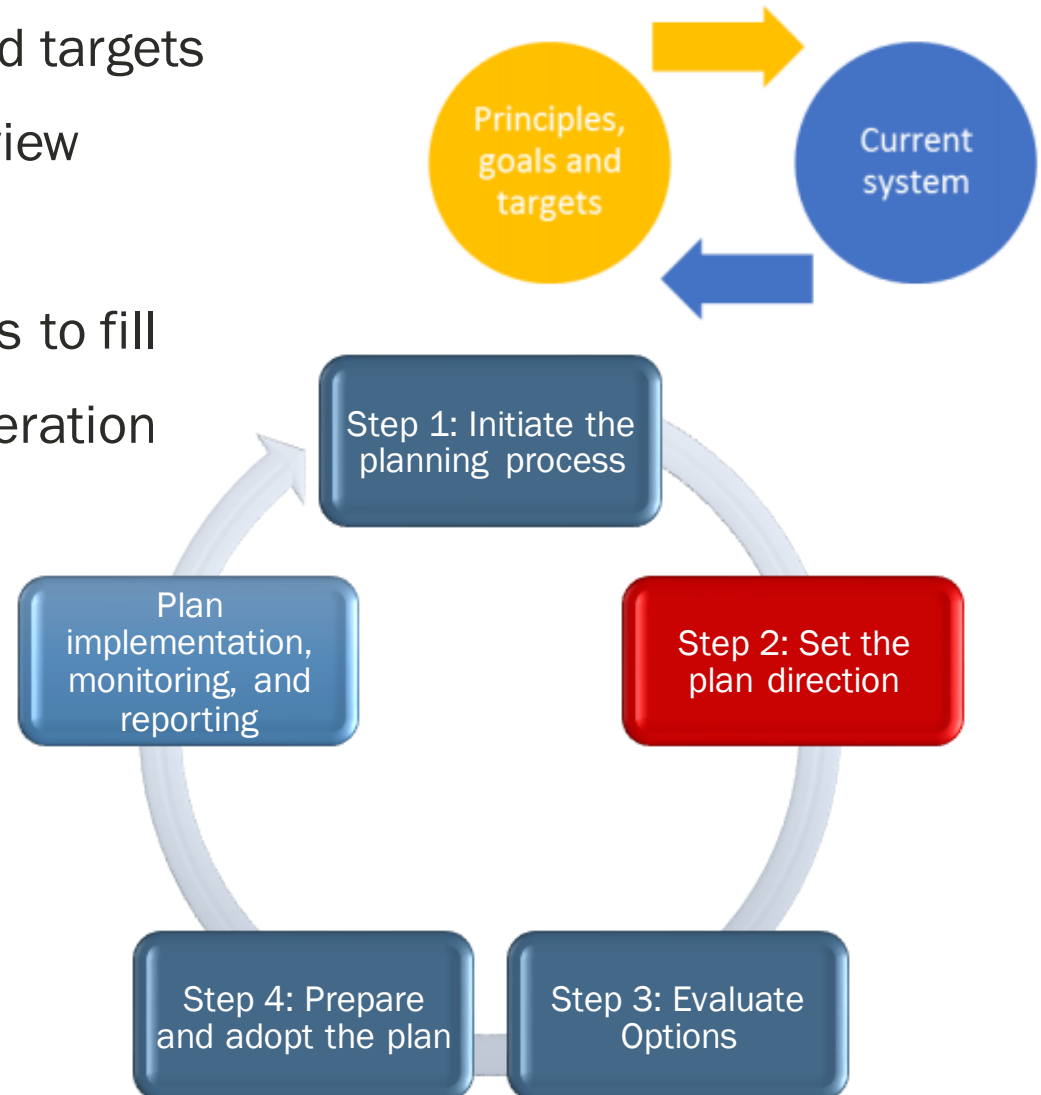
Step 1: Initiate the Planning Process

- Establishment of this committee
- Establishment of planning team
- Identify scope of work
- Identify planning and consultation process



Step 2: Set the Plan Direction

- Identify principles goals and targets
- Prepare current system review
- Consider current trends
- Determine information gaps to fill
- Develop options for consideration



Step 3: Evaluate Options

- Develop strategies and options
- Assess financial and administrative impacts
- PAC to review and provide feedback along the way

