



Local Action on Climate Change: Organics Diversion in BC

SWANA CANADIAN SYMPOSIUM

APRIL 2022

BANFF, ALBERTA



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Presentation Outline

1. Background
2. Provincial Policies and Local Government Programs
 - 1990's
 - 2000's
 - 2010's
 - 2020's
3. Conclusions

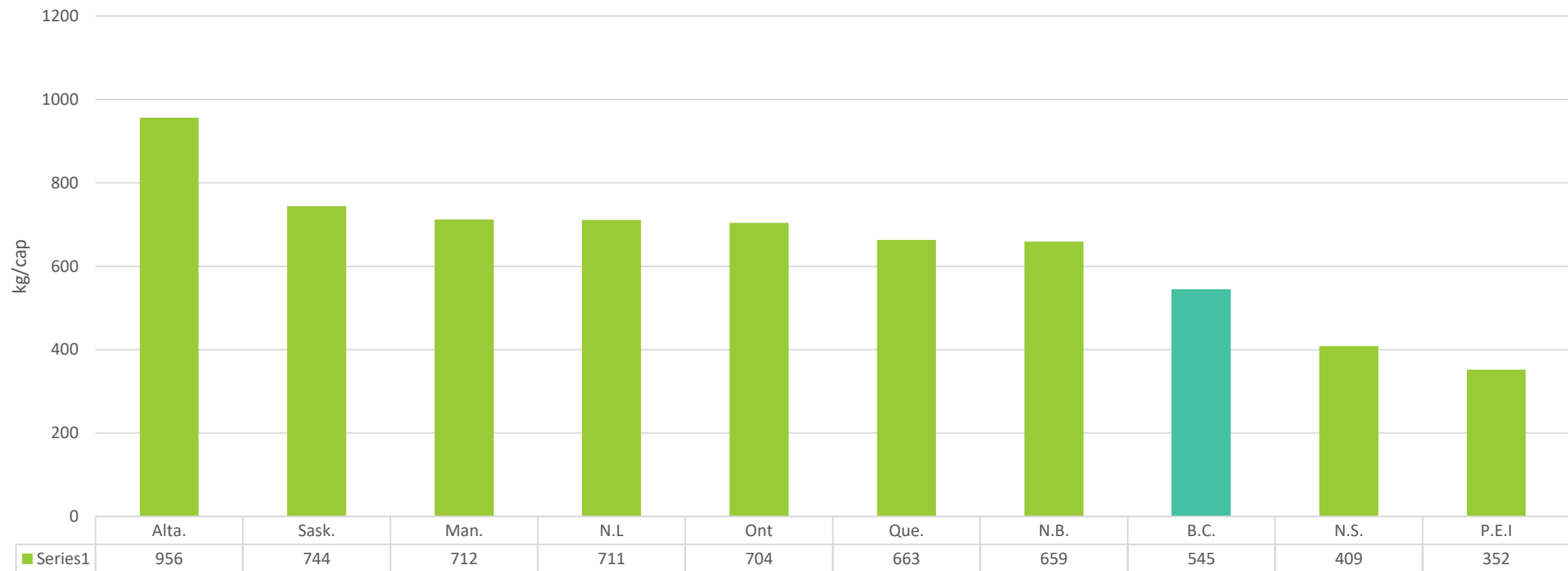


Background

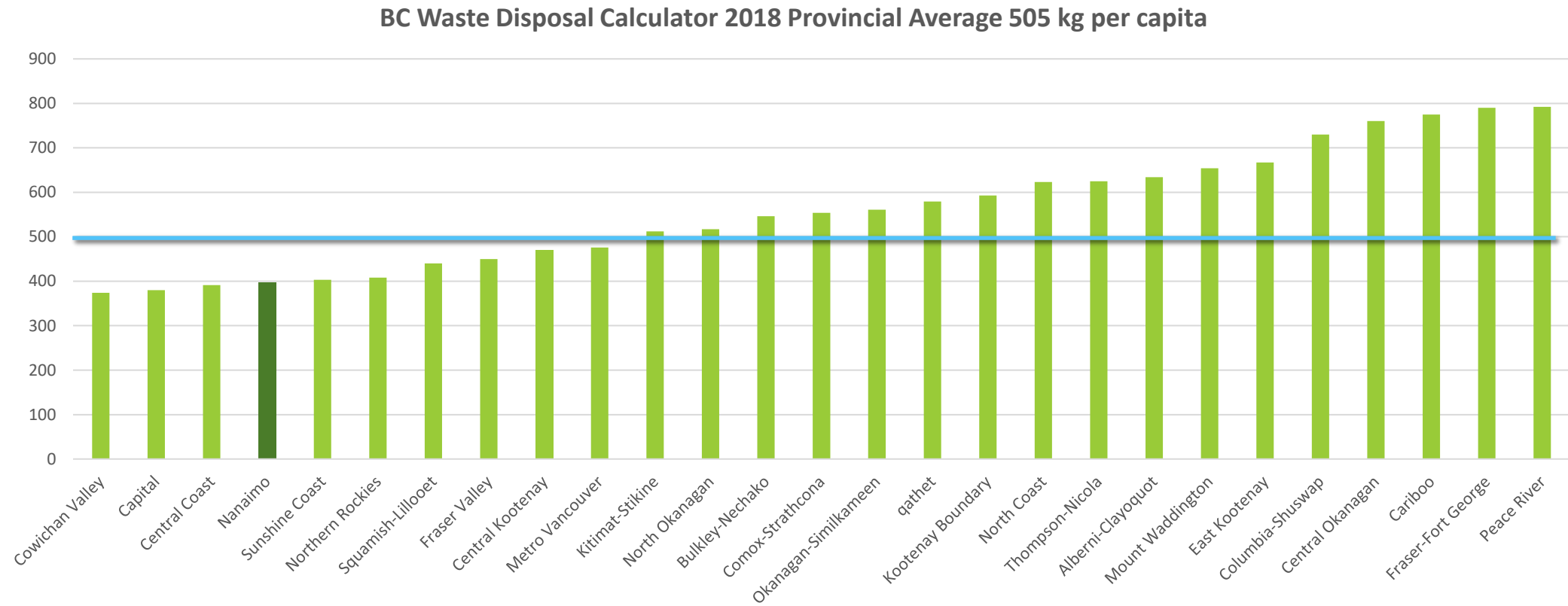
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Why look at BC?

StatsCan Provincial Per Capita Disposal Rates 2018



Why Listen to Me?



