

ZERO WASTE

British Columbia

**Columbia Shuswap
Regional District**

○ Golden

○ Revelstoke

○ Sicamous

○ Salmon Arm



Columbia Shuswap Regional District Solid Waste Management Plan Executive Summary 2009 – 2029

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Columbia Shuswap Regional District Solid Waste Management Plan Executive Summary 2009 – 2029



Salmon Arm Landfill

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David Raven	<i>City of Revelstoke</i>
Malcolm MacLeod	<i>District of Sicamous</i>
Marty Bootsma	<i>City of Salmon Arm</i>
Kevin Flynn	<i>City of Salmon Arm</i>



Internal Transfer Station – Salmon Arm Landfill

Acknowledgements

This report is the product of the Advisory Committee's many contributions. The Committee is made up of representatives from the Province, adjacent Regional Districts, member municipalities, recycling and waste management industries, environmental societies and other interest groups, the public, First Nations, consultants, and staff of the Columbia Shuswap Regional District. Their hard work and commitment to the Columbia Shuswap Regional District planning process has made this report possible.



Acknowledgements



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Dianne Burke	<i>Salmon Arm</i>
Fred Busch	<i>Sicamous & Electoral Area E</i>
Mike Cantle	<i>Golden & Electoral Area A</i>
Nicole Kohnert	<i>RDNO</i>
Darren Komonoski	<i>City of Revelstoke</i>
Robert LaBelle	<i>Electoral Area F</i>
Grady MacDonald	<i>District of Sicamous</i>
Don May	<i>TNRD</i>
Dale McTaggart	<i>City of Salmon Arm</i>
Janet Pattinson	<i>Electoral Area C</i>
Chris Radford	<i>City of Golden</i>
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Message from the Chair

Environmental protection and living sustainably are important goals for this community; however, being fiscally responsible and ensuring community resources are applied where they make the most significant impact to the way we live are also important goals. To reach a balance between these goals, we must stay current and in tune with the latest information on emerging trends in the management of our solid waste.

The garbage that is thrown away in our Regional District ends up in one of four landfills, or, in some cases, is inappropriately and illegally deposited on public and private lands or burned in fireplaces or backyard burning barrels. Our garbage is made up of industry materials, including: wood, plastic, glass, food, household hazardous waste, rubber, pharmaceuticals, and more. It contains most everything society produces. As we begin to acknowledge and recognize the full impact that resource extraction, manufacturing, consuming, and wasting has on our society and environment, we then begin to gain a much more complete understanding of the full impact of our decisions to consume and waste these materials.

Members of our communities are questioning the environmental impacts related not only to the garbage and recyclables but the impacts of the additional resource extraction and industrial processes required to manufacture new materials to make the very products we consume daily. In recognizing that our consumption and waste habits are unsustainable, we must make efforts to find solutions that are socially, economically, and environmentally adequate to ensure long-

In recognizing that our consumption and waste habits are unsustainable, we must make efforts to find solutions that are socially, economically, and environmentally adequate to ensure long-term viability.

term viability. To this end, we recognize that we need to work in partnership with all levels of government, interest groups, the general public, and other stakeholders to maximize the effectiveness and efficiency of the delivery of solid waste management services.

The Province has delegated most responsibility for the management of our solid wastes to Regional Districts, while through the Recycling Regulation, continues to shift responsibility to industry, the creators of these materials. The Columbia Shuswap Regional District first adopted a Solid Waste Management Plan in 1993 to tackle this significant challenge. We have now completed this updated Solid Waste Management Plan to address 20 more years of continued improvement in how we minimize and manage our wastes while this shift to industry responsibility not only continues but is encouraged by the efforts, in-part, of the Columbia Shuswap Regional District.

I would like to thank staff and especially the Advisory Committee volunteers for their hard work in ensuring that each community in the Columbia Shuswap Regional District has been heard and their concerns addressed within this forward-thinking Solid Waste Management Plan.

Sincerely,



Marty Bootsma, Chair
Columbia Shuswap Regional District

Message from the Chair



Marty Bootsma, Chair

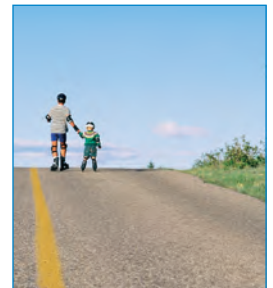




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A close-up photograph of several long, slender green leaves, possibly from a grass or reed, with a soft, blurred background of more green foliage. The lighting is bright, highlighting the texture and veins of the leaves.

**Preparing the
Solid Waste Management Plan**

Preparing the Solid Waste Management Plan

Solid Waste Management Plan Development Milestones

The Columbia Shuswap Regional District embarked upon seven steps (Exhibit 1) to evaluate the existing solid waste management system, to identify and evaluate future policies and programs, and, finally, to develop this Solid Waste Management Plan.

Public and Stakeholder Participation

The Columbia Shuswap Regional District Board values community participation, and, as such, the development of this Plan included many opportunities for sharing ideas and perspectives, including:

- Forming a multi-stakeholder Advisory Committee made up of technical and public interests to direct the development of the Solid Waste Management Plan;

- Gathering input from adjacent Regional Districts through a series of questionnaires and a conference call;
- Gathering input from the overall public through a newsletter, a survey, and a series of seven Open Houses held throughout the plan area; and
- Posting all information used to develop the Plan on the Columbia Shuswap Regional District website as the process unfolded, seeking further input.

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Preparing the Solid Waste Management Plan



Open House, Red Bard, Sicamous

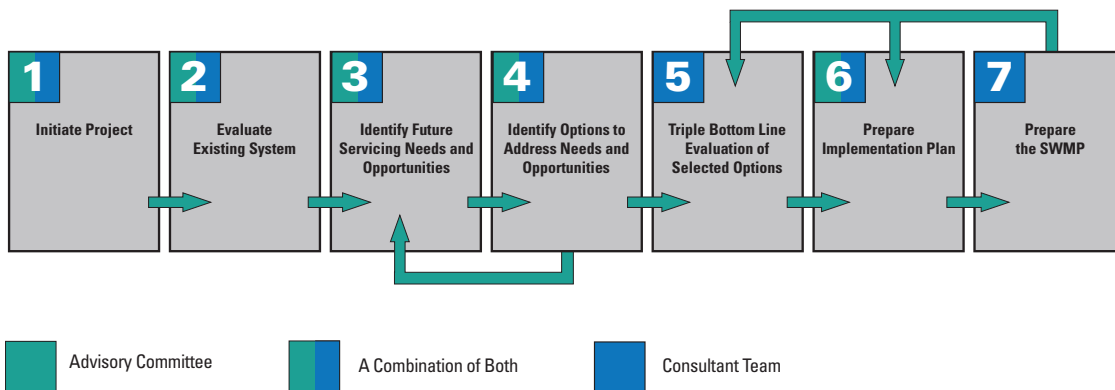
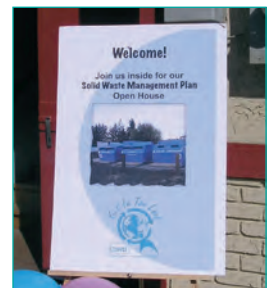


Exhibit 1
Seven Milestones

*Preparing the
Solid Waste
Management Plan*



Darcy Mooney
Waste Management
Co-ordinator



Open House, Sorrento Memorial Hall, Sorrento



Open House, Red Bard, Sicamous



Administering the Solid Waste Management Plan

Administering the Solid Waste Management Plan

6

*Administering the
Solid Waste
Management Plan*



Future Community Management and Direction

The Columbia Shuswap Regional District will form a Plan Monitoring Advisory Committee (Committee) in 2009 made up of citizens representing member communities, stakeholders in waste management, public representatives from all Columbia Shuswap Regional District Electoral Areas, and representatives from the Province, First Nations, and Columbia Shuswap Regional District staff. The primary objectives of this Committee are to:

1. Receive feedback representative of the community at large.
2. Consider information in an open, transparent forum.
3. Monitor the progress of policy implementation.
4. Provide advice that is independent from that of the Columbia Shuswap Regional District staff and elected officials.
5. Include the community at large during the decision-making process.
6. Provide an initial forum for community members and solid waste companies to make presentations if they are relevant to the future of the Solid Waste Management Plan.

Working with Our Neighbours

Member Municipalities

- The Columbia Shuswap Regional District will work with municipal representatives and their respective building departments, in addition to internal departments, to identify a method to encourage the proper management of demolition, landclearing, and construction waste within Member Municipalities and Electoral Areas (one example is requiring proof of proper disposal prior to the issuance of an Occupancy Permit).
- The Columbia Shuswap Regional District will partner with municipal planners to encourage identification of eco-industrial parks in Official Community Plans to not only encourage economic development, but to provide opportunities and benefits to nearby companies that transform wastes into resources.

First Nations

- The Columbia Shuswap Regional District will explore ways that First Nations in general can be included as a full partner within the Solid Waste Management Plan through agreement to the overall Plan Vision, Mission, and Guiding Principles.

Adjacent Regional Districts

Regional Districts that surround the Columbia Shuswap Regional District include: Central Kootenay, Thompson-Nicola, East Kootenay, and North Okanagan. The Columbia Shuswap Regional District and these other Districts have cooperated in the past during studies and programs to their mutual benefit. Through a questionnaire and conference call, the majority

of these neighbours expressed interest in harmonizing tipping fees, material bans, diversion targets, organics management, Extended Producer Responsibility program performance, and environmental goals. The Columbia Shuswap Regional District and these other Districts could possibly work together to support interjurisdictional coordination of waste hauling.

National Parks

Adjacent and, in some cases, even surrounded by Columbia Shuswap Regional District jurisdiction, there are a number of National Parks that are accountable to Federal processes. These parks include: Yoho, Kootenay, Mt. Revelstoke, and Glacier National. The Columbia Shuswap Regional District recognizes Parks Canada as a partner in the effort to maximize waste reduction efforts and efficiently manage solid wastes.

Maintaining the Solid Waste Management Plan, and Developing Policy

A strategic framework (Exhibit 2) was developed to efficiently categorize policies according to the core strategies consistent with the **6Rs Waste Management Hierarchy (Rethink, Reduce, Reuse, Recycle, Recover, and Manage Residuals)**. The 6Rs encourage Columbia Shuswap Regional District waste managers to think about ways to help reduce the environmental impact of our decisions, while the five surrounding rings identify issues that need to be addressed during the development of new Columbia Shuswap Regional District policies and programs.

The Columbia Shuswap Regional District recognizes that the Solid Waste Management

Plan is a living and dynamic document that may require updates to reflect changes in solid waste management practices. The Columbia Shuswap Regional District will strive to complete a major update of the Solid Waste Management Plan, complete with community consultation, every 5 years.

Program Funding

The Columbia Shuswap Regional District commits to continuing the 100% User Pay system for residual solid waste disposal by providing a regional user fee structure for Columbia Shuswap Regional District refuse site users. Incentive-based user fees will be applied to all waste discards managed within a recycling, reduction, or reduce framework (metal recycling, organics management). Disincentive-based fees will be applied to recyclable material destined to be buried in the landfill.

