

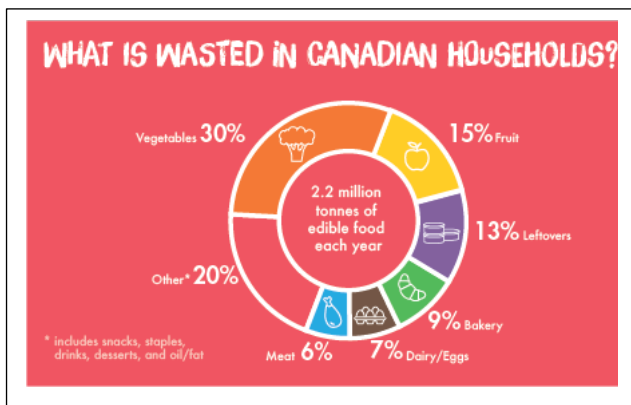
Regional District of North Okanagan SOLID WASTE MANAGEMENT PLAN

2019 ANNUAL REPORT Summary, Waste Management Plan Status and Performance Monitoring

GVDDF Logs & Stumps Stockpile – New Diversion Signage



RDNO Website Pages: Reduce Food Waste



Reduce Single Use Items: Single Use



SUMMARY

The purpose of this Report is to help the Regional District of North Okanagan (RDNO) and the Board of Directors plan solid waste management programs, review consistency with the Solid Waste Management Plan, and to assist with planning, reporting on Operational Certificates and budgeting.

The following are some highlights from 2019:

- The amount of material entering RDNO Diversion and Disposal Facilities (DDF) decreased
- The amount of material collected, processed and marketed (recycled) increased
- The population growth was estimated to have increased by 1.3% based on BC Stats
- The per capita disposal rate decreased from 0.52 t/c/y to 0.51 t/c/y and is now 0.16 t/c/y above the new target.

WASTE MANAGEMENT PLAN STATUS

The Solid Waste Management Plan (the Plan) Update 2017 was submitted to the Ministry of Environment & Climate Change Strategy (MOE) in June 2018. The original Plan was approved in 1996 by MOE and the subsequent 2002 Update was approved, however the 2011 Update was not approved due to the MOE’s shortage of staff resources. In 2017 and 2018 the RDNO hired a consulting firm to help update the Solid Waste Management Plan with the assistance of a Regional Solid Waste Advisory Working Group consisting of elected officials, stakeholders and members of the general public. The following is a list of initiatives recommended by the Working Group and approved by the Board of Directors, including their expected implementation year. The status of the listed initiatives to the end of 2018 is included below.

| Proposed Implementation Schedule | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|------|------|------|------|------|
| <i>REDUCE, REUSE, RECYCLE</i> | | | | | |
| Increase organics diversion | | | | | |
| Adopt Organics Diversion Strategy and develop Implementation Plan | | | | | |
| Reduce Disposal from SF Residential Households | | | | | |
| Determine best options for collection service adjustments | | | | | |
| Design and implement behavior change and education program | | | | | |
| Reduce Disposal for Sectors Served by Commercial Haulers | | | | | |
| Develop disposal bans | | | | | |
| Plan and implement an illegal dumping prevention and enforcement program | | | | | |
| Support level playing field and market development | | | | | |
| Design and implement behavior change and education programs | | | | | |
| Develop Programs to Active Promote Waste Reduction and Reuse Initiatives | | | | | |
| Compost demonstration and backyard composting programs | | | | | |
| Continue to administer the Waste Reduction Initiatives Fund | | | | | |
| Design and implement behavior change and education programs | | | | | |
| Establish staff positions to develop, implement and provide ongoing efficiency for program effectiveness | | | | | |
| Re-establish a Waste Reduction Program Planner to oversee expansion to universal collection and organics diversion | | | | | |
| Establish a staff position that collaborates with key stakeholders including haulers and businesses, provides educational support and other services, including providing support for organics program development and implementation | | | | | |
| <i>RESIDUAL MANAGEMENT</i> | | | | | |
| Develop centralized disposal plan with additional landfill capacity | | | | | |
| GVRDF Lateral Expansion | | | | | |
| ASRDF Transfer Station Development | | | | | |
| LRDF Transition to C&D Landfill | | | | | |
| Hesperia Landfill (City of Vernon) | | | | | |
| Prepare a Disaster Response Plan | | | | | |
| <i>PLAN MONITORING AND EFFECTIVENESS</i> | | | | | |
| Five Year Review | | | | | |
| Waste Composition study | | | | | |