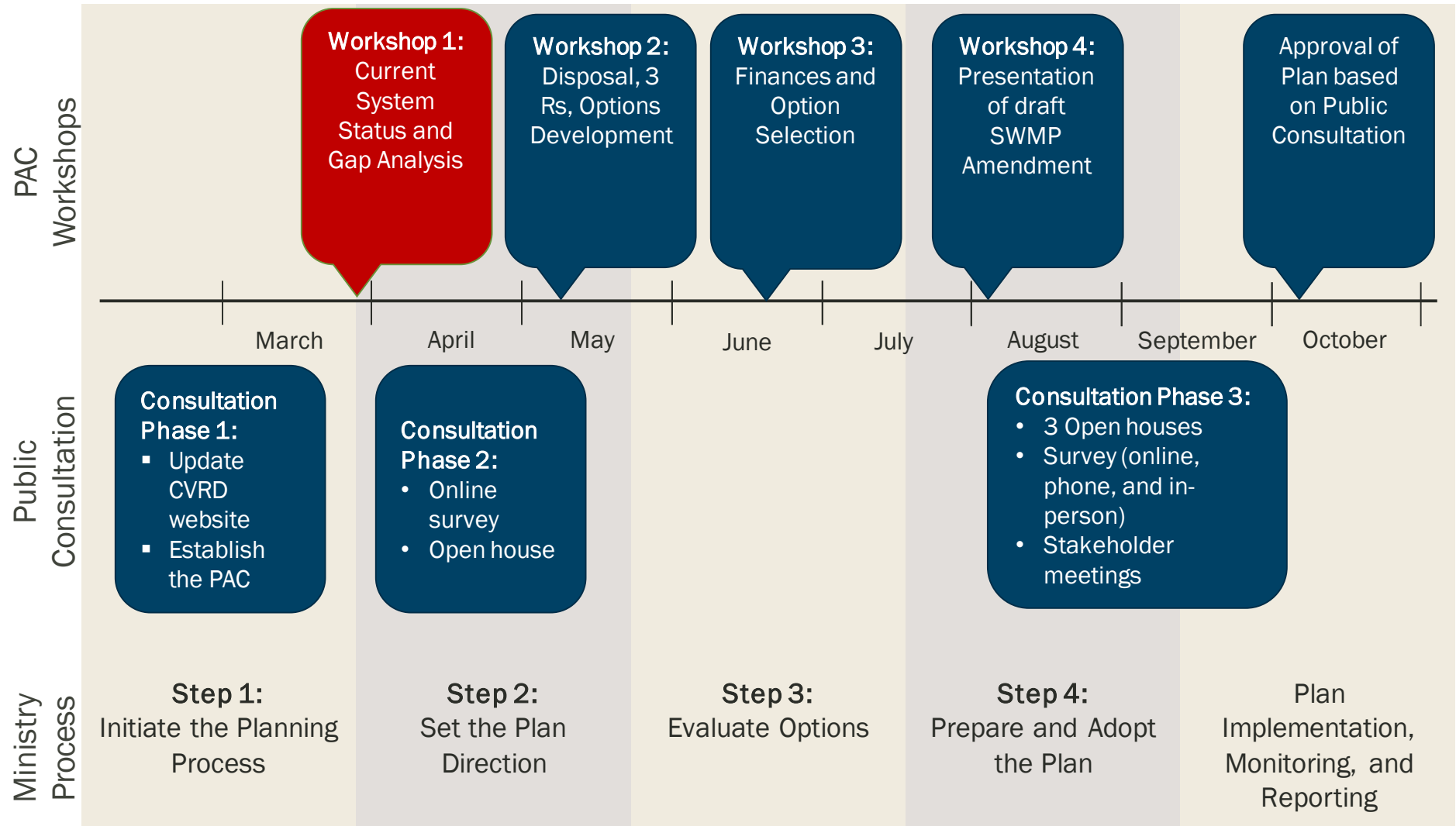


Step 4: Prepare and Adopt the Plan

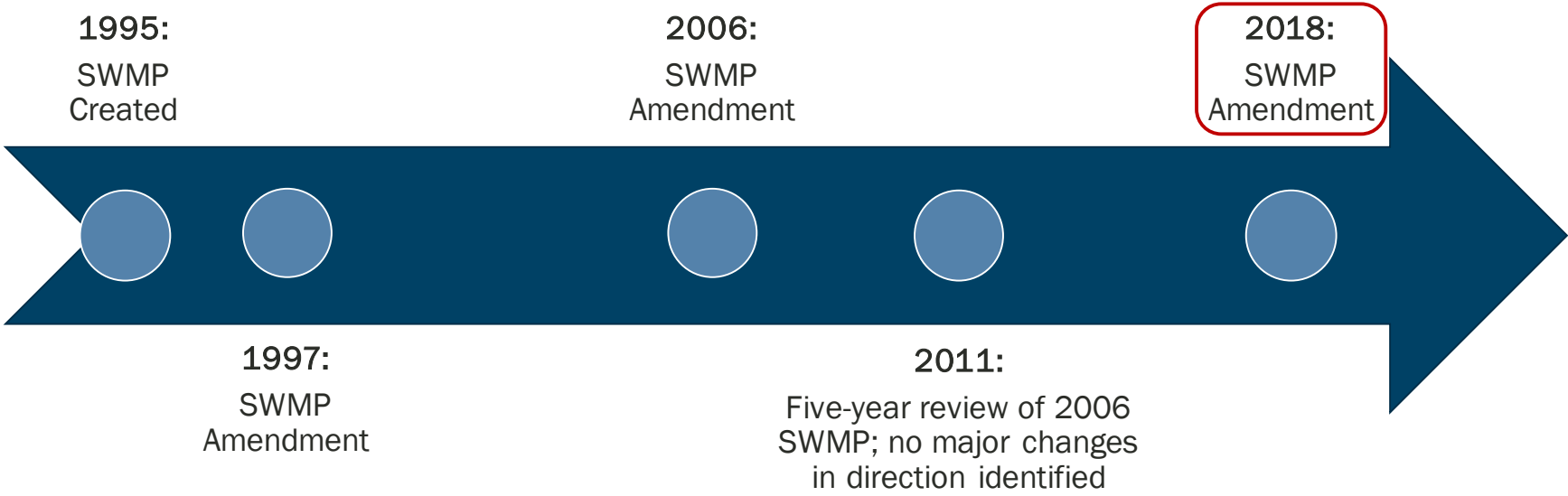
- Prepare draft plan
- Confirm preferred strategies with the Advisory Committee
- Consult the public on the options
- Prepare plan for submission
- Submit to Board for review
- Submit to Ministry for approval