The 1970's - SFU

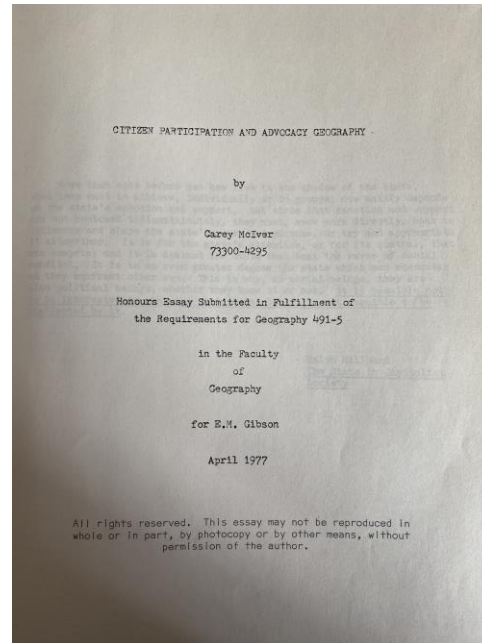
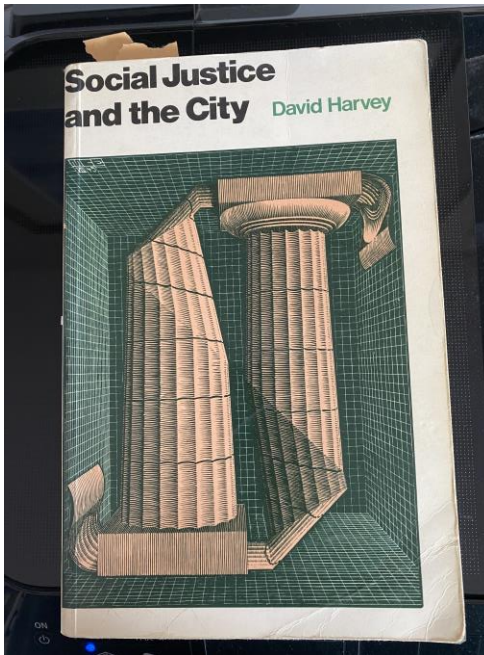
1977 BA (Honours) Geography

Most Influential Book:

- Social Justice and the City

Honours Essay: -

-Citizen Participation and Advocacy
Geography





**That's energy
you're throwing away!**

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the garbage book

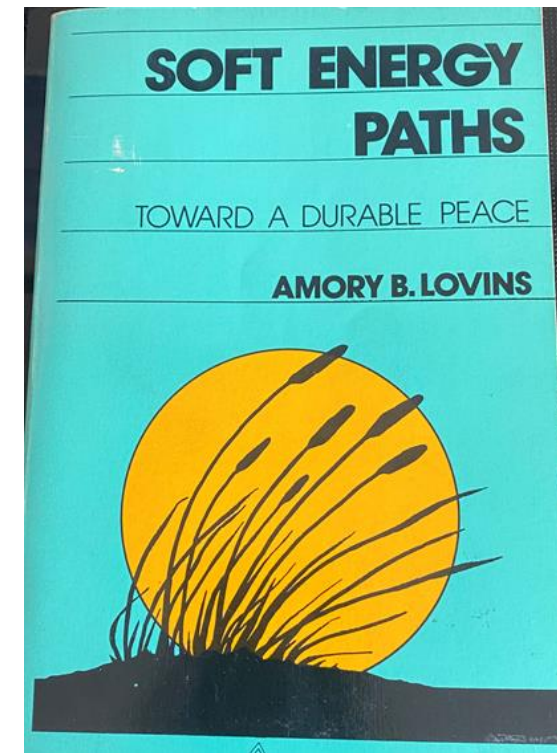
HOW TO SAVE ENERGY AND
MONEY BY THROWING OUT LESS



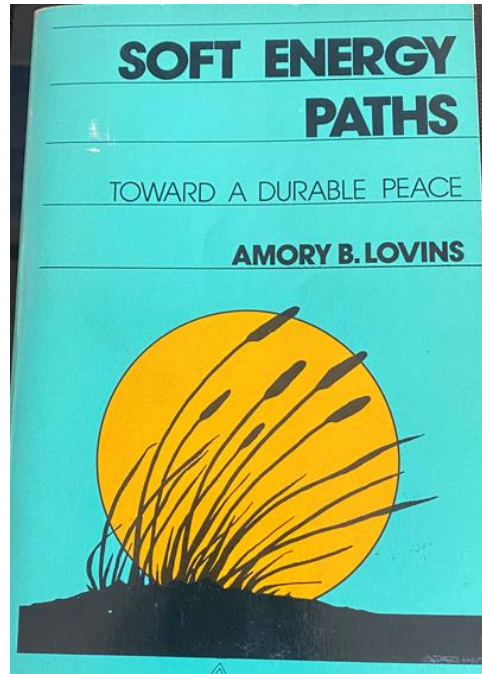
Energy, Mines and
Resources Canada

Energie, Mines et
Ressources Canada

The 1970's Energy Crisis



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The 1980's Energy Conservation

LGL Engineering Consultants

- Energy Cascading
- Central Solar Receiver/Sensible Heat Seasonal Storage

Canada Mortgage and Housing Corporation

- Project Manager/Policy Analyst
- Residential Energy Conservation

Energy Mines & Resources Canada

- Senior Policy Analyst Enerdemo
- Chief, R2000 Program Delivery



The 1990's

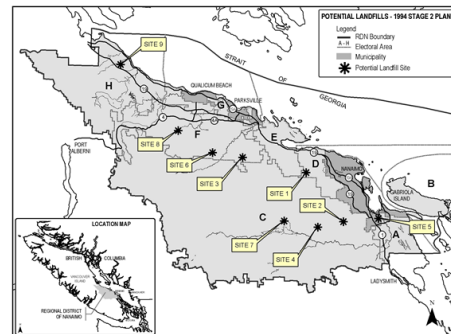
Regional District of Nanaimo

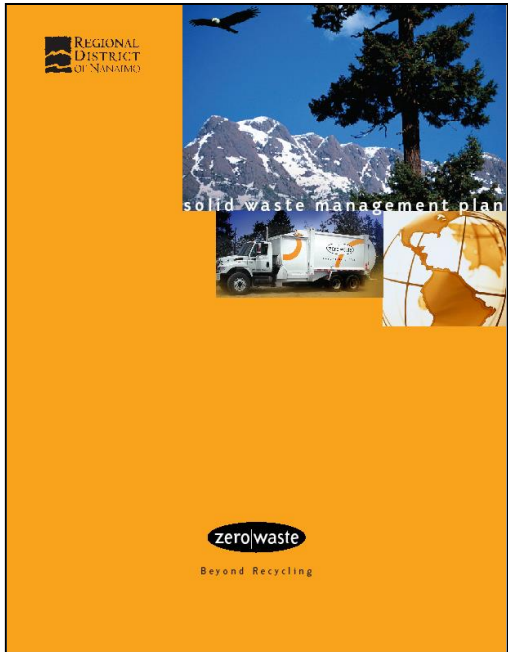
- Recycling Coordinator
- Manager of Waste Reduction
- Manager of Environmental Planning
- Manager of Solid Waste

1992 SWMP Review – Disposal Crisis

Landfill Siting Process

1995 3Rs Plan





The 2000's

2002 Master of Arts in Environment and Management

2004 Zero Waste Plan

2005 Organic Waste Diversion Strategy

2006 Commercial Food Waste Ban

2006 FCM International Partnership - Ghana

2007 Residential Food Waste Collection Pilot





The 2010's

Residential Curbside Collection Program



Beans to bones in the bin!