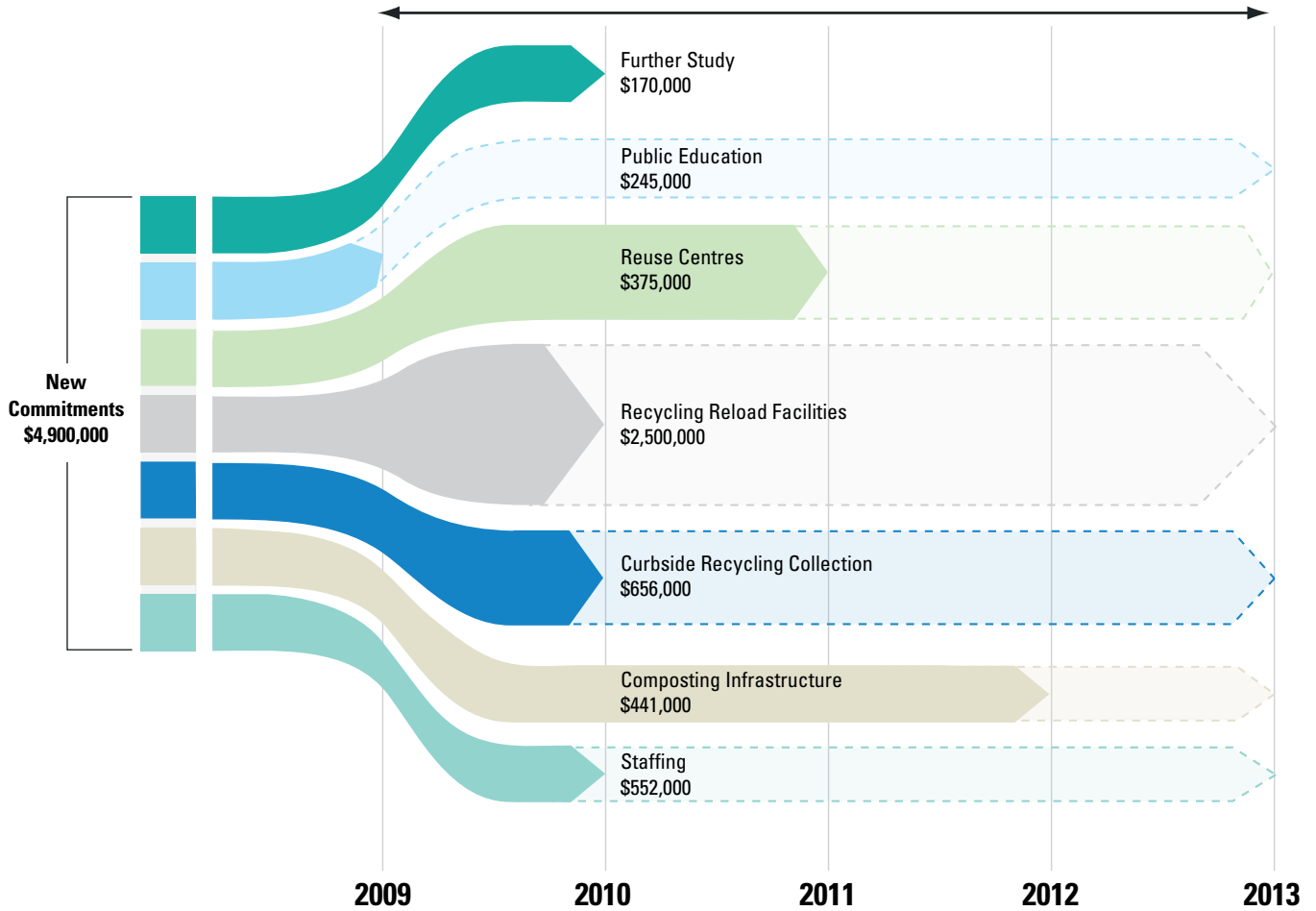
Costs incurred to fund services related to recycling, composting, and other waste recycling, reduction, and education programs



Exhibit 2
Solid Waste Management Plan Strategic Framework

Slicing Up the New Solid Waste System

Next 5 Years, Invest/Operate



Notes:

- 1) Based on previous years, the existing System will cost \$15 million over the next 5 years.
- 2) To pay for this system, revenue will be collected from tipping fees, utility fees, taxes for recycling, and recyclable sales.
- 3) Investment Amounts are total capital plus operational costs over 5 years.

Exhibit 3
Slicing Up the New
Solid Waste System

will be recovered through a blend of user fees and taxation, while the provision of curbside programs will be funded through utility service fees.

Management Report to ensure that the efficiency of our solid waste management system is always maintained and that the needs of our communities are continually met.

Measuring Performance

The performance of programs and policies will be measured with numerical comparative values whenever possible. These include costs, tonnages, waste diversion quantities, and historical comparisons to past performance. The Columbia Shuswap Regional District will rate each objective with a letter grade: A, B, or C.

These performance report cards will be published with the Columbia Shuswap Regional District’s Annual Solid Waste



ECO REPORT CARD	
Goal: <u>Organics Diversion Through Education</u>	
Strategy/Program: <u>Master Composter Program</u>	
Progress: <i>Insert status list here</i>	
Next Steps: <i>Insert next actions list here</i>	
Program Effectiveness: A	

EXHIBIT 4
Example Performance Report Card

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Keeping an Eye on the Big Picture



Keeping an Eye on the Big Picture

Vision and Guiding Principles

To provide an overall philosophy that reflects the community values as determined through the Plan consultation process, a vision statement and a set of guiding principles were established as follows:

Vision Statement

All economic activities in the Columbia Shuswap Regional District will be consistent with a “Zero Waste” community.

Guiding Principles

1. The Columbia Shuswap Regional District will base all solid waste management decisions on a **Zero Waste** approach. Zero Waste maximizes recycling, minimizes waste, reduces consumption, and ensures that products are made to be reused, repaired, or recycled back into nature or the marketplace. Zero Waste views all **Wastes as Resources** and recognizes that the entire lifecycle of a product must be considered when deciding its value.
2. The Solid Waste Management Plan will be viewed as a **Plan of Partnerships**, where all initiatives are done in partnership with all sectors of the community, including individual citizens and businesses, both locally and outside the Columbia Shuswap Regional District.
3. The Solid Waste Management Plan will be treated as a **living and learning** document, forever adjusting and evolving to the needs

of the Columbia Shuswap Regional District and its partners, including individual citizens and communities.

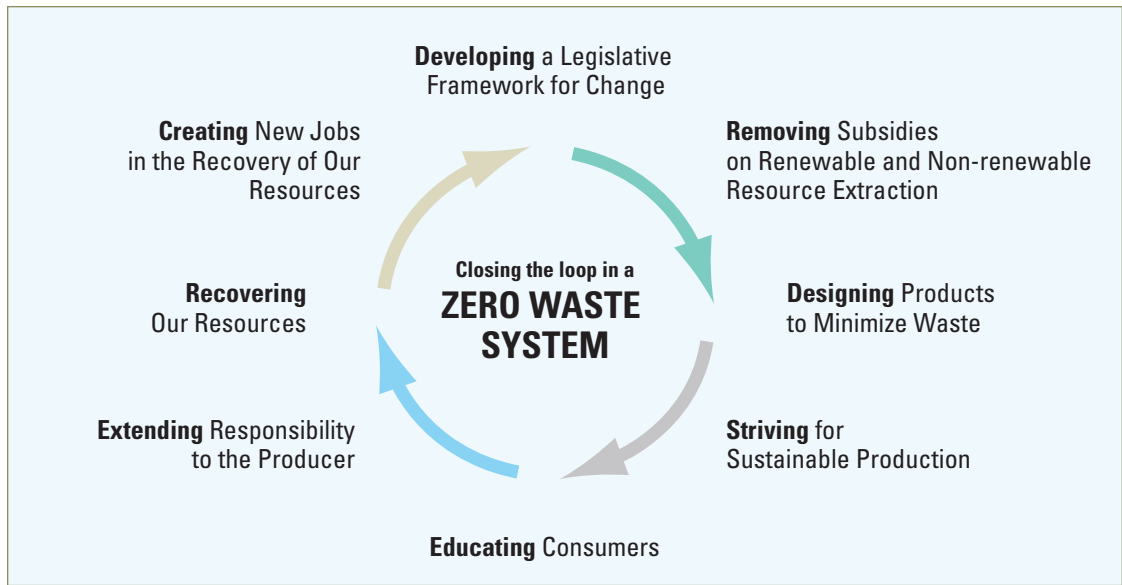
4. The Columbia Shuswap Regional District will emphasize and encourage the **6R Hierarchy (Rethink, Reduce, Reuse, Recycle, Recover, Manage Residuals)**, and continually strive towards a higher “R” in waste management practice.
5. The Columbia Shuswap Regional District will use **Community-Based Social Marketing** techniques wherever possible.
6. The Columbia Shuswap Regional District will continue to finance the cost of residual waste disposal through a **Region-wide User Pay system** to encourage an equitable and sustainable approach to managing residuals.

Decision-Making

To ensure the guiding principles are being followed with an eye on the overall vision of the Solid Waste Management Plan, staff will use their discretion to consider the following decision-making process. The following abbreviated steps will provide a process for making decisions regarding policies to implement and design solid waste management programs within the Columbia Shuswap Regional District. The process will strive to ensure the following:

- That both Columbia Shuswap Regional District policies and local community visions are being considered;





- That the long- and short-term impacts, both globally and locally, are being taken into account;
- That implementers consider not only the environmental impacts, but also social and financial impacts;
- That key “windows of opportunity” are used to more suitably implement policies and programs.

Step 1 – Reflect that the Solid Waste Management Plan is a Plan of Partnerships

When thinking through decisions, implementers should be mindful that the Solid Waste Management Plan is considered a Plan of Partnerships. Partnerships will be fostered or enhanced with the Province, other Columbia Shuswap Regional District departments, member municipalities, Columbia Shuswap Regional District communities, Extended Producer Responsibility Stewards, First Nations, industry, and small business and community organizations.

Step 2 – Identify Columbia Shuswap Regional District Servicing Stages to Implement Policy and Programs

The Columbia Shuswap Regional District should consider windows of opportunity and triggers for the implementation and management of programs within the Columbia Shuswap Regional District system of governance.

Step 3 – Use Community Social-Based Marketing Techniques

The most successful programs are ones that have fully considered community impacts and have compassionately adjusted programs to reduce any negative local impacts.

Step 4 – Plan Monitoring Advisory Committee Involvement

When facing issues regarding the application or implementation of a Solid Waste Management Plan policy, the Plan Monitoring Advisory Committee should be consulted to offer multi-stakeholder advice.