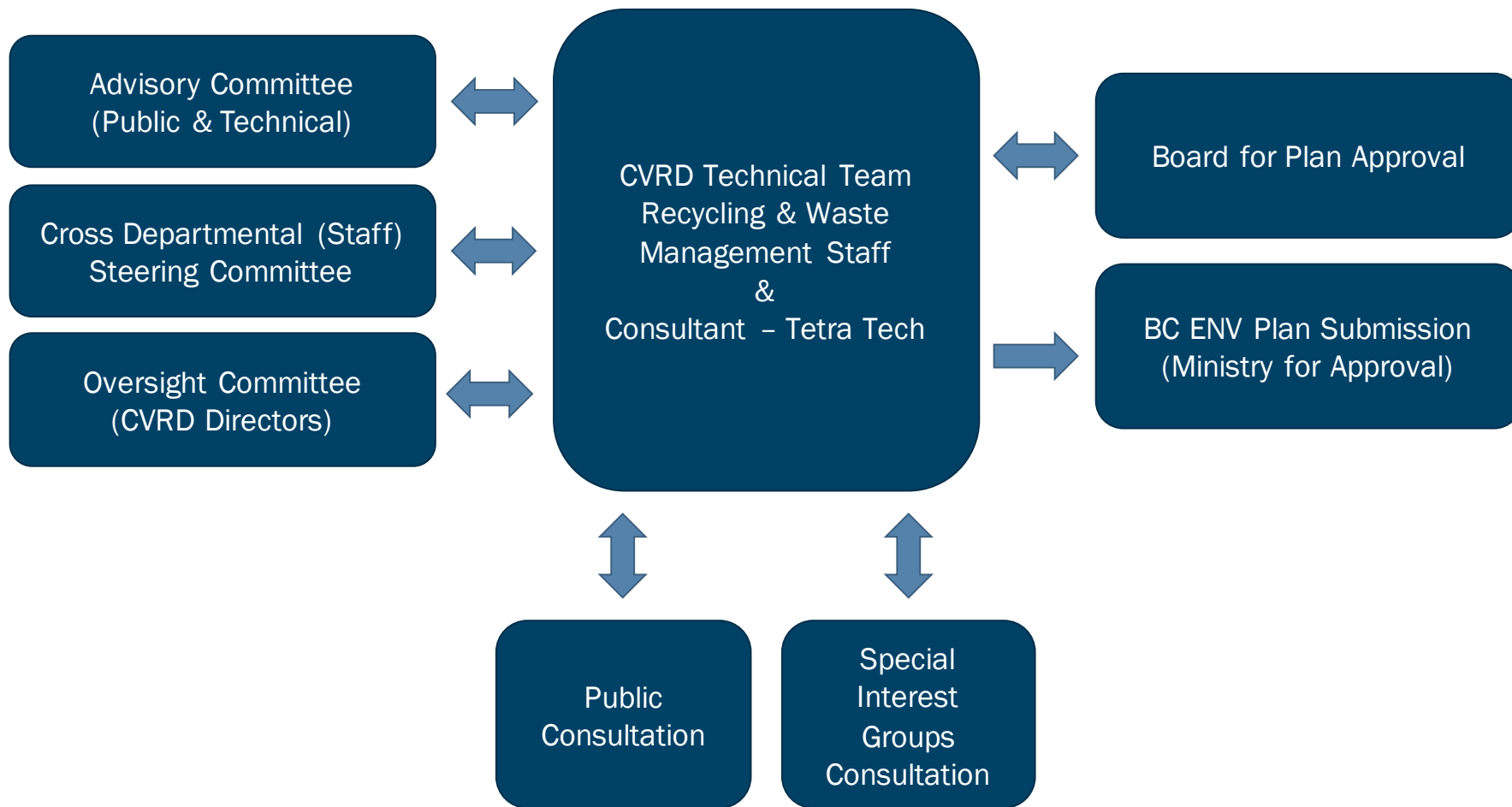
CVRD SWMP Update Schedule



SWMP History in CVRD



SWMP Update – Process Flow Chart



Solid Waste Management in CVRD



What is Waste?

- **Municipal Solid Waste (MSW)**
 - Refuse that originates from residential, commercial, institutional, demolition, land clearing or construction sources
 - **Includes all materials:** garbage, recyclables, food waste, yard waste, etc.
 - **Does not include:** heavy industry, hazardous waste, biomedical waste, agricultural or forestry waste

