

Regional District of Nanaimo: Solid Waste Management Plan Summary

Planning for the Future of Our Waste

Our Region

The Regional District of Nanaimo (RDN) provides regional governance and services to more than 155,000 people on Vancouver Island's central east coast. It is expected to grow by another 52,000 residents to approx. 207,650 within the next 10 years.

Governed by a 19-member Regional Board, the RDN covers a large, diverse area of nearly 207,000 hectares with distinct communities that include the municipalities of Nanaimo, Lantzville, Parksville, and Qualicum Beach, as well as seven unincorporated Electoral Areas.

The RDN is sited within the traditional territory of several First Nations, including the Snuneymuxw, Shaw-naw-as, and Qualicum First Nations.

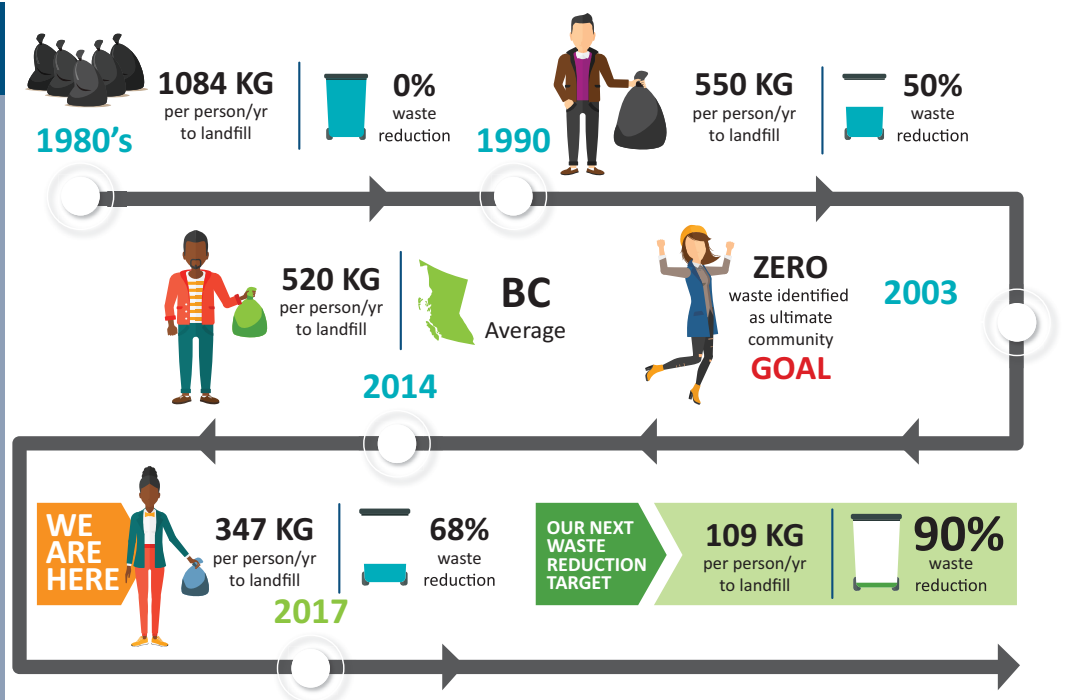
Our Plan

In British Columbia, regional districts are required by the Provincial *Environmental Management Act* to develop a Plan — a long-term vision — that defines how the regional district will manage its solid waste, including waste diversion and disposal. The RDN prepared its first Plan in 1988, with updates that followed in 1996 and 2004.

The RDN has tracked its waste disposal since the 1980s. Since then, residents have reduced, recycled, diverted and composted more than 68 per cent of their waste that was otherwise destined for the landfill. Residents are now throwing away about one-third of what they were in the 1980s — 347 kg/capita/year in 2014 compared to 1,084 kg/capita per year from 1980s disposal estimates. The amended Plan is targeting a diversion rate of 90 per cent, meaning per person disposal would be about 109 kg/year by 2027.