Step 5 – Remember that the Solid Waste Management Plan is a Living and Learning Document

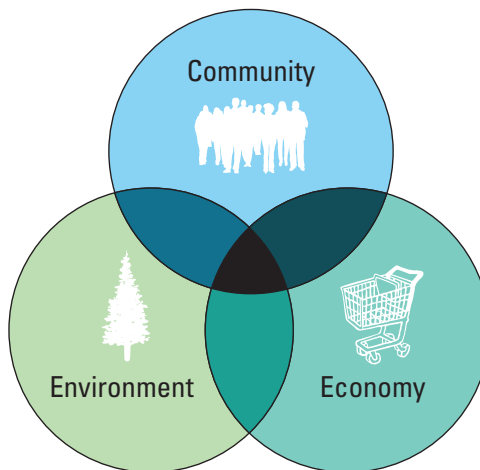
The Solid Waste Management Plan will adapt to both changes in policy and service with updates, as needed.

Step 6 – Fit into the 6R Waste Hierarchy

Within the context of the Solid Waste Management Plan, and to abide by the hierarchy of rethink, reduce, reuse, recycle, recover, and manage residuals, Columbia Shuswap Regional District staff should carefully consider how decisions can further encourage a movement of diversion up the waste hierarchy chain.

Step 7 – Consider User Pay Approaches to Financing a Decision

User Pay is an ongoing process of shifting the monetary costs directly to the waste generator. When implementing policies, careful consideration should be given to shifting this



responsibility to the generator in the context of current cost recovery systems.

Step 8 – Consider the Big Picture

Considering the direct impacts upon a community with respect to social, economic, and environmental issues within a triple bottom line decision-making process will lead to a more successful program design and implementation.

Exhibit 6
Intersections in
Community, Environment,
and Economy

*Keeping an Eye
on the Big Picture*



Carmen Fennell
Waste Reduction
Facilitator

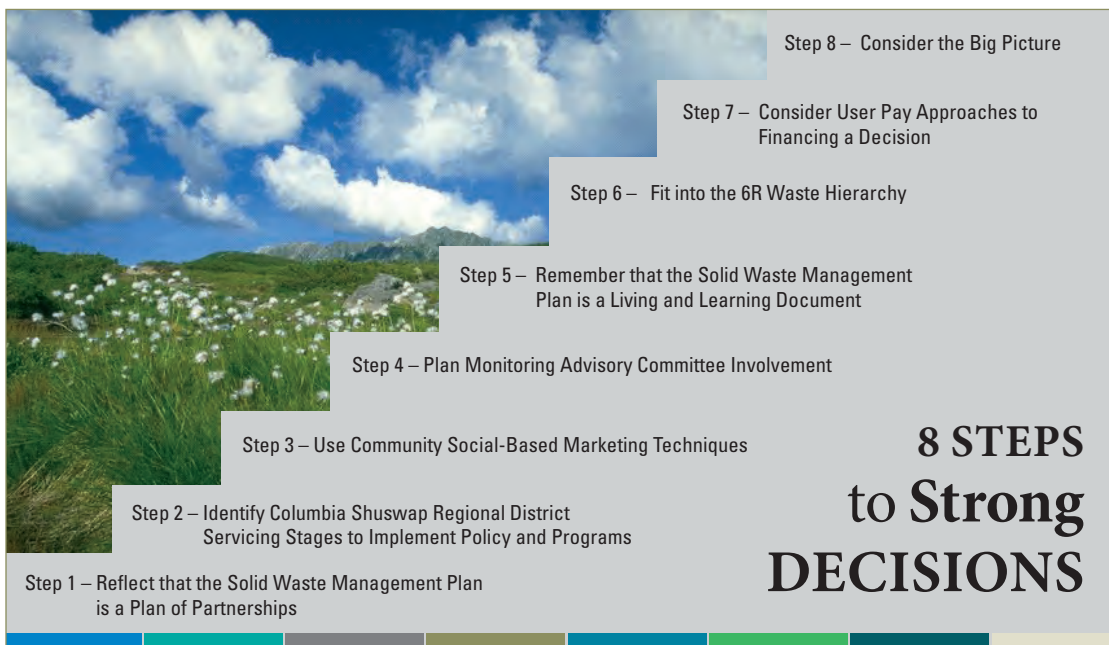


Exhibit 7
Decision-Making Steps



Considering Global Climate Change: Minimizing Greenhouse Gas Emissions

The management of solid wastes produces greenhouse gas emissions which can contribute to global climate change. The anaerobic (without oxygen) decomposition of buried waste releases two greenhouse gases into the atmosphere: carbon dioxide and methane. In addition, to replace the wasted materials, new, virgin materials are excavated, mined, manufactured, and distributed, all requiring the use of fossil fuels.

Methane generated through landfilling contributed a carbon dioxide equivalent of 23,000 kilotonnes in Canada in 2000.

A wide range of technologies is available to mitigate greenhouse gas emissions from solid waste, including: landfill gas recovery,

recycling, composting of organic waste, and using biological methane oxidation in landfill cover.

The Columbia Shuswap Regional District considered greenhouse gas emissions and associated costs regarding self-haul, private, and mandatory collection of garbage in all major areas of the Columbia Shuswap Regional District, as well as the comparative greenhouse gas emissions from self-haul and mandatory curbside recycling.

Columbia Shuswap Regional District Commitments

- The Columbia Shuswap Regional District will perform a carbon footprint assessment on all existing Columbia Shuswap Regional District solid waste management programs as a benchmark to assess new program delivery.

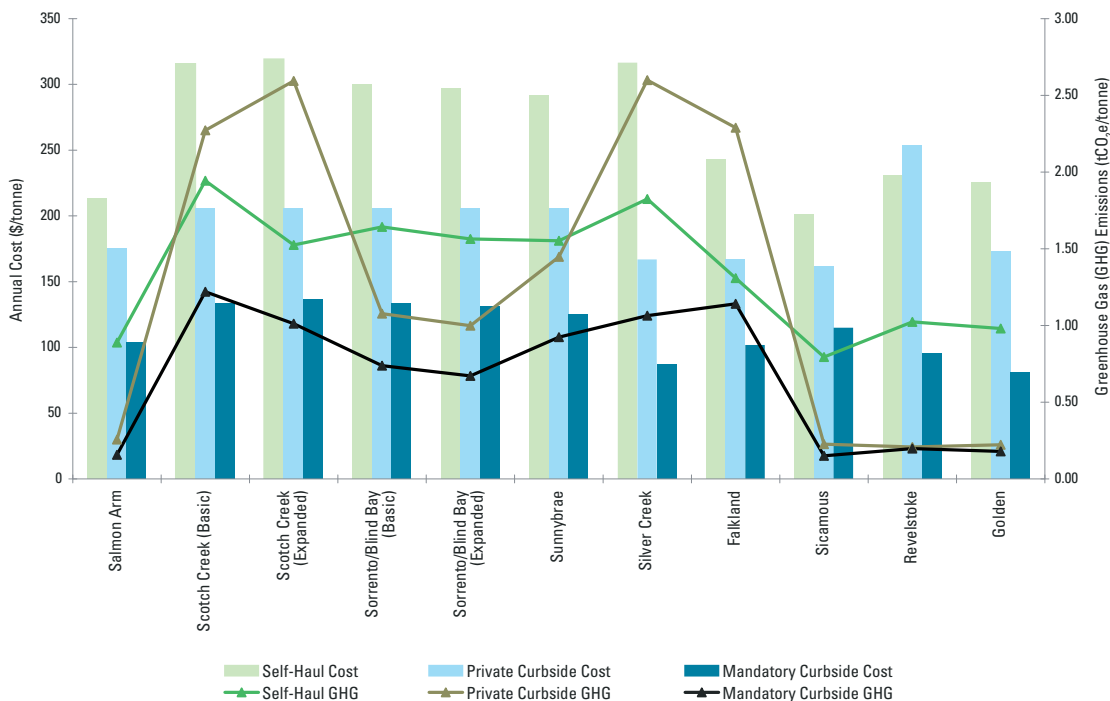
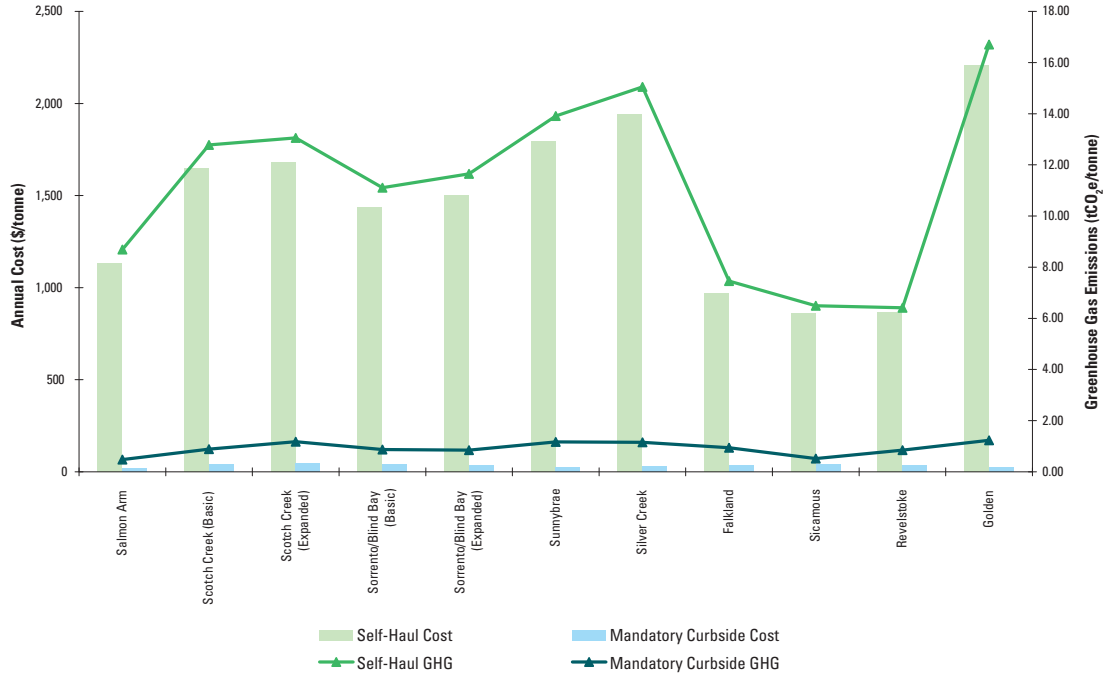


Exhibit 8
Annual Garbage Collection

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- The Columbia Shuswap Regional District will explore offset methods to achieve a carbon-neutral waste management system.
- The Columbia Shuswap Regional District will review landfill gas recovery systems at all landfills to determine the feasibility of constructing such facilities to reduce fugitive methane.
- Where feasible, the Columbia Shuswap Regional District will mitigate greenhouse gas emissions at all regional landfills and identify the resulting carbon credits.
- The Columbia Shuswap Regional District will work with member municipalities to develop curbside collection programs to reduce residential transportation costs for disposal and recycling, provide a higher diversion rate, and reduce greenhouse gas

emissions by reducing the total amount of traffic driving to transfer stations, landfills, and recycle depots.