Green bin curbside food and kitchen waste is coming in October. Watch the mail for your spring Zero Waste newsletter.

The Green Bin Program - a partnership of the Regional District of Nanaimo and its member municipalities - Nanaimo, Lantzville, Parksville and Qualicum Beach. www.beyondcomposting.ca



Food Waste Transfer & Compost Facility Improvements



Nanaimo Bioenergy Centre

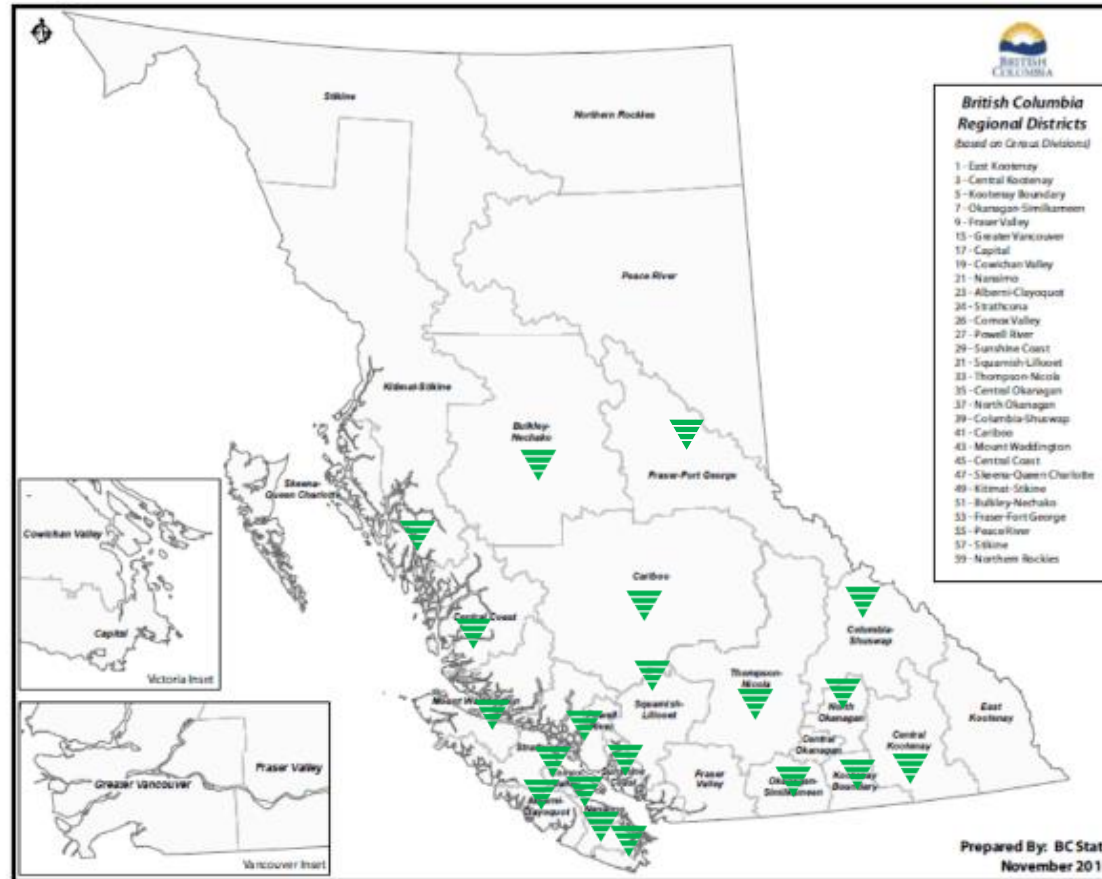


NANAIMO REGIONAL LANDFILL
QUANTITY OF WASTE GENERATED : 173,000 TONNES PER YEAR
QUANTITY OF WASTE DIVERTED : 120,000 TONNES PER YEAR
QUANTITY OF WASTE LANDFILLED : 53,000 TONNES PER YEAR
WASTE PER CAPITA: 350 KILOGRAM PER PERSON PER YEAR
DAILY COVER: MIX OF SOIL AND GRIND
FINAL COVER: SOIL/BIO COVER/COMPOSITE COVER
LINER: LDPE MEMBRANE
COMPACTION: CATERPILLAR 826C COMPACTOR
LEACHATE: MUNICIPAL TREATMENT PLANT

LEGEND
PROPERTY BOUNDARY

LANDFILL GAS COLLECTION SYSTEM
37 VERTICAL EXTRACTION WELLS (AVG DEPTH 15 METRES)

BC Planning & Program Experience



Solid Waste Management
Plans
Organic Diversion Strategies
Curbside Collection Design