A New Target

Proposed: Adopt a new target to reduce the amount of waste going to the landfill by 90 per cent by the year 2027, equal to the average per person throwing away 109 kg of garbage per year. Thanks to the ongoing participation of our community, the RDN could reach this target through enhancing existing education and enforcement programs, encouraging more businesses to recycle by introducing new regulations and working with other governments, manufacturers and waste producers to reduce waste at the source.



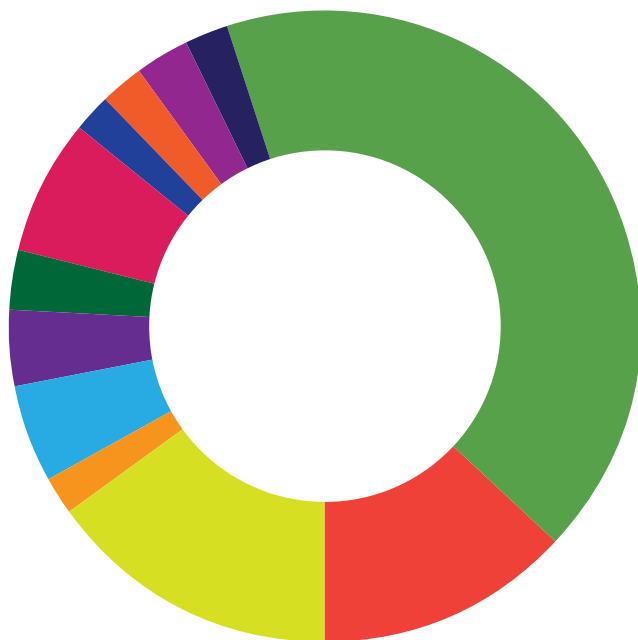
The RDN is achieving some of the highest waste diversion in the world. In 2002, the RDN adopted “zero” as its waste diversion target, meaning that the region will continuously strive to reduce the amount of waste requiring disposal. The RDN was the first jurisdiction on Vancouver Island and one of several forward-looking local governments in Canada and around the world to move beyond recycling and adopt a Zero Waste approach to eliminating waste.

New programs like Curbside Recycling and the Green Bin food waste program have extended the life of the RDN’s landfill, reduced greenhouse gas emissions and created a local industry of recycling and composting that supports 190 jobs, adding more than \$17M to the local economy.

This updated Plan shows the RDN’s commitment to achieving Zero Waste addressing both waste diversion and residual waste (what is left over after everything has been composted or recycled) and includes two main components. One is an update of the Zero Waste Strategy including a Zero Waste definition and strengthening existing Zero Waste programs particularly Education, Construction and Demolition, and Multi-Family and Industrial, Commercial and Institutional recycling, composting and waste diversion. The second is the introduction of bylaws to regulate and enable Mandatory Waste Source Separation and Waste Hauler Licensing.

The Opportunity

A recent review of the landfill shows that more than half of what’s being dumped, or about 58 per cent, can be readily reused, recycled or composted, and most is coming from the commercial, construction and demolition, and multi-family sectors.



ROOM FOR IMPROVEMENT

Here is a snapshot of the types of commercial waste still being landfilled.

This, along with multi-family waste, represents the greatest opportunity to reduce and recycle.

- **42% COMPOSTABLE ORGANICS**
- **15% PAPER**
- **13% PLASTIC**
- **7% BUILDING MATERIALS**
- **5% HOUSEHOLD HYGIENE**
- **4% HOUSEHOLD HAZARDOUS**
- **3% ELECTRONICS**
- **3% TEXTILES**
- **2% OTHER**
- **2% GLASS**
- **2% BEVERAGE CONTAINERS**
- **2% METALS**