Shifting the Responsibility for Waste and Recyclables Back to Industry

Extended Producer Responsibility is an approach that shifts end-of-life material management responsibilities from the general taxpayer to the manufacturers and consumers (Product Stewards) who produce and use the goods. This encourages them to consider environmental impacts when designing their products.

The Province of British Columbia is a world leader in developing and implementing Extended Producer Responsibility programs. The Province has committed to implementing new Extended Producer Responsibility programs at a rate of 2 new products every

3 years, stating that this is a: “shift away from government-managed, taxpayer-financed waste management programs” (Ord, 2008).

The Columbia Shuswap Regional District fully supports the concept of Extended Producer Responsibility and also recognises that the product stewards should bear the full cost of diverting their goods from disposal. The Columbia Shuswap Regional District supports the Ministry of Environment’s 2002 Business Plan and the provision that producers and consumers, not taxpayers, bear the cost of Extended Producer Responsibility.

Columbia Shuswap Regional District Commitments

- Where gaps in delivery of provincial stewardship programs exist, the Columbia Shuswap Regional District will work with Product Stewards to provide marshalling areas at select refuse disposal sites,

transfer stations, and recycling fairs to accommodate this material on a short-term basis, provided all costs are borne by the Steward.

- The Columbia Shuswap Regional District will partner with Product Stewards to encourage the development of collection facilities (preferably, one-stop-drop eco-depots) within the private sector.
- The Columbia Shuswap Regional District will ban items specified within the *Recycling Regulation* from the Columbia Shuswap Regional District recyclable collection system and from disposal at refuse landfills and transfer stations, provided there are sufficient opportunities to recycle Extended Producer Responsibility-listed material.



British Columbia Used Oil Management Association at Work



Current System

Some Recyclable Products Stewarded by Industry

- beverage containers
- electronics
- tires
- solvents and flammable liquids
- used oil
- containers and filters
- medications
- paint, pesticides, and gasoline



Next Priorities?

- dry cell batteries
- packaging
- demolition and construction materials
- gypsum board
- white goods
- automobiles
- furniture
- textiles



Future System

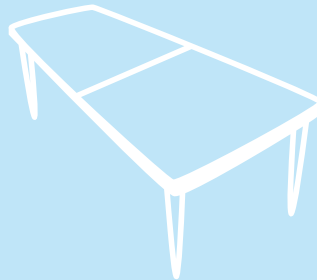
Recyclable Products Stewarded by Industry

- Return to Retail
- Private Depots



Products Managed by Government

- Garbage
- Recyclables/Reusables
- Organics



Products Managed by Government

- Organics management



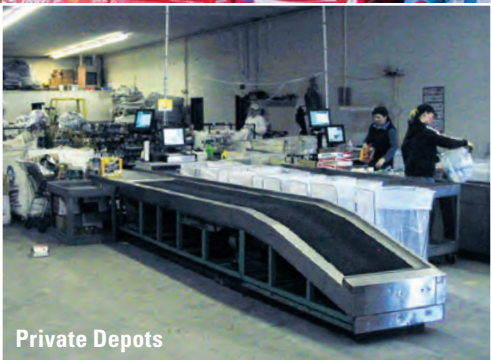
Exhibit 10 Shifting to Full Industry Responsibility



CHANGES Recycling Centre



Return to Retail



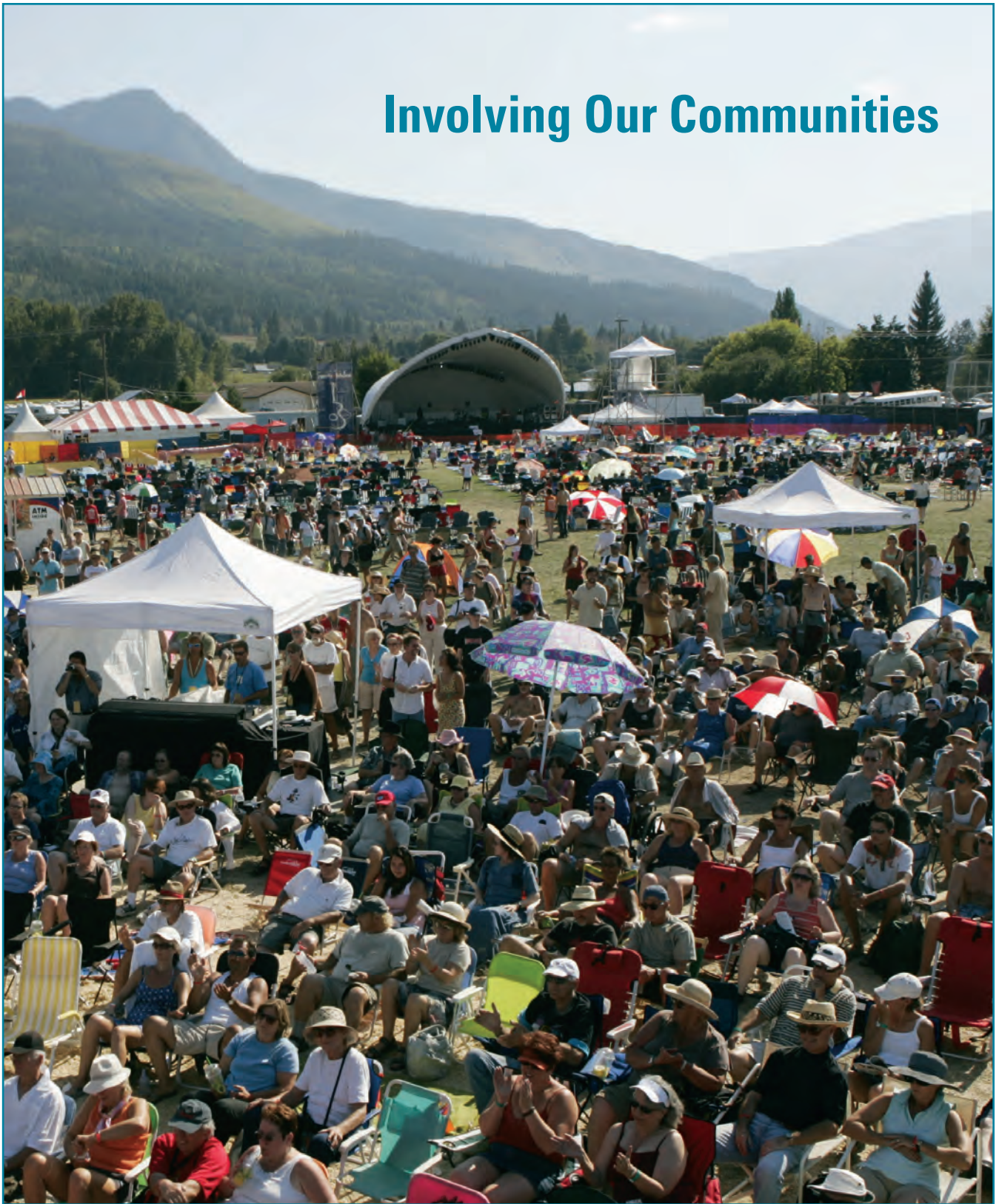
Private Depots



Government Composting

Return to Retail

Involving Our Communities



Involving Our Communities

Under the *Provincial Environmental Management Act*, all Regional Districts are required to manage solid waste within their jurisdictions and be accountable in this regard to the Province of British Columbia. The jurisdiction of the Columbia Shuswap Regional District encompasses all Provincial Territory within the boundaries identified in purple, green, orange, and yellow in Exhibit 11, which includes all incorporated and unincorporated communities. (National Parks and First Nations territory are outside the jurisdiction of this Plan.)

Based on viewing garbage collection as a ‘cradle-to-grave’ system either by drop-off into

depots, direct-haul to a landfill, or curbside collection with final disposal in a landfill, geographic regions within the Columbia Shuswap Regional District were separated into one of four waste sheds (not unlike a watershed, where all creeks and rivers flow to a particular lake). A waste shed identifies those persons residing within a geographic area whose solid wastes are processed at one of four Columbia Shuswap Regional District landfill sites. Each colour in Exhibit 11 identified each of the four waste sheds, including: Golden and Electoral Area A; Revelstoke and Electoral Areas B and E; Sicamous and Electoral Area E; and Salmon Arm and Electoral Areas C, D, and F.

The overall region, as well as each of these waste sheds, are discussed in more detail in the following sections, including the

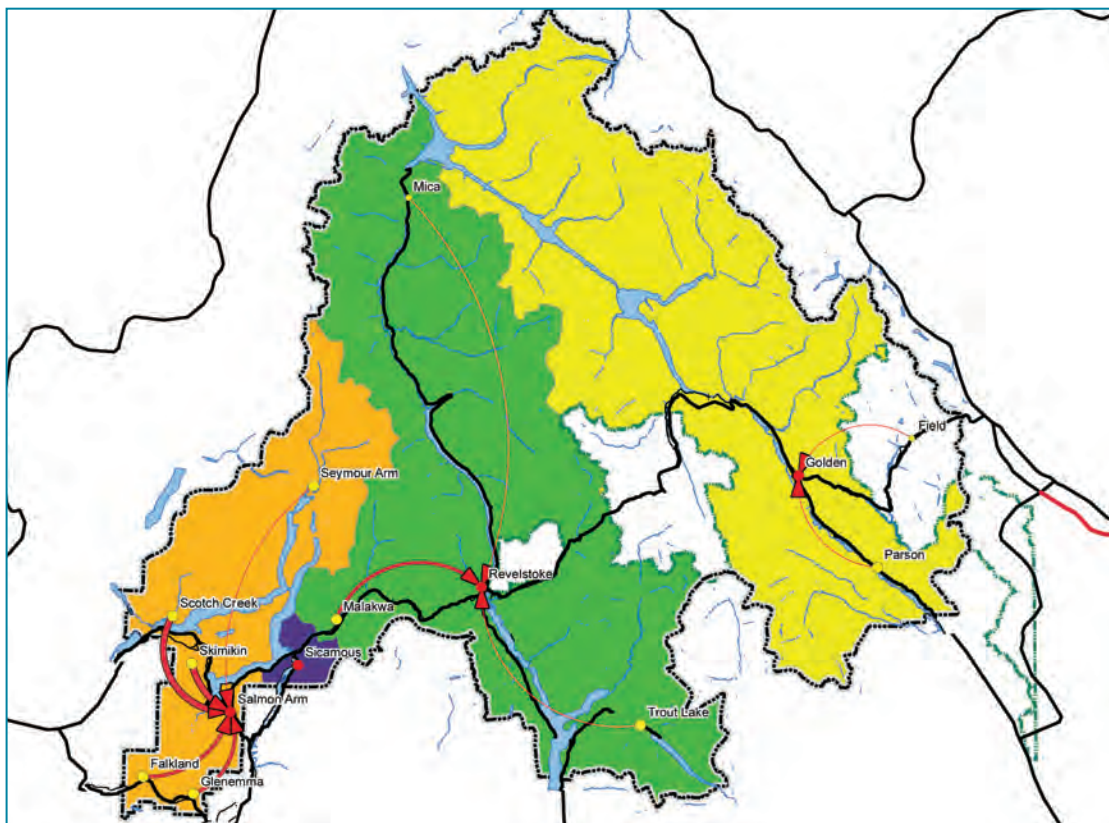


Exhibit 11
Columbia Shuswap
Regional District
Waste Sheds

existing solid waste systems and proposed commitments specific to each waste shed.