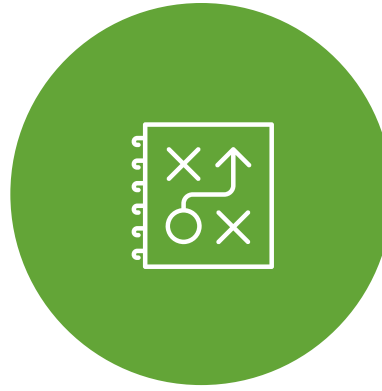


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Crisis Leads to Change



PROVINCIAL POLICIES,
REGULATIONS & FUNDING



REGIONAL DISTRICT PLANS



LOCAL GOVERNMENT
PROGRAMS



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The 1990's

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Provincial

Garbage crisis – landfill capacity

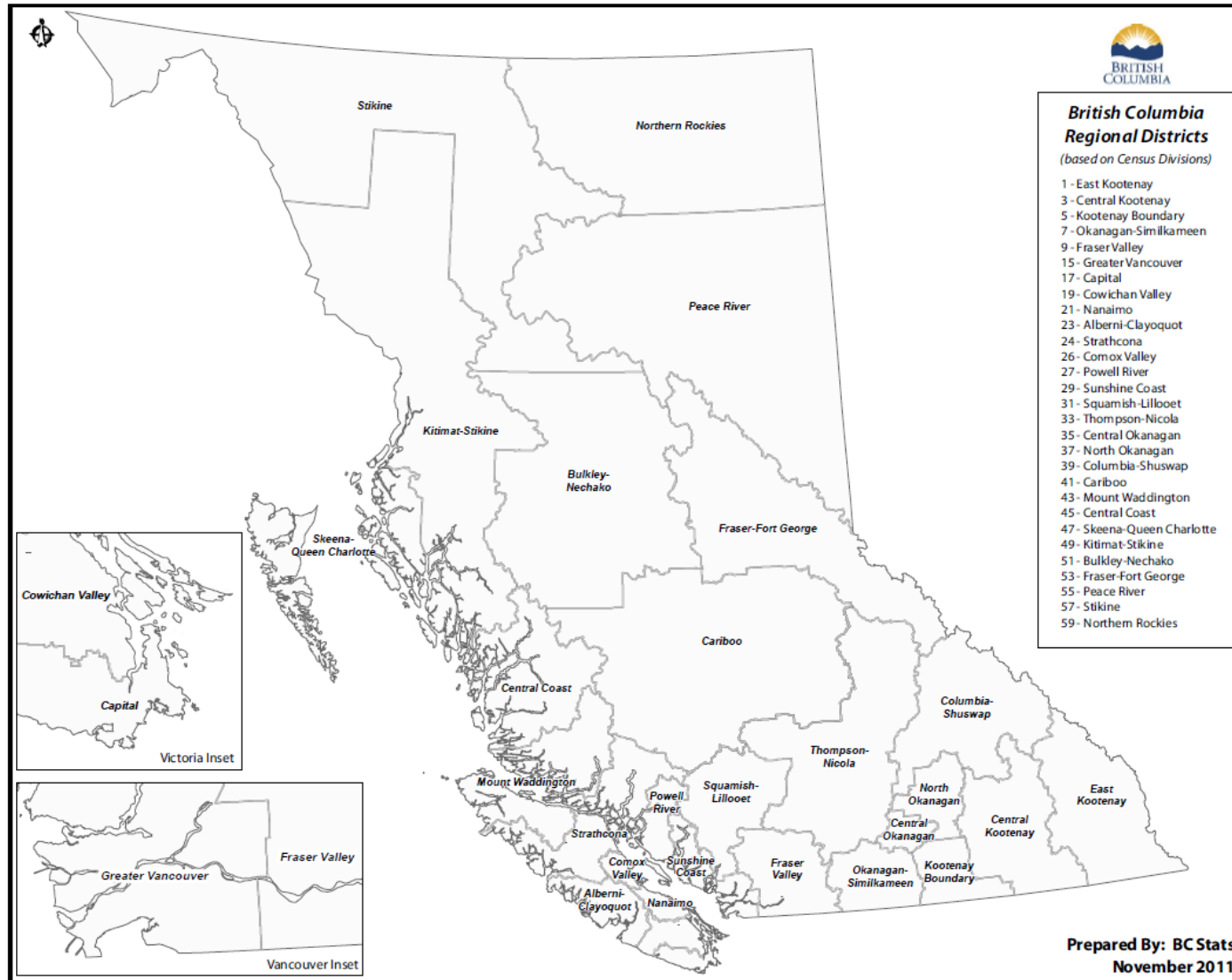
1989 Waste Management Act requires all regional districts to submit SWMP by 1995

Guide to Solid Waste Management plans published 1990 and revised 1994

50% reduction goal

Landfill Criteria 1993

Extended Producer Responsibility Programs
- EPR



BC Regional Districts

Plans submitted by December 31, 1995

Guided by 5Rs

Goals specific to each regional district

Disposal capacity an issue in Lower Mainland and Vancouver Island

Not an issue in Interior and Northern BC

What is a Solid Waste Management Plan?

Long term vision of regional solid waste management system

- Comprehensive for the next 10 years
- Visionary for 20-30 years

Considers 10 year financial and administrative implications including:

- Anticipated borrowing costs for new capital projects
- Cost recovery

Adopts Pollution Prevention Hierarchy



The 2000's

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Provincial

2002 Organic Matter Recycling Regulation (OMRR)

2004 Recycling Regulation

2008 Landfill Gas Management Regulation

Vancouver Island Composting 2000's

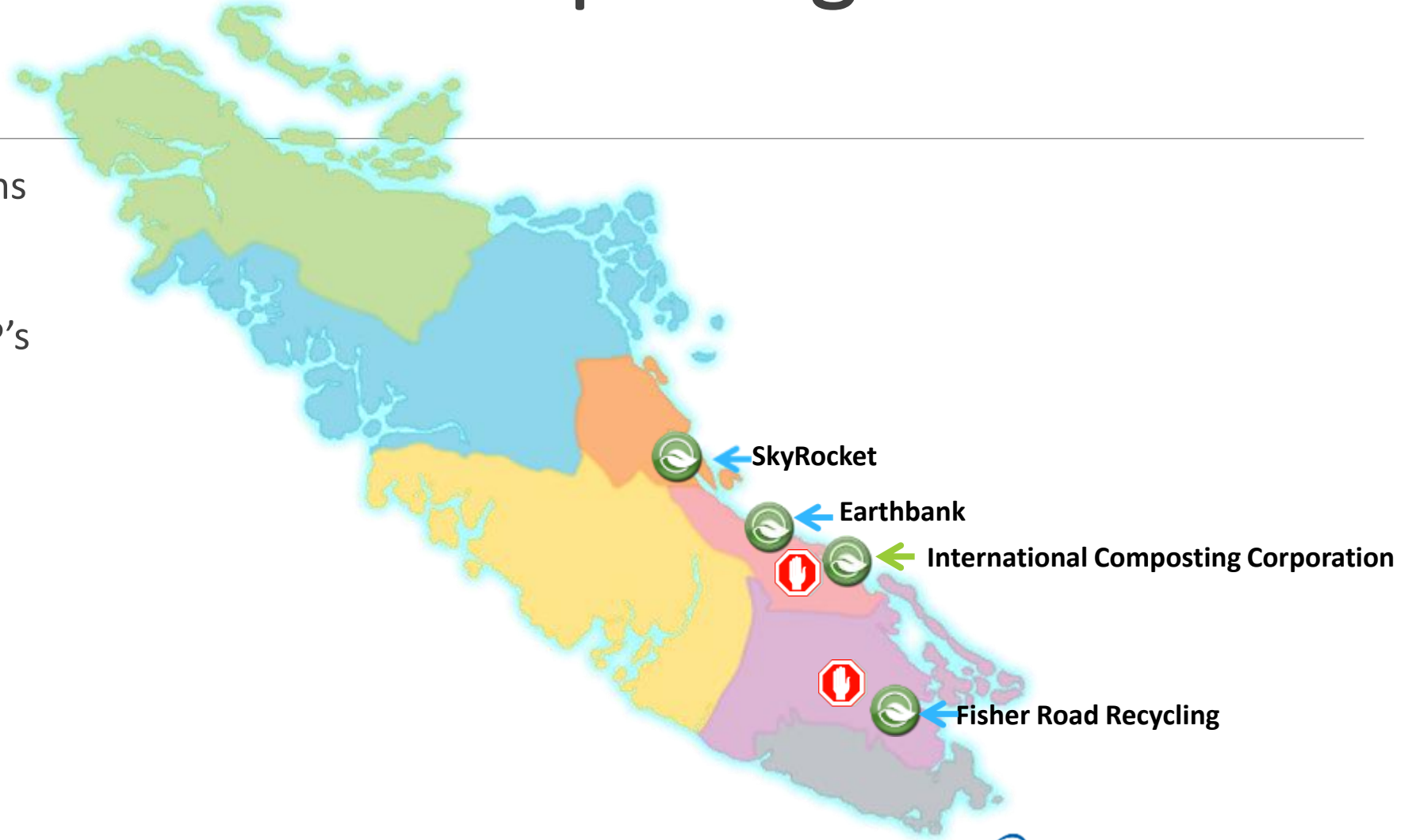
Baseline Conditions

Disposal crisis

Ambitious SWMP's

Bans


High tipping fees



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The 2010's

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By 2030, 95% of organic waste
will be diverted from landfills
and turned into renewable
resources.

cleanBC
our nature. our power. our future.