Zero Waste Defined

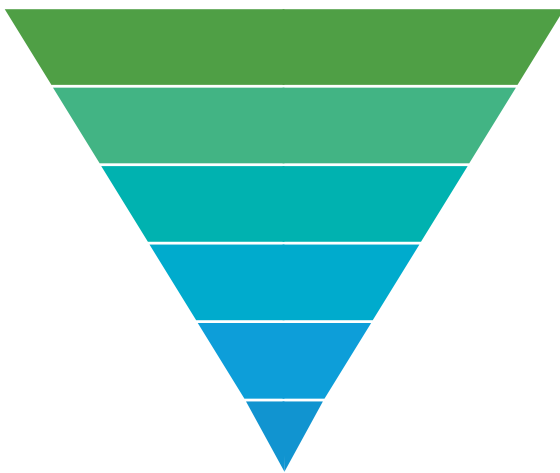
To achieve its Zero goal in the long term, the RDN recognizes it needs to maximize source separation and will need to move beyond the largely voluntary programs that currently exist across the region.

Proposed: Adopt the Zero Waste International Alliance (ZWIA) definition:

Zero Waste is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use.

Zero Waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. Implementing Zero Waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health.

ZW Hierarchy of Highest & Best Uses



- Reduce, reuse & return
- End subsidies for wasting
- Product & packaging redesign
- Clean production & takebacks
- Reuse, repair, remanufacture
- Recycle, compost & digest
- Regulate (bans, biological energy recover, landfills with re-processing)
- Not ok: incineration, bioreactor landfills

Our Guiding Principles

To achieve the goals set by the RDN Board seven principles were established to guide the development and implementation of the Plan;

1. Promote the Zero Waste Hierarchy of highest and best uses and support a circular economy.
2. Maximize use of waste materials and manage residual waste appropriately.
3. Support polluter and user-pay approaches and manage incentives to maximize behavior outcomes.
4. Prevent organics and recyclables from going in the garbage.
5. Collaborate with other regional districts wherever practical.
6. Develop collaborative partnerships with interested parties to achieve regional targets set in plans.
7. Level playing field within regions for both private and public solid waste management facilities.

Our Existing Programs

The RDN has made significant advances, introducing a broad range of solid waste management programs and infrastructure since the 1980s. In 1991, the RDN introduced Canada's first user pay residential garbage collection system. Since then, the RDN and its partners have expanded curbside recycling programs, banned paper, metal, commercial food waste, clean wood waste and other recyclable materials from the landfill, and successfully promoted composting throughout the region.

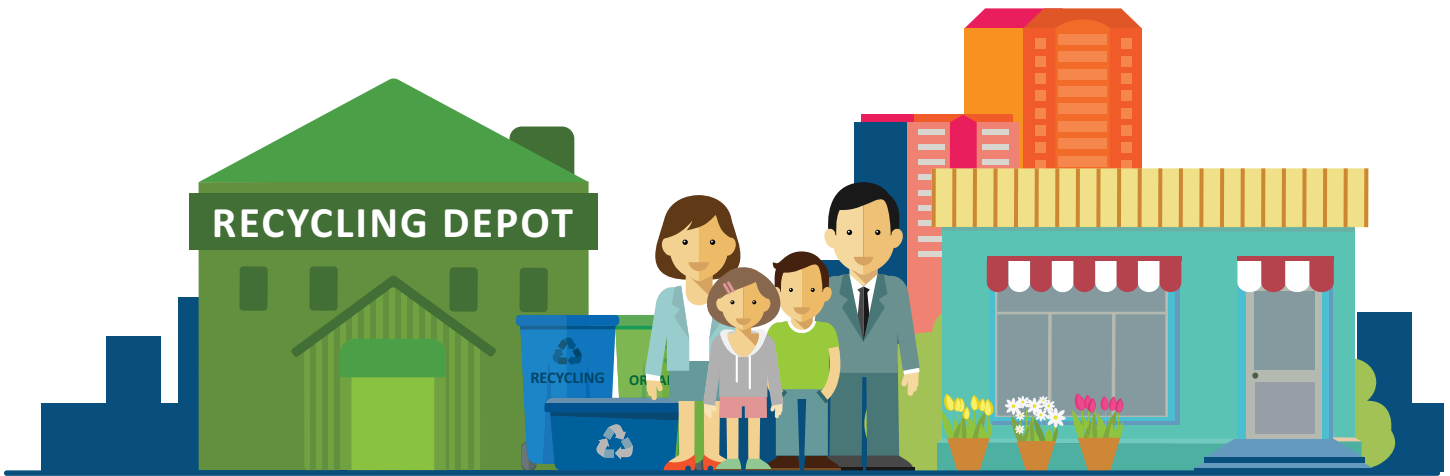
The 2004 amended Plan introduced the Zero Waste strategy and expanded on policies and programs to increase diversion. This strategy has effectively created a private-sector market for recyclables such as wood waste, some commercial and demolition waste, yard waste, food waste and product stewardship programs.