The Columbia Shuswap Regional District

The Columbia Shuswap Regional District provides government services and representation to unincorporated areas within each Electoral Area, while providing regional services to incorporated municipalities. Solid waste management is but one of those regional services.

In general, the Columbia Shuswap Regional District’s jurisdictional land area is 29,969.2 square kilometres and has a population of approximately 50,000 people (2006 Census) which is expected to increase to 65,000 by 2025. More recreational- and retirement-related development has resulted in more part-time residents with fewer children.

Waste Generation

The rural population of the Columbia Shuswap Regional District in 2006 was approximately 20,000 residents occupying 6 Electoral Areas, with an additional 30,000 residents occupying the 4 urban member municipalities. Therefore, a total of approximately 50,000 people currently contribute to the 4 Columbia Shuswap Regional District managed landfills.

Columbia Shuswap Regional District landfill operators buried over 42,000 tonnes of garbage in 2007, while over 1,000 tonnes of salvaged recyclable metal was collected at these facilities and shipped to market. Over 1,100 tonnes of recyclable newspaper, mixed waste paper, food cans, and glass jars were recycled from the Columbia Shuswap



Regional District recycle depot system in 2007. Recyclables collected by the private sector and by Extended Producer Responsibility Stewardship groups are expected to be considerable in quantity; however, the information was unavailable to the Columbia Shuswap Regional District.

Based on 2007, and assuming that—as a minimum—waste diversion will keep pace with population growth, it is expected that the Sicamous Landfill and the current Revelstoke Landfill (a future landfill has been sited and secured in Revelstoke; see Revelstoke Waste Shed) will be closed in the 2040s, while the Salmon Arm and Golden Landfills will be closed in the early 2080s.

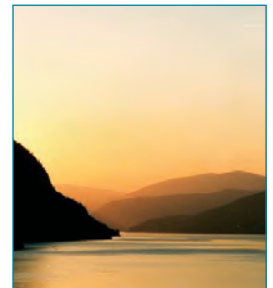
Existing General Programs

- **Columbia Shuswap Regional District Waste Reduction Education Program** assists teachers in the environmental education of their students across the Columbia Shuswap Regional District and within member municipalities.
- To promote reuse, the Columbia Shuswap Regional District has provided the **Columbia Shuswap Regional District Reuses** web-based waste exchange to residents across the region (offered through the Recycling Council of British Columbia).
- A **Free Landfill Access** program is offered to community and non-profit groups wanting to clean up litter throughout the region; by pre-registering, groups will be granted free access to the landfill for disposal.
- The Columbia Shuswap Regional District manages the operation of **three Regional Landfills, one Local Area Landfill, and eight Solid Waste Transfer Stations**.
- Through their staff and Board Chair, the Columbia Shuswap Regional District **participates and provides a voice** in the deliberations of many forward-thinking issues throughout the Province.

Columbia Shuswap Regional District Commitments

General

- An extensive review of Columbia Shuswap Regional District departmental initiatives will be carried out to identify windows of opportunity to incorporate the commitments within this Solid Waste Management Plan.
- The Columbia Shuswap Regional District will develop a Procurement Policy and develop a Procurement Guide, similar to the City of Richmond's, to encourage and require the purchase of products and services that have a reduced, negative, environmental impact.
- The Columbia Shuswap Regional District will implement a differential tipping fee to act as an incentive for source-separated recyclable or reusable products and a disincentive fee for co-mingled, banned substances and bulky, hard-to-handle wastes to ensure adequate compensation to cover disposal costs.





Litter and Burning Policies

- The Columbia Shuswap Regional District will post “No Dumping” and/or “Area Under Surveillance” signs at common illegal dump sites and encourage local developers to consult with Bear Aware/Bear Smart programs relating to solid waste management construction projects.

- The Columbia Shuswap Regional District will create radio, newspaper, and/or billboard advertisements that discourage illegal dumping, burying, or burning, including reports of successful prosecutions.

- The Columbia Shuswap Regional District will launch an education and promotion campaign to discourage the burning of municipal solid waste in backyards and fireplaces. References can include the United States Environmental Protection Agency website www.epa.gov/msw/backyard.

- The Columbia Shuswap Regional District will adopt a bylaw banning the burning of municipal solid waste.

- The Columbia Shuswap Regional District will adopt a bylaw to ensure loads entering Columbia Shuswap Regional District refuse disposal facilities are properly secured to prevent littering and increase the safety of workers and the public at the sites.

- The Columbia Shuswap Regional District will develop a ticketing bylaw to assess fines for solid waste management disposal bylaw infractions.

- The Columbia Shuswap Regional District will develop a comprehensive Illegal Dumping Strategy and Toolkit that includes facilitation, education, and legislation to complement an Illegal Dumping Policy (to include current policy for having strong anti-litter laws).

Residential Policies

- The Columbia Shuswap Regional District will develop a policy to provide annual (or on an as-needed basis) incentives to the residents of the Columbia Shuswap Regional District for using backyard composters.

- The Columbia Shuswap Regional District will ensure the Bear Aware/Bear Smart programs are considered with any initiatives involving new solid waste management programs.

- The Columbia Shuswap Regional District will conduct public education using media and venues throughout the Columbia Shuswap Regional District.

- Columbia Shuswap Regional District staff will be familiar with Social Marketing techniques used to encourage the public to align their behaviour with Plan goals and requirements.

- The Columbia Shuswap Regional District will work with member municipalities to set standards for multi-family dwellings to provide sufficient space for recycling.

- The Columbia Shuswap Regional District will use a Special Event Recycling Promotional trailer to encourage recycling

at special events. The trailer will be available to organizations where needed.

- The Columbia Shuswap Regional District, with the possible partnership of the municipalities, will provide curbside recycling service to single-family dwellings within the member municipalities of Salmon Arm, Sicamous, Revelstoke, and Golden.
- The Columbia Shuswap Regional District will recommend that municipalities provide a curbside garbage collection program for single-family dwellings that will have a 1 bag per week limit and that additional bags be collected for \$1.50 per bag.

Business Policies

- The Columbia Shuswap Regional District will incorporate current Plan institutional, commercial, and light industrial waste policies into a comprehensive Institutional, Commercial, and Light Industrial Waste Reduction Strategy and Toolkit that includes facilitation, education, and legislation programs.
- The Columbia Shuswap Regional District will develop a comprehensive Demolition, Landclearing, and Construction Waste Reduction Strategy and Toolkit that includes facilitation, education, and legislation programs.
- The Columbia Shuswap Regional District will initiate a business award system to recognize businesses that champion the principles of sustainability with efforts to reduce their solid waste.
- The Columbia Shuswap Regional District will prepare business-specific self-audit kits for small entrepreneurs (see Metro Vancouver and California, United States, for examples).
- The Columbia Shuswap Regional District will promote and link up with the Recycling Council of British Columbia Industrial Materials Exchange to encourage reuse amongst industry.
- The Columbia Shuswap Regional District will develop and distribute demolition, landclearing, and construction recycling educational material to support private demolition, landclearing, and construction reuse and recycling efforts.
- The Columbia Shuswap Regional District will review existing bylaws and the *Building Code* to see where solid waste management diversion and disposal controls can be implemented to require the proper disposal or diversion of demolition, landclearing, and construction wastes.
- The Columbia Shuswap Regional District will implement a facility licensing bylaw (waste stream management bylaw) and administrative structure, complete with enforcement resources to enforce standards for solid waste facilities (such as for the storage of recyclables).



5-Year Implementation Schedule

Within the availability of adequate resources, the Columbia Shuswap Regional District has committed to implementing the following staff, infrastructure, and services over the next

5 years, while other policies and programs not specified on this list will be delivered at the discretion of the Columbia Shuswap Regional District over the remainder of this 20-year Solid Waste Management Plan.



- Golden Landfill
- Scotch Creek Transfer Station

- Illegal Dumping Strategy

- Differential Tipping Fees
- Plan Monitoring Committee Activation
- Increase Administrative Support by 0.25 Full-Time Equivalent (FTE)

- Salmon Arm Landfill
- Sicamous Landfill

- Construction Waste Reduction Strategy

- Differential Tipping Fees
- Increase Waste Reduction/Education Position by 0.25 FTE in 2010 and 2011
- Hire New Full-Time Facilities Superintendent
- Increase Managerial Support by 0.25 FTE
- Increase Financial Support by 0.15 FTE

2009

- Master Composter Program
- Backyard Composting Incentive Program
- No-charge Drop-off Periods

- Conduct Feasibility Study to Expand Depot System to Collect Cardboard and Plastics



2010

- Natural Landscaping Program
- Composting Infrastructure in Revelstoke
- Regional Wood Waste Diversion/Reuse Program

- Recyclable Reload Facility – Golden
- Recyclable Reload Facility – Revelstoke
- Recyclable Reload Facility – Salmon Arm

- Recycling Collection in Salmon Arm
- Recycling Collection in Sicamous
- Recycling Collection in Revelstoke
- Recycling Collection in Golden
- Garbage Collection in Salmon Arm by Municipality
- Garbage Collection in Sicamous by Municipality



Revelstoke Landfill
 Skimikin Transfer Station
 Falkland Transfer Station







Increase Waste Reduction/
 Education Position by
 0.25 FTE in 2010 and 2011

2011 2012 2013

Curbside Christmas Tree
 Collection
 Periodic Curbside Yard Waste
 Collection
 Composting Infrastructure in
 Salmon Arm
 Composting Infrastructure in
 Golden
 Regional Wood Waste Diversion/
 Reuse Program

Regional Yard Waste Drop-off
 Depots



LEGEND			
	Administrative		Implement Regional Composting Strategy
	Conduct Further Studies		Construct Recycling Infrastructure
	Construct Reuse Centres		Contract Out Curbside Collection

Golden and Surrounding Area Waste Shed



Golden and Surrounding Area Waste Shed

The Golden and Area Waste Shed is comprised of communities whose waste is disposed of in the Golden Landfill. This includes the towns of Golden and the rural area within the Columbia Shuswap Regional District boundary between Glacier and Yoho National Parks. The waste shed shares the same boundary as Columbia Shuswap Regional District's Electoral Area A. Exhibit 13 shows the Golden and Area Waste Shed and some of the communities that it contains.

The area covered by this waste shed is also referred to as Kicking Horse Country, named after the Kicking Horse River that flows through Yoho National Park and drains into the Columbia River. The area sits between the Purcel and Rocky Mountain Ranges and is supported primarily through the Forestry and Tourism industries. The area's Forest industry is supported by several value-added forest product manufacturing plants, as well as timber extraction operations. Area Tourism activities include skiing, hiking, camping, and river rafting. Canadian Pacific Railways also runs a large coal train marshalling yard in Golden.