Provincial

2014 Recycle BC

2016 Guide to Solid Waste Management
Planning

2016 Landfill Criteria – Second Edition

2018 Clean BC

2018 OMMR Policy Intentions Paper

2019 OMMR amendment

New Provincial Service Plan Targets

EPR

- 75% recovery of materials covered by extended producer responsibility programs

Organics

- 75% of BC's population covered by organic waste disposal restrictions

Disposal

- Lower the provincial MSW disposal rate to 350 kg per capita



CRD Kitchen Scraps Diversion Strategy

- Approved April 2012
- Applies to both residential and commercial sectors
- Phased-in over 2 years
- 2013-14 incentive for haulers to deliver kitchen scraps to approved facilities
- 2015 disposal restriction



The poster features a large number '1' constructed from various kitchen scraps like vegetable peels, fruit, and food waste. Above the number is the 'Kitchen Scraps Diversion' logo. The date 'JAN 2015' is written in large green letters on either side of the number. Below the number, the text reads: 'One New Year's resolution we'll all be making.' followed by a paragraph about the region-wide kitchen scraps diversion strategy and a full disposal ban on kitchen scraps at Hartland Landfill effective January 1, 2015. It includes contact information for waste haulers and a website link: www.crd.bc.ca/kitchenscraps. The CRD logo is at the bottom right.

Kitchen Scraps *Diversion*

JAN 2015

One New Year's resolution
we'll all be making.

Our region-wide kitchen scraps diversion strategy culminates with a full disposal ban on kitchen scraps at Hartland Landfill effective **January 1, 2015**. Contact your waste hauler or municipality directly for collection options and visit www.crd.bc.ca/kitchenscraps for guidelines on acceptable materials for collection.

CRD

Metro Vancouver Organics Disposal Ban

- 2008-2010 Solid Waste Plan and Consultation
- 2012-2013 Organics Ban Planning, Engagement and Readiness Surveys
- 2014 Organics Ban Implementation Strategy and Consultation
- Applies to residential and commercial sectors
- Phased implementation

THE WAY WE MANAGE OUR WASTE IS CHANGING



New rules are in place to encourage residents and businesses in Metro Vancouver to separate food scraps from regular garbage. Instead of being thrown away, food scraps will be recycled into compost or biofuel. Healthy, edible food can be considered for donation.

As of July 1, 2015, penalties will be applied to loads of garbage containing over 25% food. Over time, the amount of allowable food will decrease.

Typical Green Bin materials include:

- All food, including plate scrapings, meat, fish, bones, produce, pasta, bread, rice, dairy, eggshells, sauces, dressings
- Coffee grounds/filters and tea bags
- Wooden utensils, chopsticks, and toothpicks
- Napkins, pizza boxes, unlined paper plates
- Paper bags or newspaper used to collect food scraps

metrovancouver
SERVICES AND SOLUTIONS FOR A LIVABLE REGION



Need help?

Talk to your service provider.

Call the Recycling Hotline
at 604-REC-YCLE (604-732-9253)

For more information and resources for food businesses, apartments and condos, and residents, please visit metrovancouver.org/foodscraps



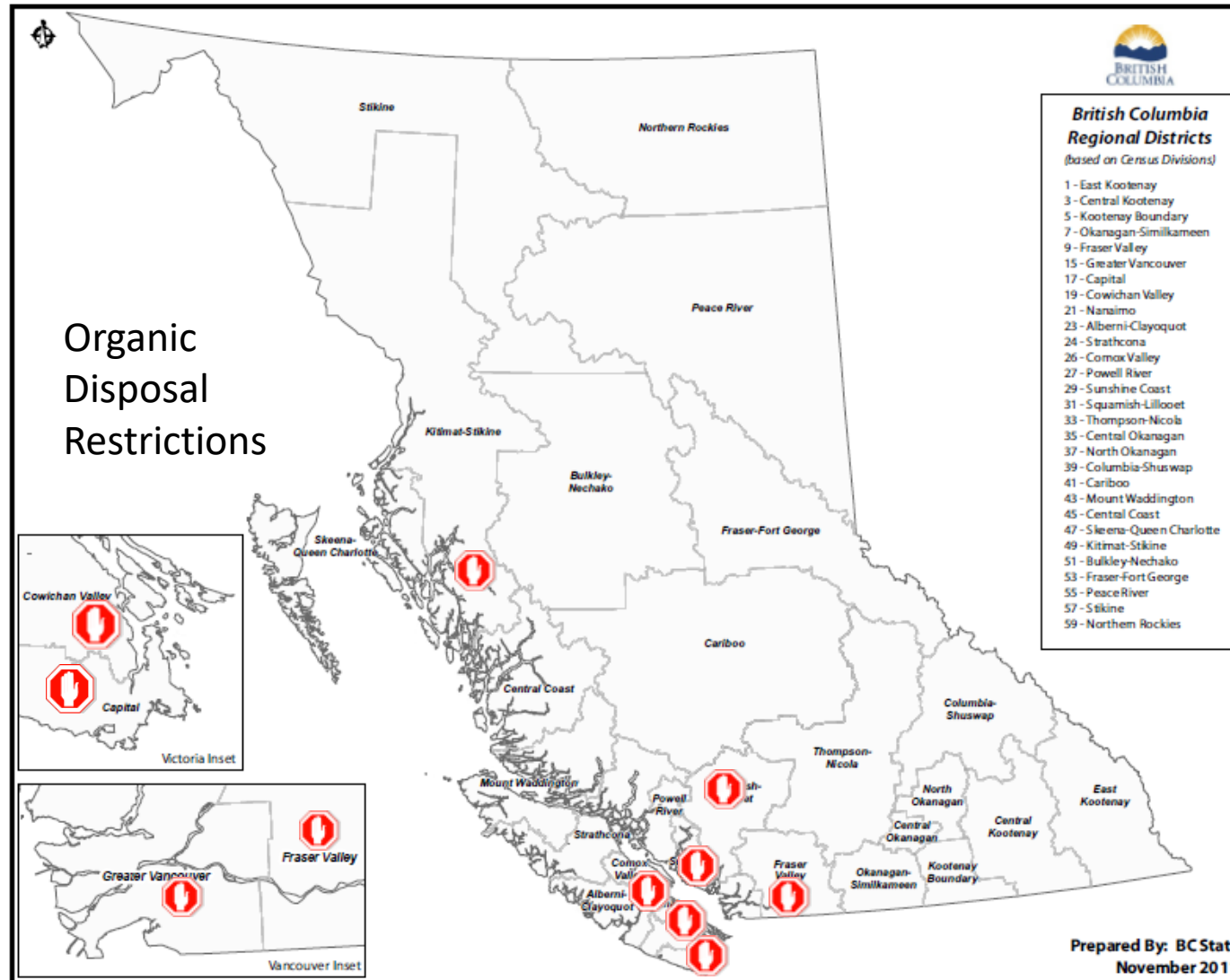
Why recycle food scraps?