Involving the private sector has meant reduced costs to government and established a robust waste management industry in the region, resulting in world-class waste diversion levels.

Existing programs include:

- **School Education Program** - a primary school program that focuses on the concept of zero waste.
- **Illegal Dumping Program** - includes surveillance and enforcement activities as well as ongoing clean-up of illegal dumping sites and free disposal for community clean-up events.
- **Disposal Bans** - certain compostable/recyclable materials are banned from being buried in the landfill and must be recycled or composted. These include drywall, cardboard, paper, metal and tires, commercial food waste, yard and garden waste, wood waste and product stewardship materials designated under BC's recycling regulation. Banning specific wastes from the landfill, when viable recycling alternatives are in place, has been used effectively by the RDN to increase recycling, composting and waste diversion since 1991.
- **Zero Waste Promotion** - the Zero Waste Promotion and Education program includes the website, newsletters, guides, and participation in community events.
- **Recycling and Organics at RDN Facilities** – self-haul customers disposing of wastes can also recycle items such as appliances, propane tanks, scrap metal, gypsum, cardboard, paper, glass, and metal and plastic food and beverage containers. Self-haul and commercial customers can also compost food waste, yard waste and wood waste at these facilities.
- **Waste Stream Management Licensing Bylaw** - this Bylaw regulates all facilities that handle municipal solid waste, setting out operating and reporting requirements. The RDN processes new applications, reviews operating plans, monitors reporting and inspects existing licensed waste management facilities.
- **Residential Curbside Garbage, Recycling and Food Waste Collection** – the RDN provides residential garbage, recycling and food waste collection to more than 28,000 households, with biweekly garbage collection and weekly food waste collection.
- **Advocacy** - the RDN continues to advocate for greater waste diversion in the region by working with federal, provincial and local government agencies as well as BC stewardship groups. The RDN believes the costs and risk to manage end-of-life products should progressively transfer to the manufacturers of goods and the consumers who use them, rather than local government, to encourage more sustainable manufacturing and consumer choices.
- **Greener Purchasing Policy** - Implement an internal Purchasing Policy to minimize the environmental impact of purchasing and operations. Although the effect may be minimal on actual waste diversion, it demonstrates leadership and is consistent with the RDN Board's strategic goals.





Our Proposed Solid Waste Management Plan Programs

As the RDN works toward its Zero Waste goal, the key will be to build on its successes to date, nurture the existing framework of services and programs, improve service delivery and continue to reduce the amount of waste sent to landfill.

- **Expanded Zero Waste Education**

Helping residents make the right choices every day is critical to achieving Zero Waste. For that reason, education is a crucial component — making sure people know what, when, where and how to reduce, recycle, divert and compost. Educating people around regulations and making sure people are following the bans on landfilling materials that can be recycled, composted or taken elsewhere is also important. This will help make it easier for residents and businesses alike to make sure the right waste goes to the right location.

Proposed in the Plan is to enhance existing education, awareness and enforcement programs to help multi-family and commercial sectors improve their food waste and recycling programs; enhance existing public education for Zero Waste and waste reduction (includes public events, school and community presentations, advertising for campaigns, social media and more); and, enhance education and enforcement for construction and demolition waste to help ensure waste is sorted for reuse, chipping, composting or recycling before being landfilled.