Waste Generation

There are currently about 6,900 people living in the waste shed area (1,334,439 ha), with over half of the area's population living in Golden (3,800). In 2007, a total of 6,240 tonnes of waste were deposited at the Golden Landfill.

Most waste is disposed of directly into the Golden Landfill by residential self-haul or commercial and residential collection.

Existing Programs and Infrastructure Programs

The Columbia Shuswap Regional District provides a variety of promotion and education programs in this waste shed, including the Golden Recycling Fairs during the spring, summer, and fall.

A local Recycling Directory is also provided to residents and updated annually, circulated, and posted on the Columbia Shuswap Regional District website to allow for downloading.

Residential yard waste is accepted at the Golden Landfill and existing transfer stations free of charge for periods during the spring and fall, and metal wastes are accepted for free during a weekend in the spring.

The municipality of Golden provides a residential garbage collection service to its residents. The municipality also provides an annual bulky-waste pick-up service to senior citizens in the spring.

Municipal Infrastructure

Waste shed residents are able to dispose of their refuse and deposit their recyclables at either the Golden Landfill or the Parson Transfer Station. Additionally, recyclables are collected from residents at the drop-off depot located in Downtown Golden.

A waste transfer station owned and operated by Parks Canada operates in Field, British Columbia to collect refuse generated by residents in that community. During part of the year, solid wastes originating in Field are transported to the Golden Landfill.

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*Involving
Our Communities*



Columbia Shuswap Regional District Commitments

The Columbia Shuswap Regional District has committed to providing the following, future programs within this waste shed:

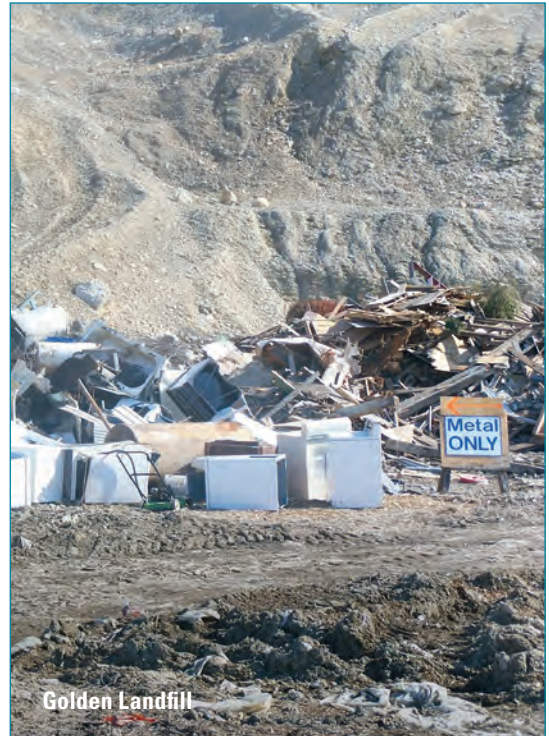
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Involving Our Communities



- In 2009, it is envisioned that Columbia Shuswap Regional District staff will set up a Master Composter/Recycler program with 2 volunteer positions in Golden.
- In 2009, the Columbia Shuswap Regional District will expand the depot recycling program to include residentially-generated cardboard and mixed plastics.
- In 2009, the Columbia Shuswap Regional District will recommend to the Town of Golden that beginning in 2010, the municipal garbage collection program delivered by the Town have a 1 bag per week limit and that additional bags be collected for \$1.50 per bag.
- In 2009, a Resource Exchange Centre will be constructed at the Golden Landfill to facilitate the exchange of “garage sale” items.
- In 2009, Expressions of Interest will be sought from local companies interested in sorting and marketing municipal curbside recyclables.
- In 2010, if partnerships with local service providers are not developed for materials sorting and marketing, a recyclable reload centre will be constructed at the existing Golden Landfill for the collection of recyclables that will be reloaded into larger trucks for shipment to market.

- In 2010, subject to market conditions, the Columbia Shuswap Regional District will, with the possible partnership of the municipality, provide curbside collection of mixed waste paper, mixed plastics, newspaper, food tins, and old corrugated cardboard to single-family dwellings within the municipality of Golden.
- In 2011, the Columbia Shuswap Regional District will partner with the Town of Golden and the private sector to establish a regional yard waste composting facility at the Golden Landfill.
- The Columbia Shuswap Regional District will conduct a literature review and interview staff of other resort communities to determine how best to provide solid waste services for these resorts.



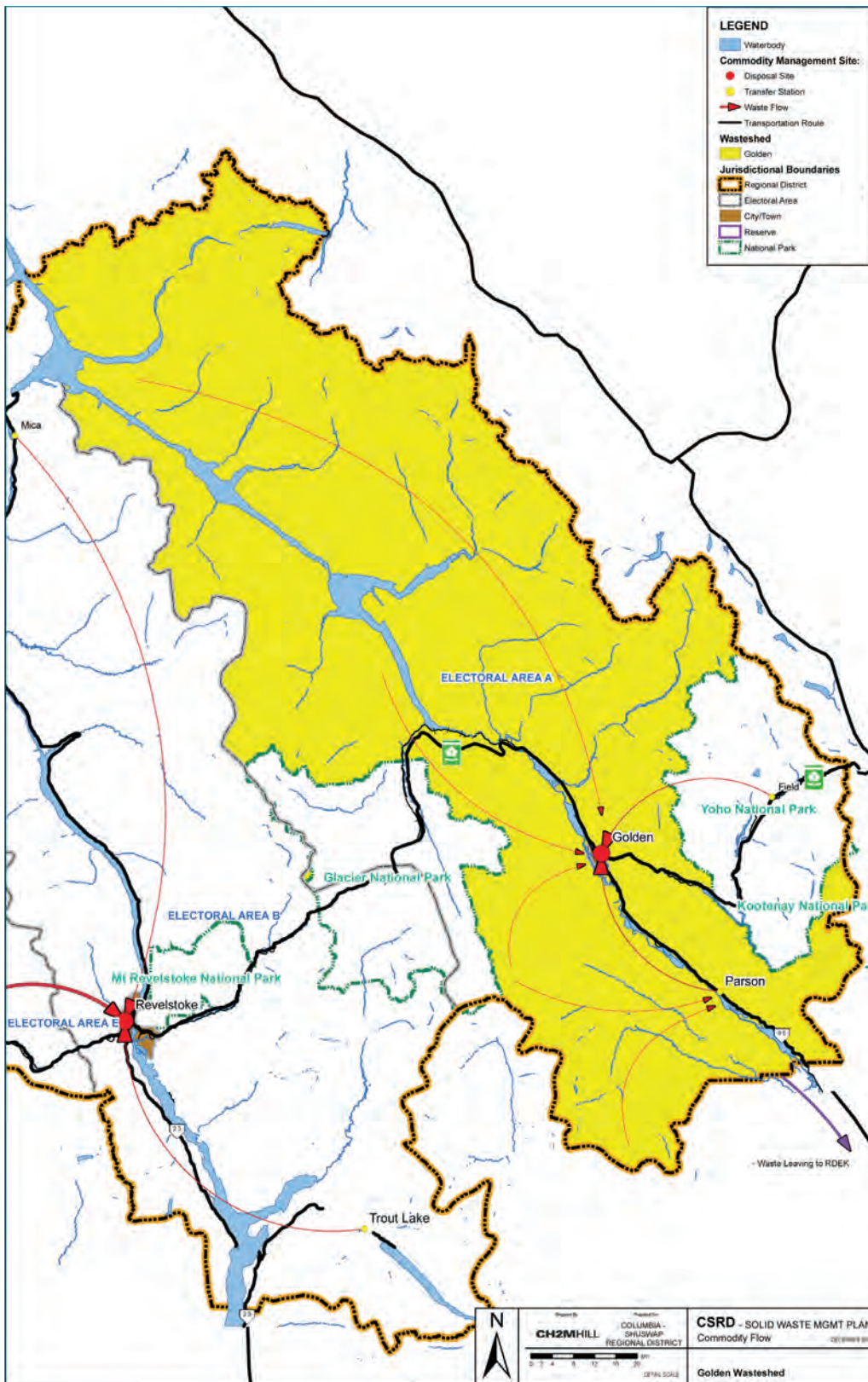


Exhibit 13
Golden and Area
Waste Shed

Revelstoke and Surrounding Area Waste Shed



Revelstoke and Surrounding Area Waste Shed

The Revelstoke and Area Waste Shed is comprised of communities which dispose of their waste in the Revelstoke Landfill. This area is approximately the same as the Columbia Shuswap Regional District's Electoral Area B, but also includes the Malakwa area, which is part of Electoral Area E. Exhibit 14 shows the boundaries of the waste shed (1,190,088 ha).

The waste shed also includes the region on the eastern side of Upper Arrow Lake, in the southern part of Electoral Area B, which is serviced by a Transfer Station at Trout Lake. The northern part of the Electoral Area is home to the small community of Mica Creek, which supports British Columbia Hydro Staff working at Mica Dam, as well as some recreational eco-tourism operations.

The area is rich in history, tied to the economic development of the Province at the turn of the last century. The last spike in the Canadian Pacific Railway was driven in Craigellachie, just 30 minutes west of Revelstoke. The City was developed around the railroad and the forest industry but also has roots in the gold rush. The City's name even comes from Lord Revelstoke, the head of the London Banking firm that saved the Canadian Pacific Railway from bankruptcy.

Currently, final touches are being completed for the world-class Revelstoke Mountain Resort that includes 5,000 new residences, 4,645 square metres of commercial and retail space, and a village centre similar to other ski resort communities, such as Sun Peaks in Kamloops and Blackcomb, Whistler.

Downtown, a revitalization project hopes to restore heritage buildings, and there are three museums celebrating aspects of the

region's past: the Revelstoke Museum, the Fireman's Museum, and the Railway Museum. Revelstoke's downtown core is also the home of Grizzly Plaza, an open-air space supporting live music in the summer and a Farmer's Market featuring locally-grown produce.

Through the *Revelstoke and Area Community Development Action Plan (2007)*, the City committed to maximizing household waste reduction and recycling.

Waste Generation

The total population for the Revelstoke and Area Waste Shed is approximately 8,550. In 2007, 8,820 tonnes of waste were deposited at the Revelstoke Landfill. All of the Revelstoke and Electoral Area B's garbage is disposed of in the Revelstoke Landfill, which is expected to reach capacity by 2044.

Existing Programs and Infrastructure Programs

The Columbia Shuswap Regional District provides a variety of promotion and education programs in this waste shed, including the Revelstoke Recycling Fairs during the spring, summer, and fall.

A local Recycling Directory is also provided to residents and updated annually, circulated, and posted on the Columbia Shuswap Regional District website to allow for downloading.