- About 40% of all garbage sent to landfills is compostable
- Once food is buried in a landfill it releases methane, a powerful greenhouse gas that contributes to global warming
- When food is thrown away, we lose all the work, time, water and nutrients that went into growing or preparing it
- Throwing away food is expensive. Many businesses save money by reducing their food waste
- By separating food scraps from regular garbage, Metro Vancouver estimates about 250,000 tonnes can be kept out of the landfill each year.

More info at metrovancouver.org/foodscraps



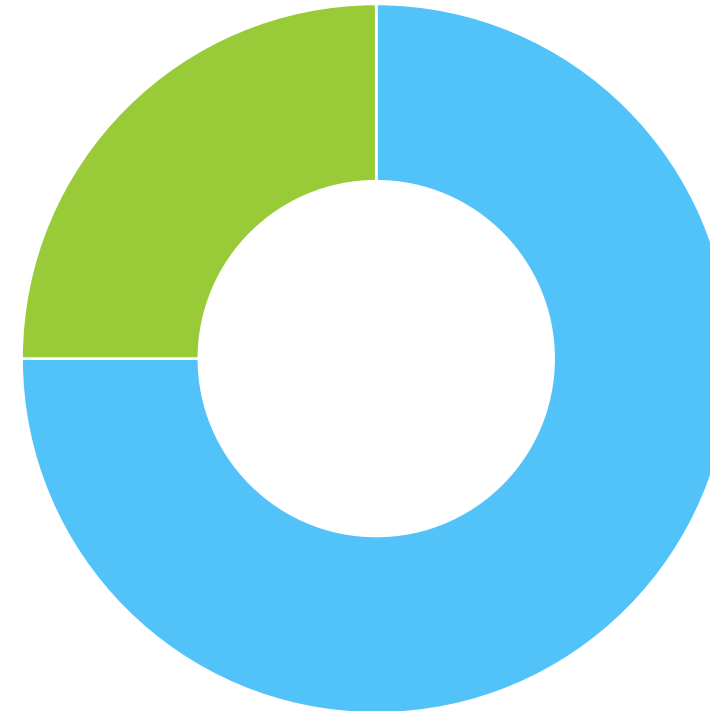
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Organic Disposal Restrictions 2018

Regional District	2016 Population	2016 In Place	2018 In Place
Alberni-Clayoquot	30,721	Y/N	Y/N
Bulkley-Nechako	40,383	N	N
Capital	372,645	Y	Y
Cariboo	63,111	N	N
Central Coast	3,428	N	N
Central Kootenay	60,775	N	N
Central Okanagan	197,075	N	N
Columbia-Shuswap	52,021	N	N
Comox-Strathcona	111,022	N	N
Cowichan Valley	84,014	Y	Y
East Kootenay	74,975	N	N
Fraser Valley	301,238	N	Y
Fraser-Fort George	94,506	N	N
Kitimat-Stikine	36,270	N	Y
Kootenay Boundary	29,926	N	N
Metro Vancouver	2,558,029	Y	Y
Mount Waddington	11,139	N	N
Nanaimo	157,599	Y	Y
North Okanagan	85,164	N	N
Northern Rockies	5,992	N	N
Okanagan- Similkameen	80,622	N	N
Peace River	66,504	N	N
Powell River	20,328	N	N
North Coast	17,389	N	N
Squamish-Lillooet	62,665	N	Y
Stikine	642	N	N
Sunshine Coast	29,243	N	N
Thompson-Nicola	135,074	N	N
TOTAL	4,782,500		
% of pop with restrictions		66%	75%



■ Disposal Restrictions 75%

■ No Restrictions 25%



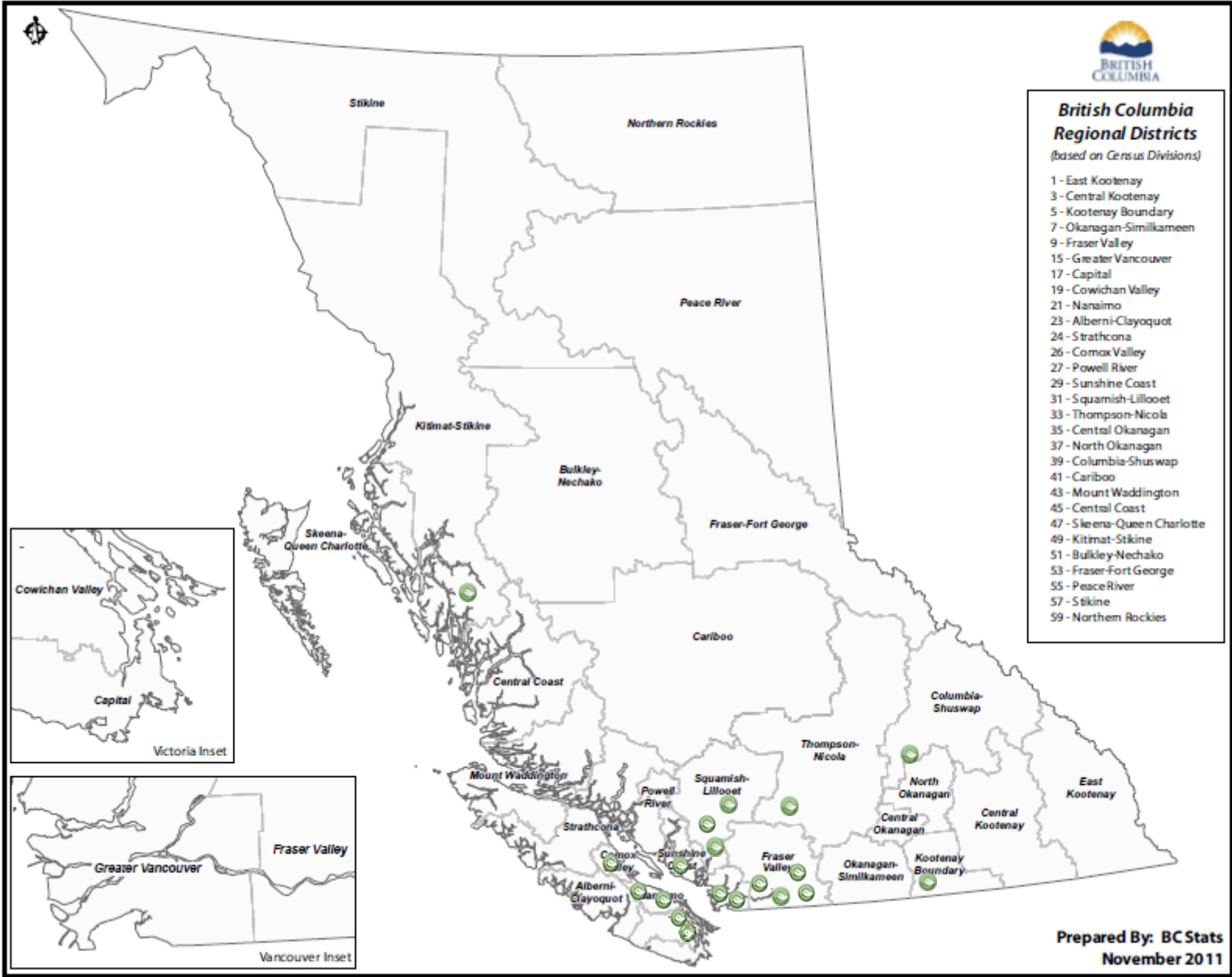
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BC Food Waste Facilities 2019