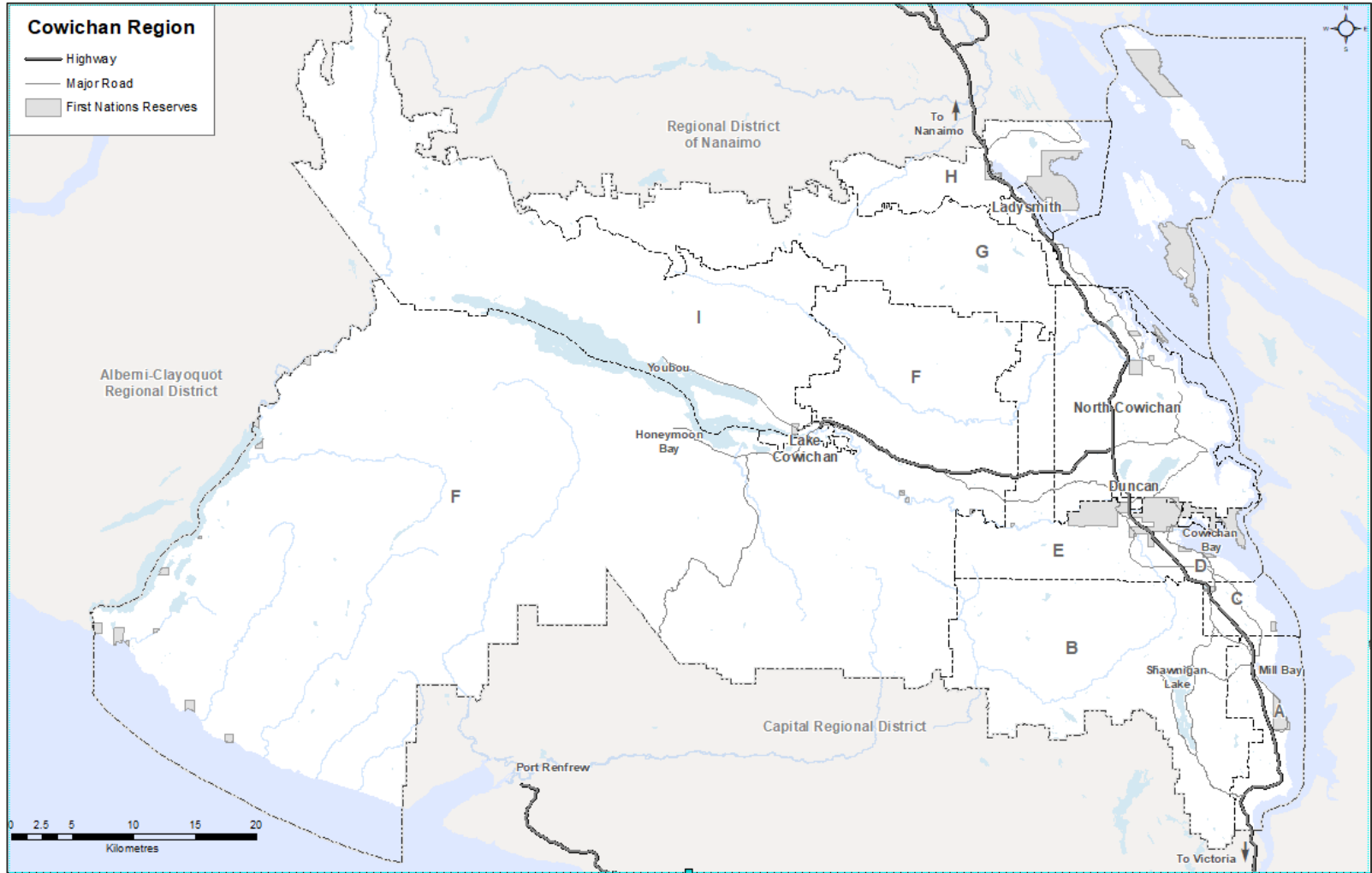


What is Waste?

- **Solid waste stream**
 - The aggregate of all municipal solid waste and recyclable materials, and the process through which they move from generation to utilization or disposal
- **Residual management**
 - The disposal of what remains in the solid waste stream following reduction, reuse, recycling and recovery activities (typically called garbage)