Residential yard waste is accepted at the Revelstoke Landfill and existing transfer stations free of charge for periods during the spring and fall, and metal wastes are accepted for free during a weekend in the spring. Yard wastes are also currently accepted for free by the City of Revelstoke at a City-owned gravel pit, where the City chips the material and blends it into a fabricated soil for its internal use.





The City of Revelstoke provides residents with a curbside collection program for garbage.

Infrastructure

Waste shed residents are able to dispose of their refuse and deposit their recyclables at either the Revelstoke Landfill or the Malakwa and Trout Lake Transfer Stations. Additionally, recyclables are collected from residents at the drop-off depot located in Downtown Revelstoke.

Columbia Shuswap Regional District Commitments

The Columbia Shuswap Regional District has committed to providing the following, future programs within this waste shed:

- In 2009, it is envisioned that Columbia Shuswap Regional District staff will set up a Master Composter/Recycler program with 2 volunteer positions in Revelstoke.
- In 2009, the Columbia Shuswap Regional District will expand the depot recycling program to include residentially-generated cardboard and mixed plastics.
- In 2009, the Columbia Shuswap Regional District will recommend to the City of Revelstoke that beginning in 2010, the municipal garbage collection program delivered by the City have a 1 bag per week limit and that additional bags be collected for \$1.50 per bag.
- In 2009, Expressions of Interest will be sought from local companies interested in sorting and marketing municipal curbside recyclables.

- In 2010, if partnerships with local service providers are not developed for materials sorting and marketing, a recyclable reload centre will be constructed at the existing Revelstoke Landfill for the collection of recyclables that will be reloaded into larger trucks for shipment to market.
- In 2010, the Columbia Shuswap Regional District will provide curbside collection of mixed waste paper, mixed plastics, newspaper, food tins, and old corrugated cardboard to single-family dwellings within the municipality of Revelstoke.
- By 2010, the Columbia Shuswap Regional District will partner with the City of Revelstoke to establish a regional yard waste and septage composting facility at either a Columbia Shuswap Regional District or City facility.
- In 2011, a Resource Exchange Centre will be constructed at the Revelstoke Landfill to facilitate the exchange of “garage sale” items.
- The Columbia Shuswap Regional District will conduct a literature review and interview staff of other resort communities to determine how best to provide solid waste services for these resorts.

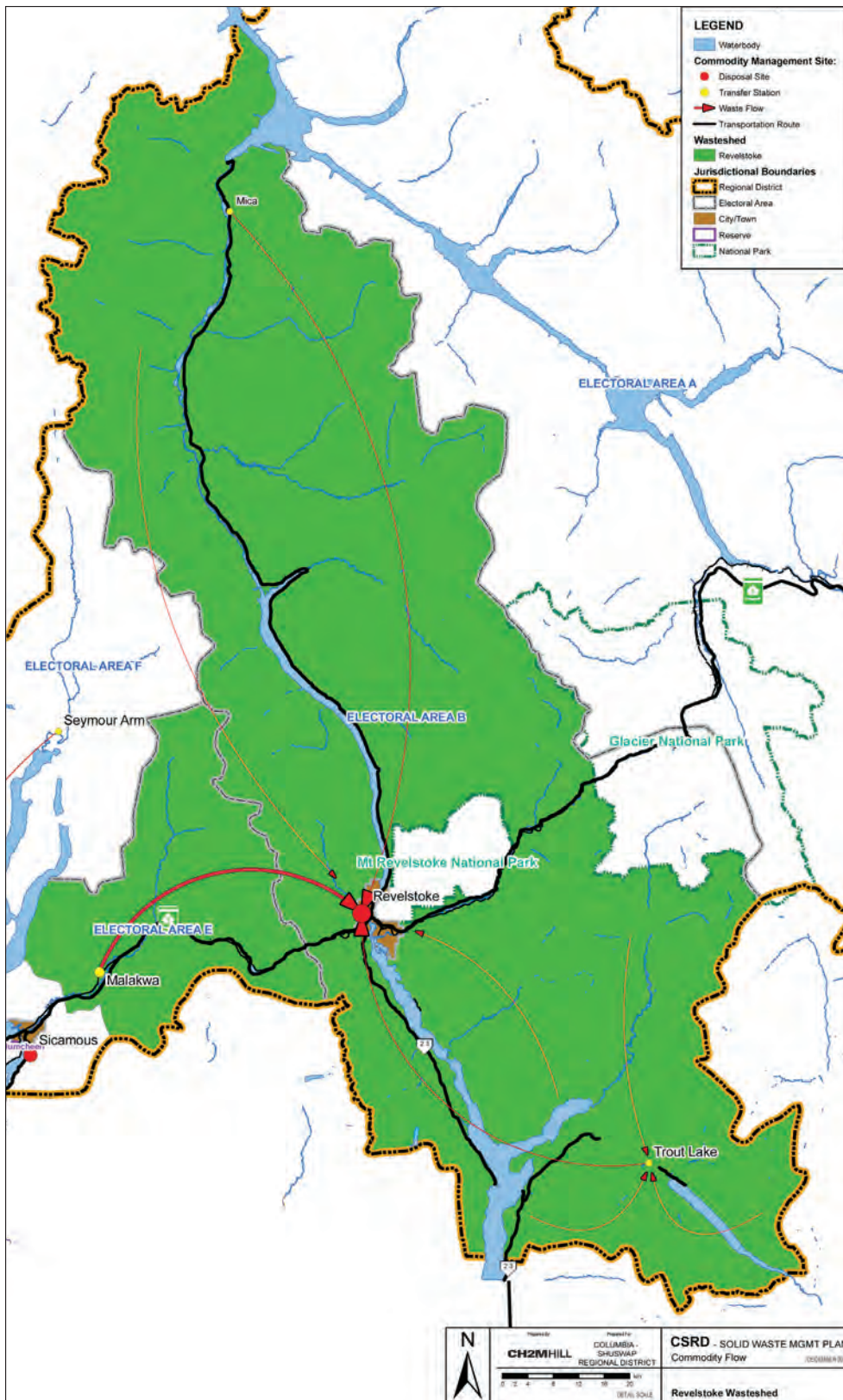


Exhibit 14
Revelstoke and Area
Waste Shed

Sicamous and Surrounding Area Waste Shed



Sicamous and Surrounding Area Waste Shed

The Sicamous and Area Waste Shed is comprised of communities that dispose of their waste in the Sicamous Landfill. This area is approximately 32,200 ha, and includes most of the communities that are part of Electoral Area E. It is the smallest of the four Columbia Shuswap Regional District waste sheds, by area and also by population. Malakwa and other communities east are included with the Revelstoke and Area Waste Shed, as the transfer station in Malakwa transports its waste to the Revelstoke Landfill, rather than to the one in Sicamous. Exhibit 15 shows the waste shed area.

Sicamous is situated beside a narrow channel separating Mara Lake and Shuswap Lake at the outlet of Eagle Creek. The area is rich in history, especially around the turn of the last century.

The original inhabitants of the area were the Schickamoos Natives, a semi-nomadic branch of the Salish people whose name means “narrow” or “squeezed in the middle.” There are still many native communities in the area.

A brief gold rush at the Big-Bend area of the Columbia River, starting in 1864, brought more people to the Region. Seymour Arm (Ogden City at that time) became a major supply post for those seeking their fortune, and steam boats plied Shuswap Lake and the Thompson River, bringing people and supplies up from Vancouver and the United States Northwest. The completion of the railroad brought the first permanent settlers to the area.

Today, the community is supported by forestry, tourism, and agriculture. One of the area’s most popular tourist activities is

houseboating. The town is known as the Houseboating Capital of Canada, and over 300 boats are available for rent in Sicamous. Users can ply the waters of both Mara and Shuswap Lakes and enjoy their many regional and provincial parks.

Waste Generation

The total waste shed area supports approximately 3,600 people, which includes the communities of Solsqua, Annis, and Swansea Point.

Sicamous and surrounding area waste shed produced about 3,500 tonnes of waste in 2007. The Sicamous Landfill is expected to reach capacity in 2040.

Existing Programs and Infrastructure Programs

The Columbia Shuswap Regional District provides a variety of promotion and education programs in this waste shed, including the Sicamous Recycling Fairs during the spring, summer, and fall.

A local Recycling Directory is also provided to residents and updated annually, circulated, and posted on the Columbia Shuswap Regional District website to allow for downloading.

Residential yard waste is accepted free of charge at a Sicamous Landfill and existing transfer stations for periods during the spring and fall, and metal wastes are accepted for free during a weekend in the spring.

Municipal Infrastructure

Waste shed residents are able to dispose of their refuse and deposit their recyclables at the Sicamous Landfill. Additionally, recyclables are collected from residents at the drop-off depot located in Downtown Sicamous.



Columbia Shuswap Regional District Commitments

The Columbia Shuswap Regional District has committed to providing the following, future programs within this waste shed:

- In 2009, it is envisioned that Columbia Shuswap Regional District staff will set up a Master Composter/Recycler program with 1 volunteer position in Sicamous.
- In 2009, the Columbia Shuswap Regional District will expand the depot recycling program to include residentially-generated cardboard and mixed plastics.
- In 2009, the Columbia Shuswap Regional District will recommend to the District of

Sicamous that the municipality provides curbside collection of garbage from single-family dwellings within the municipal boundary. The program is recommended to have a 1 bag per week limit and that additional bags be collected for \$1.50 per bag.

- In 2010, a Resource Exchange Centre will be constructed at the Sicamous Landfill to facilitate the exchange of “garage sale” items.
- In 2010, the Columbia Shuswap Regional District will provide curbside collection of mixed waste paper, mixed plastics, newspaper, food tins, and old corrugated cardboard to single-family dwellings