REDUCE, REUSE, RECYCLE

INCREASE ORGANICS DIVERSION:

1. **Adopt Organics Diversion Strategy and develop Implementation Plan**

- June 2019 the Board of Directors endorsed the ICI Food Waste Disposal Ban at RDNO DDFs – enforcement to start January 2022
- Continued to compost yard and garden waste at the GVDDF (no tipping fee imposed and Class A compost given away to the public)
- Continued to provide rebates to purchasers of backyard composters and expanded composter rebate program to include a wider range of composting systems including Bokashi and Green Cone digesters.
- Continued to segregate yard and garden waste, wood waste and logs and stumps at all DDFs (chipped and used on site or composted)
- Reviewed the management of yard and garden waste at the 3 DDFs with the Board in May – promoted increased curbside collection
- Reviewed the results of the RDNO's Request for Expressions of Interest for Organics Management Services with the Board – chose not to pursue a Request for Proposals from the respondents (5)

REDUCE DISPOSAL FROM SINGLE FAMILY RESIDENTIAL HOUSEHOLDS:

2. **Determine best options for collection service adjustments**

- Bulk collection of Blue Bag (packaging and printed paper) materials ceased at all sites January 1 (6 sites) – OCC continues to be collected as it has a market in Vernon

3. **Design and implement behaviour change and education program**

- Waste Reduction E-Newsletter distributed (quarterly and for special campaigns including Earth Week)
- Facebook campaigns and Radio Ads for Waste Reduction Week and Green Holiday Tips
- Information outreach at Vernon Farmers Market, Kal Tire Community Eco Fair, RDNO Open House Developed Checkout Bag Regulation Bylaw – submitted to the Province for review and approval
- Updated Solid Waste Webpage content with new content for: avoiding single use plastics, home composting and avoiding food waste

REDUCE DISPOSAL FOR SECTORS SERVED BY COMMERCIAL HAULERS:

4. **Develop disposal bans**

- Board endorsed ICI Food Waste Disposal Ban in June 2019 for implementation in 2020

5. **Plan and implement an illegal dumping prevention and enforcement program**

No activity in 2019

6. Support level playing field and market development

No activity in 2019

7. Design and implement behaviour change and education programs

No activity in 2019

DEVELOP PROGRAMS TO ACTIVELY PROMOTE WASTE REDUCTION AND REUSE INITIATIVES:

8. Compost demonstration and backyard composting programs

- Continued rebate program for backyard composters

9. Continue to administer the Waste Reduction Initiatives Fund

- Funded community gardens, Vernon Secondary School and the IPE to assist with organics diversion
- Revised the WRIF – Rethinking and Reducing Waste Projects Grant program endorsed by the Board (\$50,000/year)

10. Design and implement behaviour change and education programs

- Installed new information and direction signs at GVDDF and ASDDF to inform customers of diversion options and how to avoid contaminating diversion streams
- Continued to separate new drywall cut-ends at the GVDDF with the intention to eventually find a recycler for the material – updated Website information
- Updated Solid Waste Management Financial Guiding Principles, with an objective to maximize waste diversion financial incentives, and implement a five year rate schedule