CVRD Solid Waste Management Plan



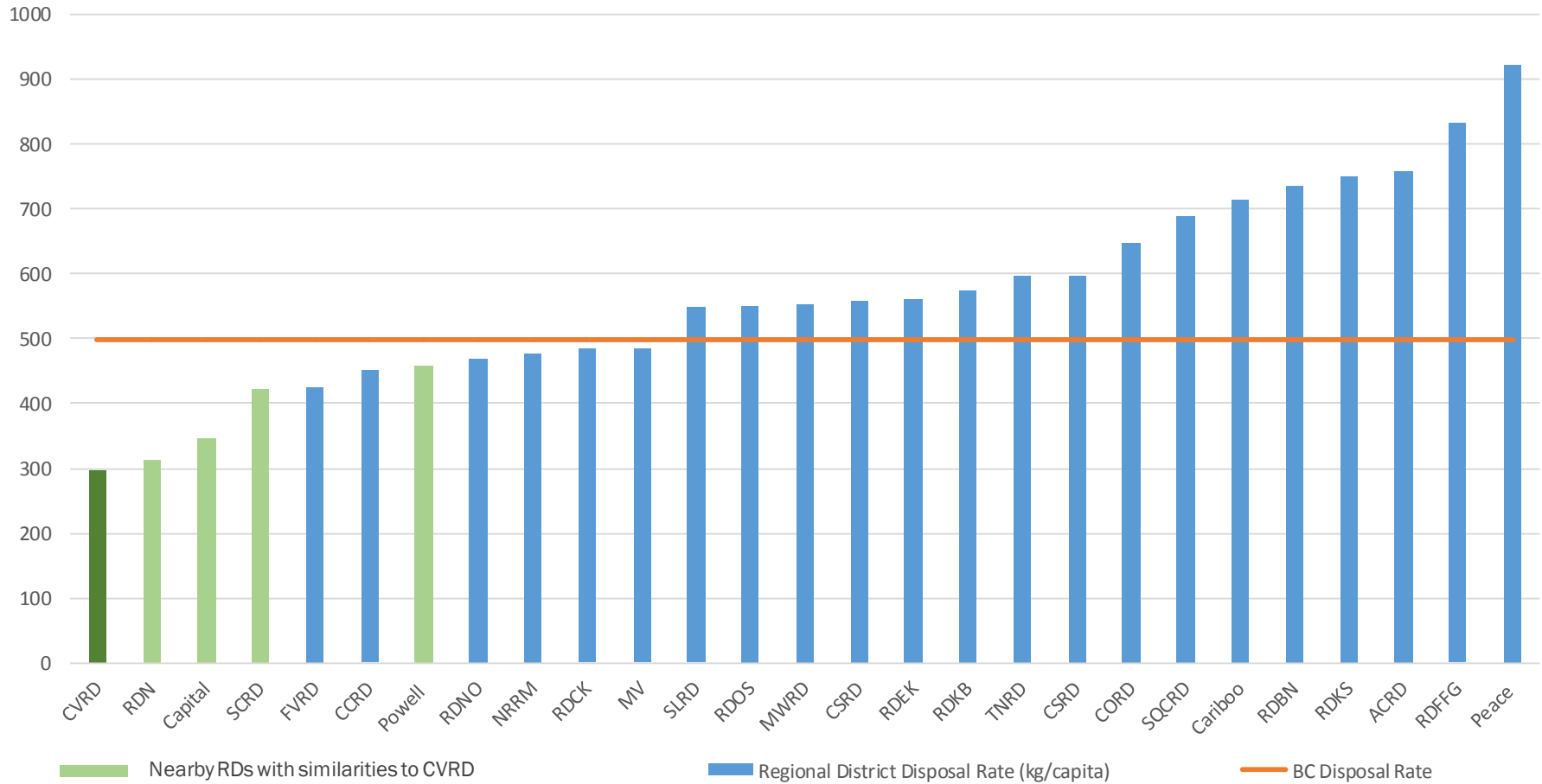
CVRD Population

Area	Population (2016)	Population Rate of Growth, 2011 - 2016	Population Density per square kilometre	Land Area in square kilometres
CVRD	83,739	4.2%	24.1	3,474.52
Electoral Area A	4,733	7.7%	96.0	49.31
Electoral Area B	8,558	5.3%	27.9	306.47
Electoral Area C	5,019	4.6%	222.2	22.59
Electoral Area D	3,243	9.2%	207.4	15.64
Electoral Area E	4,121	6.9%	30.6	34.85
Electoral Area F	1,629	-1.2%	0.9	1,792.34
Electoral Area G	2,325	4.7%	7.9	294.65