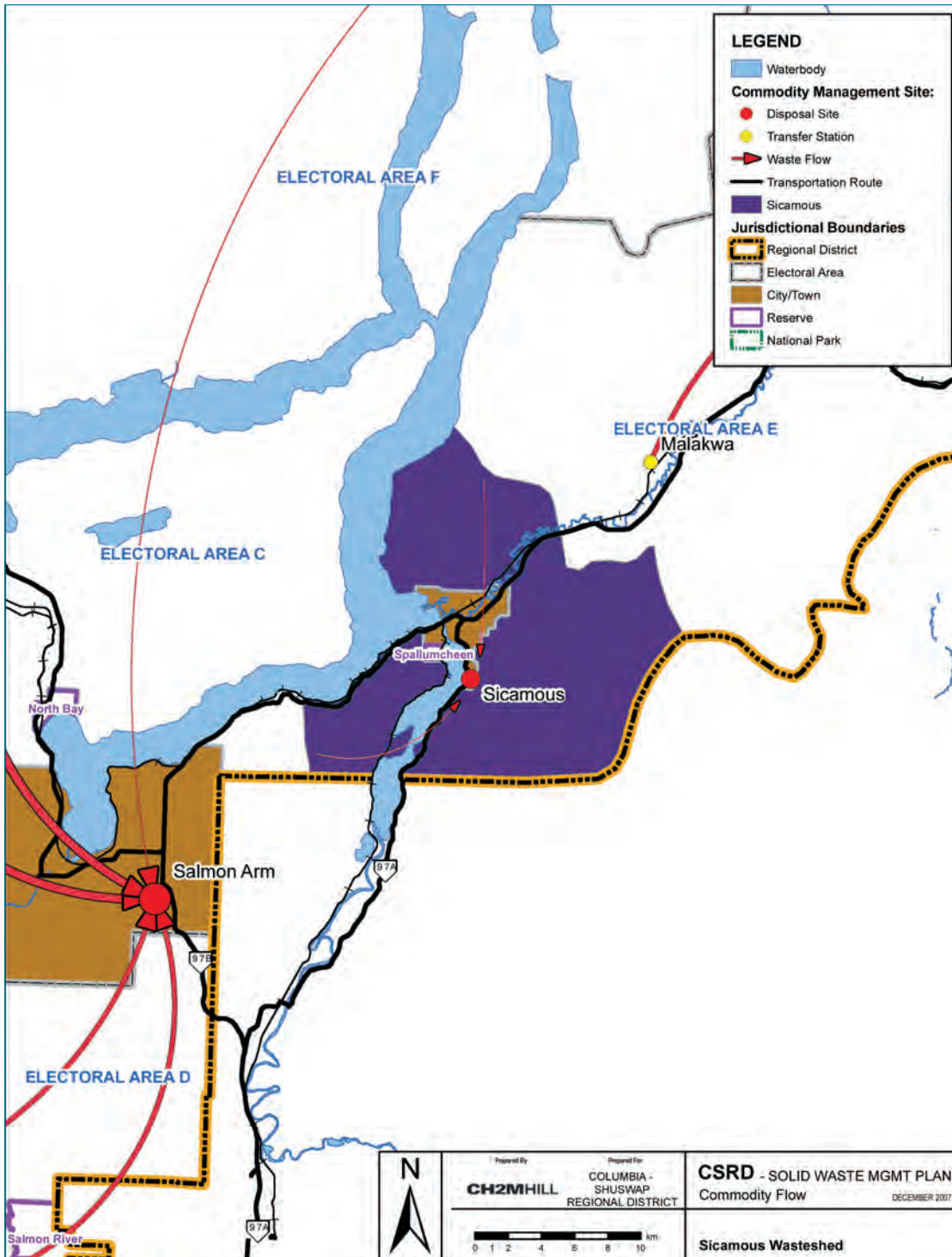


Exhibit 15
Sicamous and Area
Waste Shed

Salmon Arm and Surrounding Area Waste Shed



Salmon Arm and Surrounding Area Waste Shed

The Salmon Arm and Area Waste Shed, covering an area of 445,000 ha, includes this waste shed's largest community, the City of Salmon Arm, as well as Columbia Shuswap Regional District Electoral Areas C, D, and F. It is by far the most populous waste shed in the Columbia Shuswap Regional District and includes unincorporated communities, such as: Sorrento/Blind Bay, Sunnybrae/Tappen, Scotch Creek, Silver Creek/ Glenemma, and Falkland. Exhibit 16 shows the boundaries of the area.

This waste shed primarily encompasses the Shuswap Lakes area, with a history that dates back to when the Shuswap First Nations numbered 5,000 people – mostly fisherman and hunters who roamed the area in bands. The first white settlers arrived in 1888 to settle in what we now call Salmon Arm, a railway camp built to construct the Canadian Pacific Railroad through these areas.

Today, logging and agriculture, as well as tourism, are the area's primary industries.

The City of Salmon Arm has adopted a policy to infill and intensify its current development.

Waste Generation

The total waste shed covers an area of approximately 445,000 ha and is home to about 31,000 people. The major population centre, Salmon Arm, grew at an annual rate of 5.3% from 2001 to 2006, to reach an approximate population of 16,000.

The Salmon Arm and surrounding area waste shed landfilled about 24,000 tonnes of waste in 2007. The Salmon Arm Landfill is expected to reach capacity in 2081.

Existing Programs and Infrastructure Programs

The Columbia Shuswap Regional District provides a variety of promotion and education programs in this waste shed, including the Salmon Arm Recycling Fairs during the spring and fall.

A local Recycling Directory is also provided to residents and updated annually, circulated, and posted on the Columbia Shuswap Regional District website to allow for downloading.

Residential yard waste is accepted free of charge at the Salmon Arm Landfill and existing transfer stations for periods during the spring and fall, and metal wastes are accepted for free during a weekend in the spring.

The municipality of Salmon Arm provides a residential yard prunings collection service in the spring to its residents.

Municipal Infrastructure

Waste shed residents are able to dispose of their refuse and recyclables at the Salmon Arm Landfill or the Glenemma, Scotch Creek, Skimikin, Seymour Arm, or Falkland Transfer Stations. Additionally, recyclables are collected from residents at the drop-off facilities located at the Landfill and Transfer Stations, along with depots in Downtown Salmon Arm, Sorrento, and Canoe.

Columbia Shuswap Regional District Commitments

The Columbia Shuswap Regional District has committed to providing the following, future programs within this waste shed:

- In 2009, it is envisioned that Columbia Shuswap Regional District staff will set





up a Master Composter/Recycler program with 2 volunteer positions in Salmon Arm, and 1 volunteer position each in Sorrento, Scotch Creek, and Falkland.

- In 2009, the Columbia Shuswap Regional District will expand the depot recycling program to include residentially-generated cardboard and mixed plastics.
- In 2009, the Columbia Shuswap Regional District will recommend to the City of Salmon Arm that beginning in 2010, the City provide a curbside collection of garbage from single-family dwellings within the municipal boundary. The program is recommended to have a 1 bag per week limit and that additional bags be collected for \$1.50 per bag.
- In 2009, Expressions of Interest will be sought from local companies interested in sorting and marketing municipal curbside recyclables.
- In 2010, if partnerships with local service providers are not developed for sorting and marketing recyclable material, a recyclable reload centre will be constructed at the existing Salmon Arm Landfill for the collection of recyclables that will be reloaded into larger trucks for shipment to market.
- In 2010, subject to market conditions, the Columbia Shuswap Regional District, with the possible partnership of the municipality, will provide curbside collection of mixed waste paper, mixed plastics, newspaper, food tins, and old corrugated cardboard to single-family dwellings within the municipality of Salmon Arm. The program will be developed to pick up unlimited recyclables on a biweekly collection frequency.
- By 2011, the Columbia Shuswap Regional District will partner with the City of Salmon Arm and the private sector to establish a regional yard waste composting facility at the Salmon Arm Landfill.
- A Resource Exchange Centre will be constructed at the Scotch Creek Transfer Station in 2009, at the Salmon Arm Landfill in 2010, and at the Falkland and Skimikin Transfer Stations in 2011 to facilitate the exchange of “garage sale” items.
- The private demolition, landclearing, and construction site located in Salmon Arm may close shortly and result in a substantial increase in this type of waste received at Columbia Shuswap Regional District facilities. To address the immediate concern of this issue, the Columbia Shuswap Regional District will develop a short-term strategy for the management of this material ahead of the proposed region-wide Demolition, Landclearing, and Construction Waste Reduction Strategy.

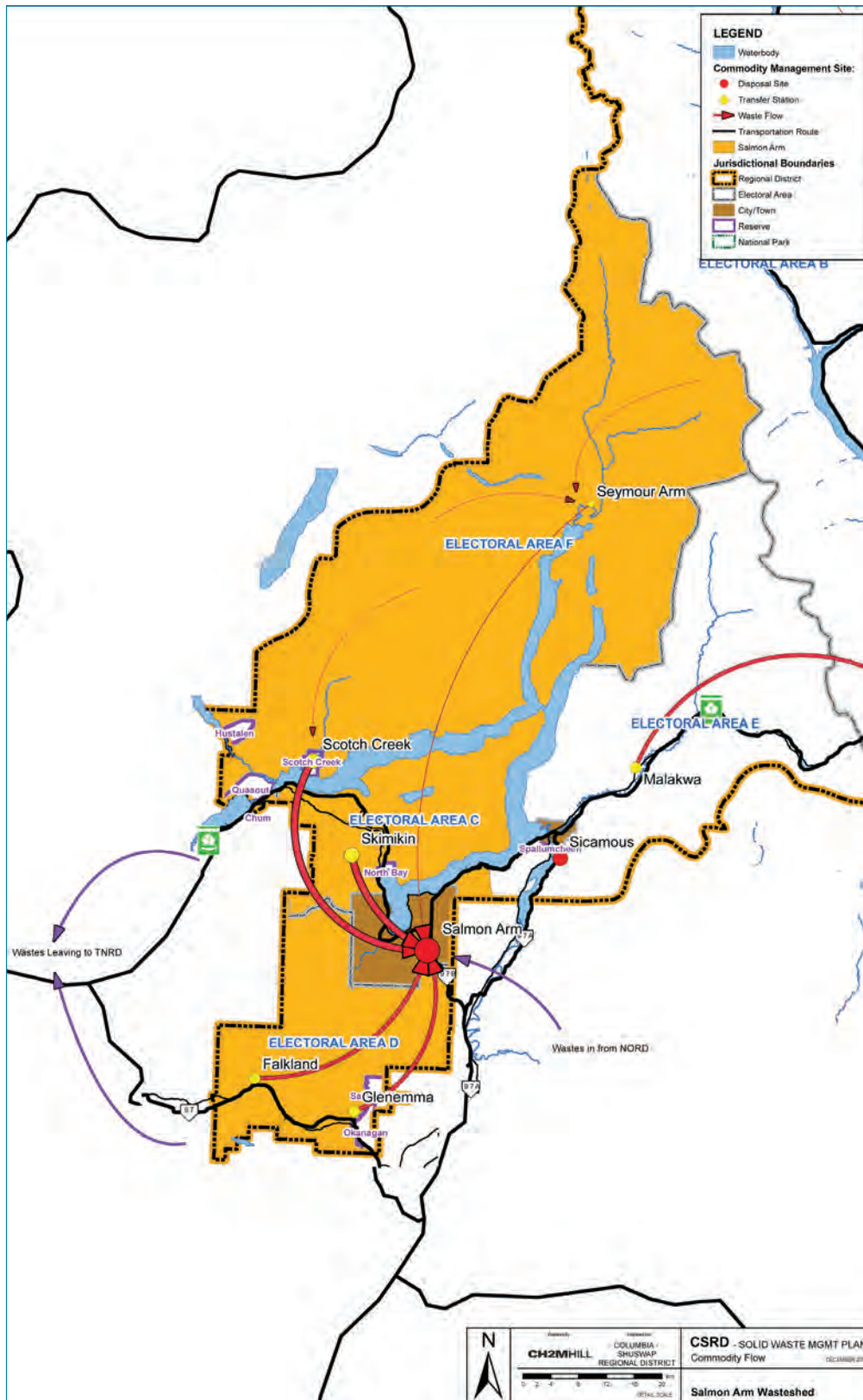


Exhibit 16
Salmon Arm and Area
Waste Shed



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