ESTABLISH STAFF POSITIONS TO DEVELOP, IMPLEMENT AND PROVIDE ONGOING EFFICIENCY FOR PROGRAM EFFECTIVENESS

11. Re-establish a Waste Reduction Program Planner to oversee expansion to universal collection and organics diversion

No activity in 2019

12. Establish a staff position that collaborates with key stakeholders including haulers and businesses, provides educational support and other services, including providing support for organics program development and implementation

- Hired an Environmental Coordinator in February

RESIDUAL MANAGEMENT

DEVELOP CENTRALIZED DISPOSAL PLAN WITH ADDITIONAL LANDFILL CAPACITY

13. GVDDF Lateral Expansion

No activity in 2019

14. ASDDF Transfer Station Development

No activity in 2019

15. LDDF Transition to C&D Landfill

No activity in 2019

16. Hesperia Landfill (City of Vernon Initiative)

- The City of Vernon applied for a permit amendment as planned

PREPARE A DISASTER RESPONSE PLAN

No activity in 2019

PLAN MONITORING AND EFFECTIVENESS

FIVE YEAR REVIEW – Scheduled for 2023

WASTE COMPOSITION STUDY – Scheduled for 2020

DIVERSION TARGETS

During the 2017 Plan Update it was recommended that the target be reduced to 0.35 tonnes per capita in line with the Province's target. The RDNO Board of Directors approved this diversion target to be met by 2028. The diversion potential from each sector is outlined below listing the programs as described in the 2017 Plan Update.

| Material Grouping by Hauler Type | Hauler Contribution to Landfill | Diversion Potential out of Landfill (%) | Diversion Potential out of Landfill (kg/capita) |
|---------------------------------------|---------------------------------|---|---|
| Residential | 30% | | |
| EPR-PPP | | 60% | 12 |
| EPR-non-PPP | | 40% | 5 |
| Other recyclables | | 30% | 3 |
| Compostable | | 90% | 48 |
| Building Material | | 20% | 2 |
| Residential Diversion Potential Total | | | 69 |
| ICI | 60% | | |
| EPR-PPP | | 60.0% | 16 |
| EPR-non-PPP | | 40.0% | 10 |
| Other recyclables | | 30.0% | 6 |
| Compostable | | 30.0% | 31 |
| Building Material | | 33.0% | 10 |
| ICI Diversion Potential Total | | | 74 |
| Self-Haul | 10% | | |
| EPR-PPP | | 50% | 2 |
| EPR-non-PPP | | 40% | 2 |
| Other recyclable | | 30% | 0 |
| Compostable | | 20% | 0 |

| Material Grouping by Hauler Type | Hauler Contribution to Landfill | Diversion Potential out of Landfill (%) | Diversion Potential out of Landfill (kg/capita) |
|--|---------------------------------|---|---|
| Building Material | | 20% | 3 |
| Self-Haul Diversion Potential Total | | | 7 |
| Potential Additional Diversion from Landfill | | | 150 |
| Estimated Annual Disposal (assuming 500 kg/capita) | | | 350 |

PLAN MONITORING COMMITTEE

A call for volunteers for the Solid Waste Management Plan Monitoring Working Group was issued in October 2019. Fourteen applications were received and reviewed prior to presentation to the Board for approval. The Working Group is expected to meet in March 2020 for the first time.

WASTE DIVERSION CONTINGENCY PLAN

There are no formal contingency plans for waste diversion. Continual and detailed monitoring of the Solid Waste Function by staff is expected to ward off any adverse impacts of program changes. For example, contractors responsible for diverting materials from disposal communicate market changes with staff on a regular basis and staff informs the Board of Directors when a decision is required to resolve program issues (e.g. plastics markets collapse). The RDNO plans to conduct the recommended five year effectiveness reviews as outlined in the Province's guidance documents.

PLAN FINANCING AND LANDFILL CLOSURE RESERVE

The annual transfer to the statutory Landfill Closure and Post Closure Reserve was \$1,650,000 to ensure sufficient funds are available for closure and post-closure activities at all the solid waste facilities. The liability is approximately \$26 M. The Five Year Solid Waste Management Financial Plan is available through the RDNO Finance Department.