Electoral Area H	2,446	4.9%	29.4	83.09
Electoral Area I	1,206	8.6%	2.4	505.80
City of Duncan	4,944	0.2%	2,387.1	2.07
District of North Cowichan	29,676	3.0%	151.7	195.56
Town of Lake Cowichan	3,226	8.5%	389.3	8.29
Town of Ladysmith	8,537	7.8%	711.9	11.99
First Nations Reserves ²	4,076	-	-	-

Disposal and Recycling Rates

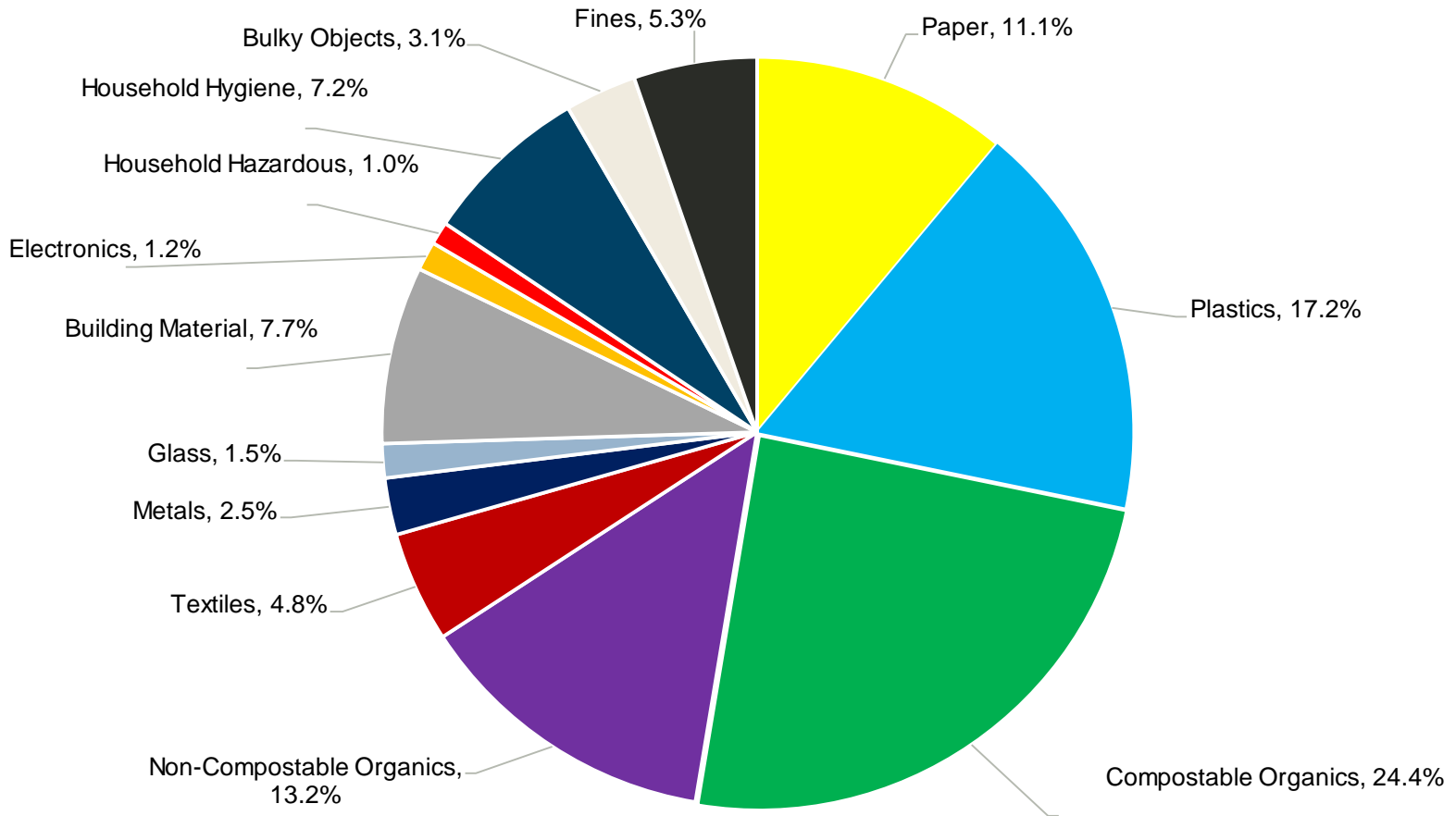
Annual Disposal Rate	30,100 tonnes
Per Capita Disposal Rate	359 kg per capita
Annual Recycling Rate	44,000
Per Capita Recycling Rate	525 kg per capita