A greater emphasis on reaching adult audiences through traditional and social media, as well as being more active in a variety of public events, is also proposed. The RDN will continue its advocacy efforts around greater waste diversion in the region by working with federal, provincial and local government agencies as well as BC stewardship groups, producers and the public.

- **Household Hazardous Waste**

Household hazardous waste is generally managed through BC product stewardship programs with established collection programs for the majority of household hazardous waste products, such as paint, pesticides, solvents and used motor oil. However, there are non-stewarded household hazardous waste (i.e. unidentified hazardous products or non-domestic pesticides) without a recycling or safe disposal option. The RDN will explore options for further expanding collection of non-stewarded residential household hazardous waste which may include sponsor and/or run residential drop-off events.

- **Expanded Industrial, Commercial and Institutional (ICI) Waste Management**

The RDN encourages recycling by the ICI sector through variable tipping fees and landfill bans which prohibit the disposal of recyclables, food waste and yard waste in the landfill in favour of recycling and composting instead. However, a significant amount is still making its way to the landfill, including food scraps (28 per cent), yard waste (eight per cent), compostable paper (six per cent), and recyclable paper and cardboard (12 per cent) with metal, pallet wrap and drywall making up the remainder of the recyclable portion of the ICI garbage.

In addition to enhancing education, enforcement and assistance for multi-family and commercial, new regulations are proposed that require waste generators to separate garbage from recycling and food waste.

- **Expanded Construction and Demolition Waste Management**

Construction and Demolition waste generates a wide range of materials most of which is reusable or recyclable. These include concrete, asphalt, wood, gypsum wallboard, metal, cardboard, asphalt roofing and plastic.

The RDN promotes diversion of these materials through disposal bans on cardboard, gypsum (drywall), metal and wood, and high tipping fees on loads of Construction and Demolition waste arriving at the Regional Landfill. The RDN will improve and reintroduce education and communications regarding Construction and Demolition waste in the RDN.

- **New Regulatory Tools**

The RDN's existing "Waste Stream Management Licensing Bylaw" was the first regulatory tool used as part of the Solid Waste Management Plan (SWMP) to create more opportunities for recycling and composting. This Bylaw regulates all facilities that handle municipal solid waste, setting out operating and reporting requirements. It sets high standards for the local waste management industry and creates a level playing field for the industry. The result is less risk and cost to the taxpayers for clean-up of poorly operated facilities, abandoned facilities and abandoned municipal solid waste and recyclable material (illegal dumping). Furthermore, the Bylaw sets reporting requirements making it possible to track waste diversion and progress of the SWMP.

As part of the updated Plan, the RDN proposes to continue with the existing Licensing bylaw as well as create two new additional bylaws — "Mandatory Waste Source Separation" and "Waste Hauler Licensing."

- **Mandatory Waste Source Separation Regulation** - A Waste Source Separation Regulation is a potential tool that would help ensure recyclables and compostables don't end up being landfilled. While many businesses and multi-family buildings already have recycling programs, this proposed regulation would expand to require all existing and new commercial, institutional and industrial businesses to have separate containers for recyclables, organics and waste.
- **Waste Haulers Licensing** - The second proposed new regulation would require businesses that haul waste for profit to obtain a license from the RDN. This is similar to the Waste Stream Management Licensing Bylaw that was introduced in the 2004 RDN SWMP. Licensing waste haulers provides the ability for the RDN to change the existing financial model to one where the waste industry is more profitable if they divert waste rather than dispose of it. The intent is to promote the "business of diversion" and foster industry innovation to achieve the lowest system cost with the highest waste diversion.

Both of these proposed regulations would also require additional Provincial approvals before they come into effect. Subject to adoption of the Plan, the RDN will conduct further consultation on the introduction of waste source separation regulation as a potential tool to help ensure these recyclables and compostables don't end up being landfilled.