Facility Name	Location	Land Use	Technology	Feedstocks	Capacity Tonnes	Ownership	Operation
Fisher Road Recycling	Cobble Hill	Industrial	Herhoff Cells (Indoor)	FW, YW	36,000	Private	Private
Coast Environmental	Chemainus	Industrial	GORE Cover (Indoor)	Biosolids, FW,YW	15,000	Private	Private
Nanaimo Organic Waste	Nanaimo	Industrial	Rotating Drum	FW, YW	20,000	Private	Private
Earthbank	Parksville	ALR	Windrow	FiW, WW		Private	Private
Comox Strathcona Solid Waste	Cumberland	Landfill	GORE Cover (Outdoor)	FW, YW	2,625	Public/Private	Private
Salish Soils	Sechelt	Industrial	GORE Cover (Indoor)	FiW, YW, FW	12,000	Private	Private
Enviro-Smart Organics	Delta	ALR	ASP (indoor)	FW, YW, WW	150,000	Private	Private
City of Surrey	Surrey	Industrial	AD + Tunnel	FW, YW	115,000	PPP	Private
Harvest Power	Richmond	Industrial	CASP (outdoor)	YW, FW	225,000	Private	Private
Net Zero Waste Abbotsford	Abbotsford	ALR	GORE Cover (Indoor)	FW, YW	40,000	Private	Private
City of Mission	Mission	Landfill	Aerated Windrows (Indoor)	FW, YW	10,000	Public	Private
The Answer Garden Products	Abbotsford	ALR	Static Windrows	YW, FW	15,000	Private	Private
Fraser Valley Agri-Waste Solutions	Abbotsford	ALR	Windrows (Indoor)	FW, YW	5,000	Private	Private
Resort Municipality of Whistler	Whistler	Industrial	Agitated Container	biosolids, FW,YW	5,000	Public	Private
Sea-to-Sky Soils	Pemberton	Industrial	GORE Cover (Indoor)	YW, FW, WW	10,000	Private	Private
Squamish-Lillooet Regional District	Lillooet	Landfill	windrow	YW, WW	350	Public	Public
Revolution Organics	Cache Creek	ALR	windrow	FW, YW	100,000	Private	Private
Spa Hills Farm	Salmon Arm	ALR	Aerated Bunkers (indoors)	FW, YW	12,000	Private	Private
RDKB - Grand Forks Landfill	Grand Forks	Landfill	Turned Windrow	FW, YW	1,000	Public	Public
Regional District of Kitimat-Stikine	Terrace	Landfill	GORE Cover (Indoor)	FW, YW			



Food Waste
Composting
Facilities
2019



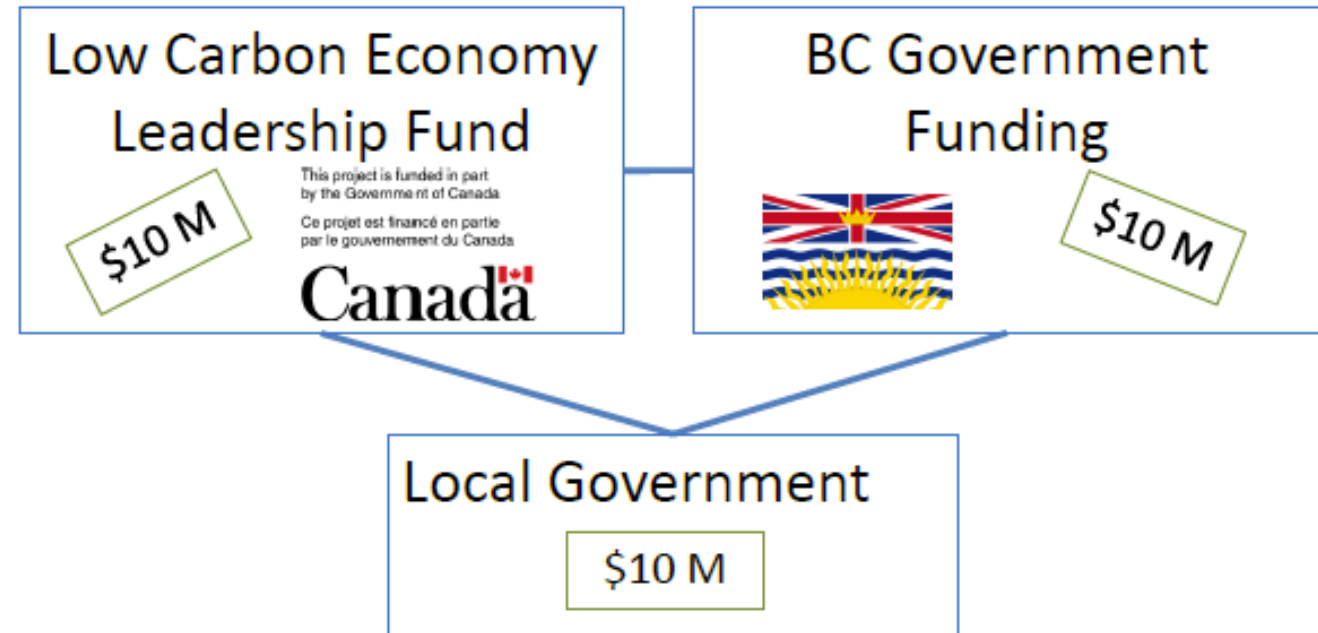
The 2020's

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Organics Infrastructure Program

What is the Organics Infrastructure Program?



BRITISH
COLUMBIA

Ministry of
Environment and
Climate Change Strategy



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Organics Infrastructure Program

Organic Infrastructure Program Objectives



- Reduce GHG emissions
- Expand processing capacity for organic residuals
- Divert new organic wastes to higher value end uses
- Support the use of nutrient recovery transformation technologies in the agricultural sector



Ministry of
Environment and
Climate Change Strategy



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CleanBC Organic Infrastructure and Collection Program