System Data – How does CVRD compare?



2015 Disposal in BC Regional Districts

Waste Composition Study



2017 Waste Composition Study Results



Facilities and Services



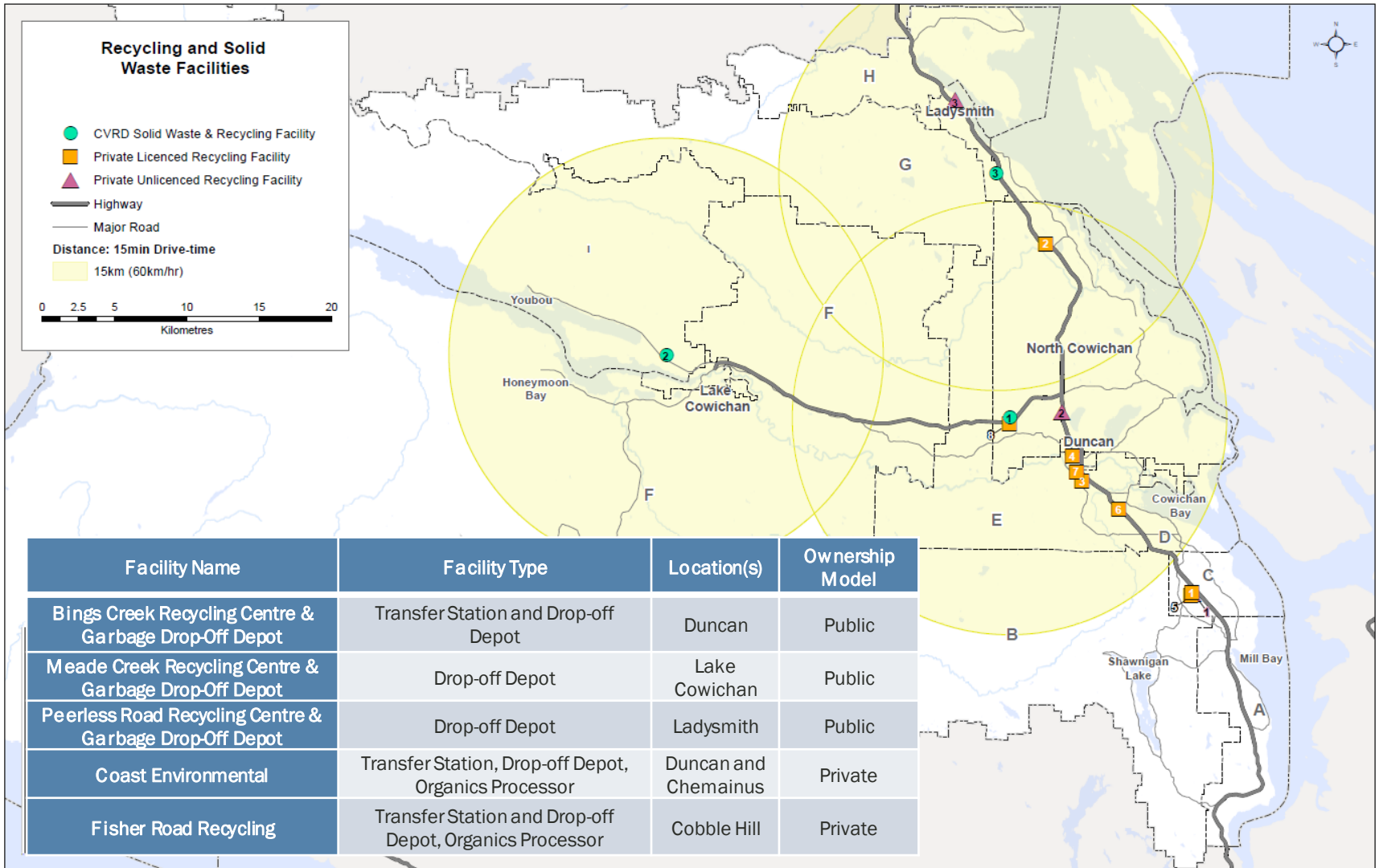
Solid Waste Management Flow Diagram



SOLID WASTE MANAGEMENT - FLOW DIAGRAM



Facilities in CVRD



Reduction



SINGLE FAMILY HOME



MULTI FAMILY HOME



INDUSTRIAL/COMMERCIAL/
INSTITUTION



CONSTRUCTION/DEMOLITION

SOURCE

- Cowichan Recyclopedica
- Publication of *Earth Issues, Our Lifestyles and the Environment*
- Encouraging Reduction in Plastic Bag Use
- Garbage Can Limits
- Food Waste Reduction

Reuse



SINGLE FAMILY HOME



MULTI FAMILY HOME



INDUSTRIAL/COMMERCIAL/
INSTITUTION



CONSTRUCTION/DEMOLITION

SOURCE

- Free Stores
- Online Sales Platforms

Residential Collection in CVRD



PUBLIC



PRIVATE



DEPOTS

COLLECTION

Jurisdiction	Garbage	Organics	Recycling
City of Duncan	Every-other-week	Weekly	Every-other-week
District of North Cowichan	Every-other-week	Weekly	Every-other-week
Town of Lake Cowichan	Every-other-week	Weekly	Every-other-week
Town of Ladysmith	Every-other-week	Weekly	Every-other-week
Electoral Areas A, B, C, some parts of Area D	Subscription	Subscription	Every-other-week
Electoral Areas D, E, F, G, and I	Every-other-week	None	Every-other-week
Electoral Area H	Subscription	None	Every-other-week

Single Family Collection in CVRD

Residential Collection in CVRD



PUBLIC



PRIVATE



DEPOTS

COLLECTION



RECYCLEBC™

- Recycle BC was originally launched in 2014 as Multi-Material BC (MMBC)
- Recycle BC is a non-profit organization responsible for residential packaging and printed paper recycling throughout British Columbia
- Recycle BC provides recycling services either directly to communities or by working in partnership with local governments, First Nations and private companies
- Recycle BC funds and runs curbside recycling collection in all CVRD Electoral Areas and all member municipalities
- Program is funded by businesses, like retailers, manufacturers and restaurants that supply packaging and printed paper to BC residents

Residential Collection in CVRD



PUBLIC

In Summary:

Garbage → Service levels vary in Electoral Areas



PRIVATE

Recycling → All Electoral Areas receive curbside collection service

Organics → Some Electoral Areas have no access to curbside organics collection services



DEPOTS

COLLECTION

Other Collection



PUBLIC

Multi-family



Do not receive public collection services (except in Lake Cowichan)



PRIVATE

ICI



Do not receive public collection services (except in Lake Cowichan)



DEPOTS

Depots



Most residents (except those in South End) are within a 15-minute drive) of public depots. South End residents may use private depots.

COLLECTION

Transfer Facilities



Facility Name	Facility Type	Location	Ownership Model
Bings Creek Recycling Centre & Garbage Drop-Off Depot	Transfer Station and Drop-off Depot	Duncan	Public
Coast Environmental	Transfer Station, Drop-off Depot, Organics Processor	Duncan and Chemainus	Private
Fisher Road Recycling	Transfer Station and Drop-off Depot, Organics Processor	Cobble Hill	Private

Processors



Facility	Location	Recyclable Materials Processed	Organic Materials Processed
Fisher Road Recycling	Cobble Hill	Mattresses, couches and armchairs, clean wood waste, drywall, asphalt roofing shingles, metal, rubble, packaging and printed paper (PPP)	Food and yard waste
Coast Environmental	Chemainus and Duncan	Clean wood waste, cardboard, drywall, asphalt roofing shingles, rubble, metal	Food and yard waste
Stone Pacific Contracting	Duncan	Rubble	None
Central Landscape Supplies	Cobble Hill	None	Yard waste
Cowichan Biodiesel Coop	Duncan	None	Waste vegetable oil
Hillside Stone & Garden	Duncan	None	Yard waste
Schnitzer Steel	North Oyster	Metals	None

Disposal



MARKET

- No landfills in the CVRD; waste is exported to Roosevelt Regional Landfill in Washington, USA

- In 2016, the CVRD exported 21,664 tonnes of waste

- The CVRD maintains a contingency disposal agreement with the Regional District of Nanaimo (RDN), in the event export to the Roosevelt Landfill is temporarily disrupted



LANDFILL

END POINT

Illegal Dumping



MARKET

- **Tipping Fee Exemptions** → Non-profit groups that clean up public lands can dispose of collected debris for free,

- **Education Campaigns** → The CVRD launched a focused education campaign in Hillcrest to reduce illegal dumping. A campaign will focus on the Shawnigan Lake area in 2018.