PERFORMANCE MONITORING

Waste disposal and diversion is monitored in accordance with Provincial requirements and best practices.

DISPOSAL RATE

The disposal rate in 2019 (**45,920** tonnes divided by the RDNO population of **90,865**) is estimated to be **0.505 tonnes per capita**. The tonnage listed in the following tables is taken from a report generated from the data base compiled using Auto Scale, the software used at the three scaled facilities since 2003. The new target of 0.350 tonnes per capita per year set for 2018 – 2028 has not been achieved, however the disposal rate declined slightly from 0.519 tonnes per capita (2.6%) in 2019.

REFUSE DISPOSED BY SOURCE AND TYPE

The quantities of refuse disposed presented in the following tables are derived from what customers tell the scale attendants/gate attendants when they use the DDFs as well as from invoices and reports provided by RDNO contractors managing recyclable material collected and processed at the DDFs.

Table 1 - Tonnage By Type And Source - 2019

| | Residential | ICI | C&D | Total |
|------------------------------|--------------------|---------------|----------------|---------------|
| ASDDF | | | | |
| Armstrong | 3,317 | 1,664 | 46 | 5,027 |
| Cherryville | 0 | 0 | 0 | 0 |
| Coldstream | 1,115 | 0 | 2 | 1,116 |
| Enderby | 668 | 66 | 8 | 742 |
| Lumby | 6 | 0 | 0 | 6 |
| Spallumcheen | 1,760 | 1,332 | 85 | 3,176 |
| Vernon | 47 | 1,421 | 32 | 1,499 |
| Electoral Area B | 44 | 0 | 3 | 47 |
| Electoral Area C | 189 | 12 | 0 | 202 |
| Electoral Area D | 294 | 0 | 0 | 294 |
| Electoral Area E | 0 | 0 | 0 | 0 |
| Electoral Area F | 177 | 16 | 1 | 194 |
| Cherryville Transfer Station | 97 | 13 | 3 | 113 |
| Kingfisher Transfer Station | 0 | 145 | 0 | 145 |
| Silver Star Transfer Station | 0 | 282 | 0 | 282 |
| Indian Band Lands | 395 | 27 | 15 | 437 |
| Out of RDNO | 9 | 3 | 0 | 12 |
| Kingfisher | 0 | 0 | 0 | 0 |
| Sub Total | 8,117 | 4,981 | 195 | 13,293 |
| GVDDF | | | | |
| Armstrong | 3 | 44 | 0 | 47 |
| Coldstream | 1,020 | 291 | 113 | 1,424 |
| Cherryville | 3 | 2 | 0 | 4 |
| Enderby | 6 | 0 | 0 | 6 |
| Lumby | 25 | 33 | 25 | 82 |
| Spallumcheen | 8 | 1 | 16 | 25 |
| Vernon | 14,229 | 12,466 | 2,373 | 29,068 |
| Electoral Area B | 62 | 8 | 14 | 84 |
| Electoral Area C | 309 | 26 | 50 | 385 |
| Electoral Area D | 5 | 4 | 20 | 28 |
| Electoral Area E | 8 | 0 | 0 | 8 |
| Electoral Area F | 1 | 0 | 0 | 1 |
| Cherryville Transfer Station | 122 | 0 | 0 | 122 |
| Kingfisher Transfer Station | 0 | 4 | 0 | 4 |
| Silver Star Transfer Station | 0 | 83 | 0 | 83 |
| Indian Band Lands | 16 | 0 | 1 | 17 |
| Out of RDNO | 33 | 3 | 3 | 39 |
| Sub Total | 15,849 | 12,964 | 2,615 | 31,428 |
| LDDF | | | | |
| Cherryville | 1 | 1 | 0 | 2 |
| Coldstream | 12 | 0 | 0 | 12 |
| Enderby | 0 | 0 | 0 | 0 |