PROGRAM GUIDE

Ministry of Environment and Climate Change Strategy



Clean BC OICP

Purchase of curbside bins

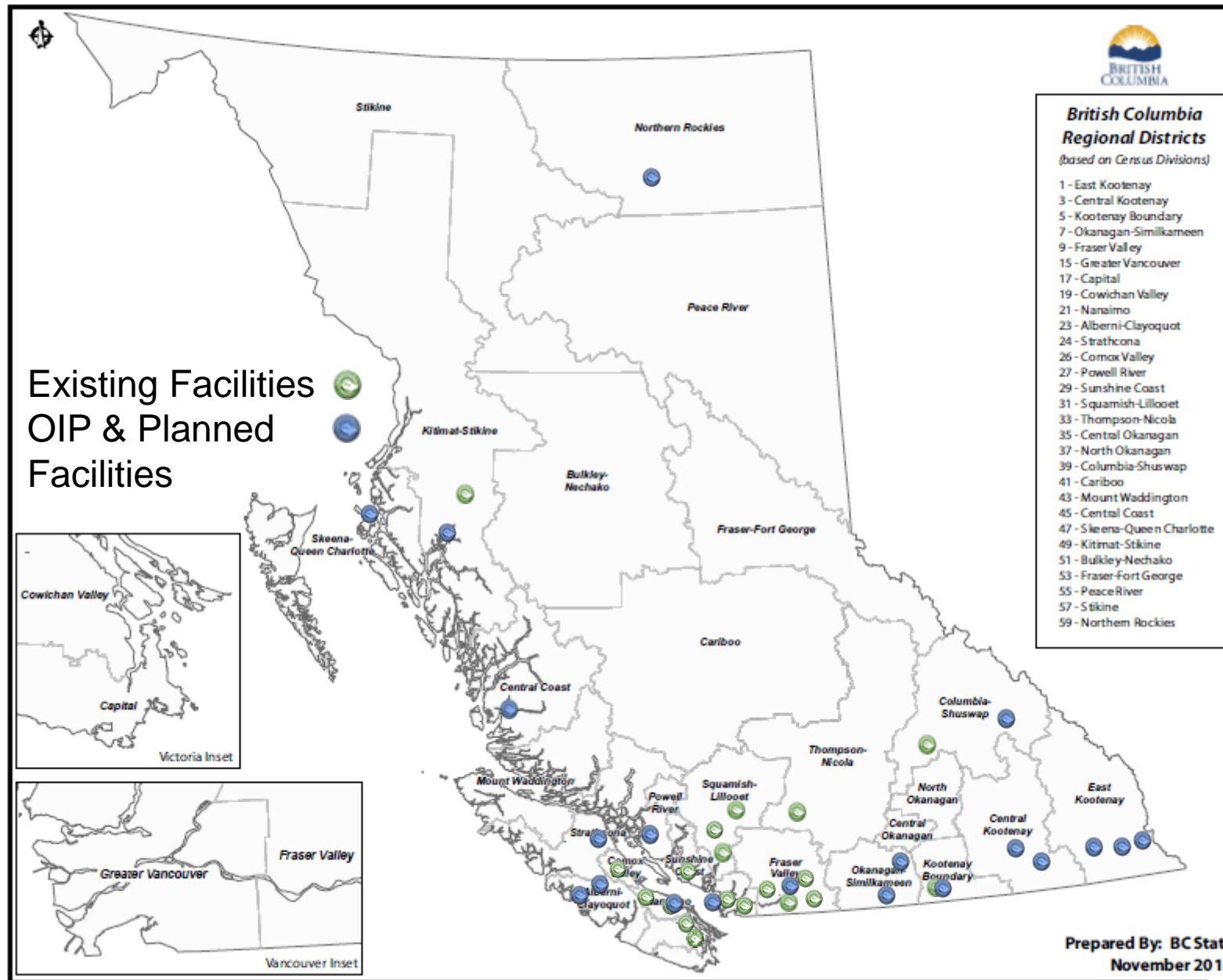
Purchase of kitchen bins

Development of communication and educational outreach programs

Initial distribution of funded program materials to residents

2/3 funding for eligible costs

75- 85% of residents in BC will have access to food waste collection or drop-off programs by 2024



Existing Facilities
OIP & Planned
Facilities

New Collection Programs:

City of Campbell River
City of Fernie
City of Kamloops
City of Kimberley
City of Powell River
City of Vernon
District of Kitimat
District of Invermere
District of Summerland
RD Central Kootenay
RD Okanagan-Similkameen
RD Kootenay-Boundary
Town of Comox
Town of Oliver
Village of Lumby
Esk'etemc First Nation
Kitasoo Xai'xais FN

Conclusions

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Crisis Leads to Change



PROVINCIAL POLICIES,
REGULATIONS &
FUNDING

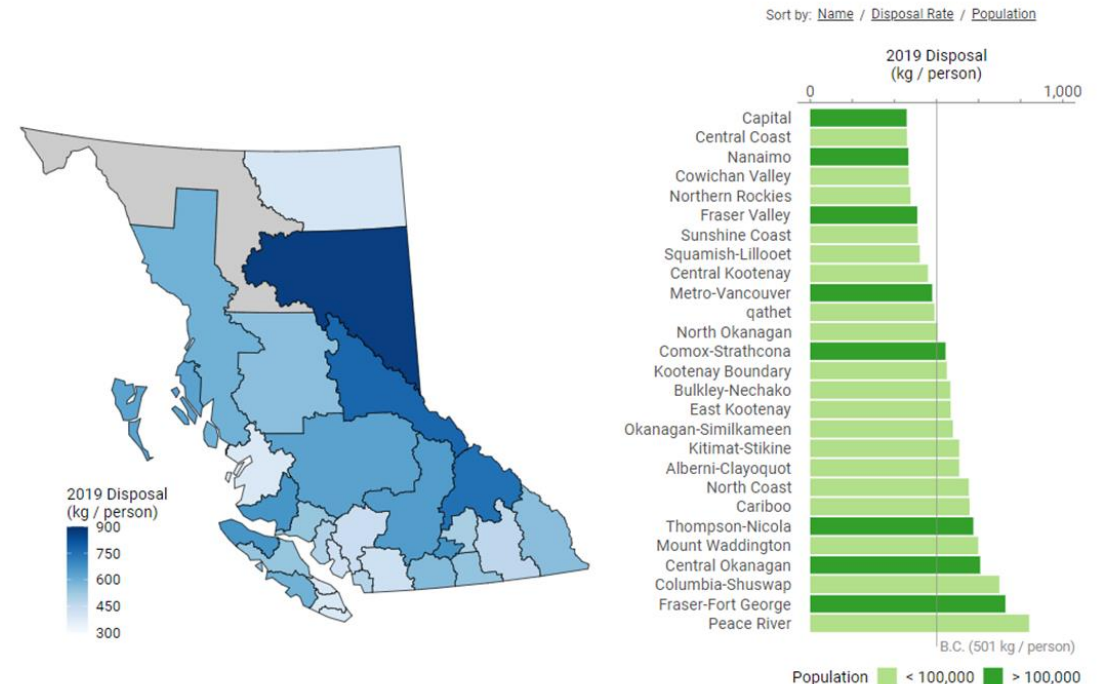


REGIONAL DISTRICT
PLANS



LOCAL GOVERNMENT
PROGRAMS

2019 Regional District Disposal Rates



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Climate Crisis - We don't have 30 years!

Solid waste and climate change mitigation are interconnected
We need to become conservers not consumers –NOW!

Fossil fuels have led to wars, social injustice and unsustainable globalization
We need to transition to renewable, local solutions

We need system change to an equitable, peaceful, sustainable system that recognizes that the economy is a sub-set of the environment



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Thank you



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