- **Zero Waste Recycling**

The RDN proposes to promote Zero Waste Recycling by making funding available to target materials that are currently not part of a stewardship program or are not part of an established commercial market and end up in the landfill. The objective of this funding is:

1. **Maximizing waste diversion;**
2. **Encouraging non-profit and private sector innovation to develop markets and processes; and**
3. **Improving convenience for recycling materials.**

It is envisioned that the RDN will target recycling of specific materials or processes that do not have local commercial markets. The RDN will fund the Nanaimo Recycling Exchange (NRE) to act as a research/recycling hub for recycling items currently not commercially marketable. Acting as a research/recycling hub, the NRE would develop methods, markets and collaborations for items not currently easily recyclable, investigate barriers to recycling these items, and develop recycling programs that would ultimately benefit the RDN as a whole.



Our Residual Waste

While the long-term goal is Zero Waste, the RDN recognizes there is a need for landfill capacity in the future. The Regional Landfill has capacity until 2040 based on current landfilling rates. Depending on the speed and success of further diversion initiatives, the life of the landfill could be extended for an additional 10 to 15 years.

Just how much residual waste is generated depends on population growth and the success of the Zero Waste Plan's implementation. Economic growth in the region, new product stewardship programs, and the unanticipated development of private waste management facilities in the area will also be a factor.

During the life of this Plan, the RDN expects technologies will be advanced and the economic viability of residual waste processing and disposal may change. The RDN will continue to review and consider alternative technologies that are consistent with the Zero Waste Hierarchy and Zero Waste commitment.

Discussions with adjacent regional districts to identify potential cooperative strategies for waste management system improvements have been ongoing for a number of years and will continue. Future options for residual management could include collaboration with other local governments, siting a landfill and/or considering export on or off the island.

Costs

The updated Plan will begin in 2018, with full rollout of all components expected by 2021. Cost recovery mechanisms to fund the Plan's implementation include user rates, tipping fees and taxation.

The difference in costs to ratepayers is minimal — about \$10 more per year per person between the existing SWMP and the proposed SWMP. The costs are entirely from improvements to the Zero Waste Strategy — about \$10 more per year per person with an existing diversion rate of 68 per cent compared to the proposed strategy that is targeting a 90 per cent diversion rate.

Annual Net Per Capita Cost of Solid Waste Services in the RD[†]

	ANNUAL NET COST (\$ MILLION)	PER CAPITA COST (\$)
Current Zero Waste Strategy (68%)	\$3.3	\$53.66
Proposed Zero Waste Strategy (90%)	\$4.9	\$63.69
DIFFERENCE	\$1.6	\$10.03
Total Current SWMP	\$14.7	\$94.44
Future Proposed SWMP	\$16.3	\$104.47
DIFFERENCE	\$1.6	\$10.03

[†]Based on 10 year Budget, 2017 – 2026

New Zero Waste Program	Annual Average Cost	Total Cost per Household*
Expanded Zero Waste Education	\$40,000	\$0.55
Household Hazardous Waste	\$100,000	\$1.38
Expanded ICI Waste Management Diversion	\$200,000	\$2.71
Expanded Construction and Demolition Diversion	\$40,000	\$0.57
Waste Hauler Licensing	\$469,000	\$6.23
Mandatory Waste Source Separation	\$373,000	\$4.96
Zero Waste Recycling	\$300,000	\$4.07

*Based on an Avg \$500,000 value



Making it Happen

Our Implementation

A draft of this Plan will be subject to public consultation in the fall of 2017. Input from the consultation process will be incorporated into the final version of the Plan which will be presented to the Regional Board for their approval. Once approved by the Board, it will be submitted to the BC Ministry of Environment for final approval.

Contact Us

For more information on the Plan and public consultation and opportunities to provide input, please visit getinvolved.rdn.ca or contact the RDN at 250-390-6560 or toll-free at 1-877-607-4111.