LANDFILL

END POINT

Finance and Administration



Five-year Waste Services Budget

	2017	2018	2019	2020	2021	2022
Requisition/Parcel Tax	\$4,251,210	\$4,520,900	\$4,520,900	\$4,520,900	\$4,520,900	\$4,520,900
User Fee	\$2,841,398	\$2,541,000	\$2,541,000	\$2,541,000	\$2,541,000	\$2,541,000
Transfer from Capital Reserve	\$200,000	\$75,000	-	-	-	-
Transfer from Operating Reserve	-	\$10,000	-	-	-	-
Transfer from Gas Tax Reserve	-	-	-	-	-	-
Other	\$3,616,383	\$1,650,880	\$938,296	\$1,028,996	\$1,130,898	\$1,243,332
Debt Proceeds	\$2,445,319	\$2,470,320	-	-	-	-
Revenue Total	\$13,354,310	\$11,268,100	\$8,000,196	\$8,090,896	\$8,192,798	\$8,305,232

Operational Costs	\$7,100,014	\$7,299,677	\$7,435,471	\$7,584,180	\$7,735,863	\$7,848,297
Long Term Debt	\$621,079	\$468,639	\$264,941	\$257,514	\$232,451	\$232,451
Short Term Debt	\$120,442	\$163,484	\$163,484	\$112,902	\$88,184	\$88,184
Capital	\$5,372,184	\$3,300,000	-	-	-	-
Transfer to Capital Reserve	\$100,000	-	\$100,000	\$100,000	\$100,000	\$100,000
Transfer to Remediation Reserve	\$40,591	\$36,300	\$36,300	\$36,300	\$36,300	\$36,300
Expenses Total	\$13,354,310	\$11,268,100	\$8,000,196	\$8,090,896	\$8,192,798	\$8,305,232
Surplus/Deficit	\$-	\$-	\$-	\$-	\$-	\$-

Five-year Curbside Collection Budget

	2017	2018	2019	2020	2021	2022
Requisition/Parcel Tax	-	-	-	-	-	-
User Fee	\$787,946	\$797,500	\$1,135,787	\$1,121,296	\$1,107,458	\$1,094,284
Transfer from Capital Reserve	-	-	-	-	-	-
Other	\$488,000	\$493,400	\$493,400	\$493,400	\$493,400	\$493,400
Debt Proceeds	-	-	-	-	-	-
Surplus/(Deficit)	\$720,177	\$571,253	\$264,913	\$311,989	\$359,065	\$406,141
Revenue Total	\$1,996,123	\$1,862,153	\$1,894,100	\$1,926,685	\$1,959,923	\$1,993,825

Operational Costs	\$1,731,303	\$1,597,333	\$1,629,280	\$1,661,865	\$1,695,103	\$1,729,005
Long Term Debt	\$144,820	\$144,820	\$144,820	\$144,820	\$144,820	\$144,820
Short Term Debt	-	-	-	-	-	-
Capital	-	-	-	-	-	-
Transfer to Capital Reserve	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000
Expenses Total	\$1,996,123	\$1,862,153	\$1,894,100	\$1,926,685	\$1,959,923	\$1,993,825

What's Next?

Gaps and Opportunities



System Gaps and Opportunities



Gaps and Opportunities

Reuse and Reduction Programs

- Build local food rescue capacity
- Implement reuse platforms such as repair cafes, tool libraries, reclamation of building supplies
- Consider options to reduce use of disposable plastic shopping bags

Gaps and Opportunities

Education and Behaviour Change

- Ongoing education is important for continued success of existing programs
- Critical when implementing new initiatives or expanding existing programs
- Continuing to integrate a community-based social marketing approach

Gaps and Opportunities

Organics Processing Capacity

- As capture increases, the region may lack adequate processing capacity.
- When at capacity, facilities are more susceptible to odour incidents, which poses a threat to organics management processing infrastructure

Gaps and Opportunities

Organics and Recycling Programs for ICI & MF

- ICI and MF sectors currently have inconsistent collection services levels for recycling and organics

Gaps and Opportunities

Improve Southern CVRD Services

- 20% of the population lives in the south end of the CVRD (Electoral Areas A, B, and C) where there are currently no public depots
- Residents contribute to the region-wide services through taxation but do not have proximate access to these services
- There are no public curbside collection programs for garbage or organics in the south end.

Gaps and Opportunities

Expanded Curbside Collection

- Recycling collection exists across the region
- Garbage and organics curbside collection is not in place throughout the CVRD

Gaps and Opportunities

Construction and Demolition

- Opportunities exist to further recover recyclable materials from C&D waste
- Markets continue to fluctuate which affects how wood waste can be utilized
- Other opportunities may exist to develop markets within the region or leveraging inter-jurisdictional opportunities for material reuse, re-manufacturing and/or energy recovery

Gaps and Opportunities

Expansion of EPR Programs

- The CVRD supports the expansion of EPR programs for new products such as textiles and bulky furniture
- Advocating senior governments to expand products covered under the BC Recycling Regulation could help to address materials management for these items

Gaps and Opportunities

Local Solid Waste Management Capacity

- The CVRD lacks local solid waste disposal capacity
- Garbage is exported to the Roosevelt Regional Landfill in Washington State
- Infrastructure gaps to address related to ICI sector single-stream recyclables requiring processing, how hazardous waste is collected and processed, particularly for larger commercial volumes, in the region

Gaps and Opportunities

Illegal Dumping

- Costs and ubiquity of illegal dumping should be analyzed

Gaps and Opportunities

Emergency Management Plan

- No emergency/disaster management plan for how to manage solid waste in the event of a natural disaster
- BC Regional Districts including Cariboo and Fraser Fort George have recently been affected by fires and floods, which generate a significant amount of extra solid waste within a short period and require a management plan.

Thank you!