| | | | | |
|------------------------------|---------------|---------------|--------------|---------------|
| Lumby | 1,271 | 28 | 43 | 1,342 |
| Spallumcheen | 0 | 0 | 0 | 0 |
| Vernon | 1 | 0 | 0 | 1 |
| Electoral Area D | 553 | 13 | 12 | 578 |
| Electoral Area E | 0 | 0 | 0 | 0 |
| Electoral Area F | 0 | 0 | 0 | 0 |
| Cherryville Transfer Station | 38 | 0 | 0 | 38 |
| Sub Total | 1,876 | 41 | 55 | 1,972 |
| TOTAL | 25,842 | 17,987 | 2,864 | 46,693 |

Table 2 – Tonnes Disposed, by Jurisdiction - 2019

| Source | Residential | ICI | DLC | TOTALS |
|-------------------|---------------|---------------|--------------|---------------|
| Armstrong | 3,320 | 1,708 | 46 | 5,074 |
| Cherryville | 4 | 2 | 0 | 7 |
| Coldstream | 2,146 | 291 | 115 | 2,552 |
| Enderby | 674 | 66 | 8 | 748 |
| Lumby | 1,301 | 61 | 68 | 1,430 |
| Spallumcheen | 1,768 | 1,333 | 100 | 3,201 |
| Vernon | 14,276 | 13,887 | 2,405 | 30,568 |
| Electoral Area B | 106 | 8 | 17 | 131 |
| Electoral Area C | 498 | 38 | 50 | 586 |
| Electoral Area D | 852 | 17 | 32 | 900 |
| Electoral Area E | 8 | 0 | 0 | 8 |
| Electoral Area F | 178 | 16 | 1 | 195 |
| Indian Band Lands | 411 | 27 | 16 | 454 |
| Out of RDNO | 42 | 6 | 3 | 51 |
| TOTALS | 24,911 | 17,393 | 2,853 | 45,905 |

Table 3 – Tonnes Disposed Through Transfer Stations (Not included in number above)

| Transfer Station | Total Tonnes 2018 | Total Tonnes 2019 |
|------------------|-------------------|-------------------|
| Cherryville | 253 | 273 |
| Kingfisher | 151 | 150 |
| Silver Star | 355 | 366 |

Table 4 – Materials Diverted from Disposal at DDFs

| Material | 2018 | 2019 |
|------------------------------------|-----------------------------------|-------------------------|
| Asphalt Roofing | 1,239 tonnes | 1,011 tonnes |
| Batteries (Auto) | 7.62 tonnes | |
| Crushable Material (e.g. concrete) | 5,979 tonnes | 9,588 tonnes |
| Expanded Polystyrene | 5.37 tonnes | 13.11 tonnes |
| Gypsum (Drywall) | 0 tonnes (1) | 0 tonnes |
| Household Hazardous Waste | 164 drums, 333 cont., 28,972 L | 207 drums, 614 cont. |
| Mattresses & Boxsprings | 5,569 tonnes | 5,887 units |
| Metal (Scrap) | 2,898 tonnes | 2,450 tonnes |

| | | |
|--|---------------|---------------|
| Packaging & Printed Paper (Drop Centres) | 816 tonnes | 307 tonnes |
| Propane Tanks | 27.3 tonnes | 13.4 tonnes |
| Refrigeration Units (Ozone Removal) | 3123 units | 3,387 units |
| Tires | 6 tonnes | 5 tonnes |
| Wood (Clean and Dirty) | | 24,137 tonnes |
| Yard and Garden Waste | | 12,227 tonnes |
| Logs and Stumps | | 1,633 tonnes |
| Wood, Yard + Logs & Stumps | 34,556 tonnes | |

The quantities of material diverted from disposal through other reduce, reuse, recycle programs outside the RDNO's jurisdiction and responsibility include Extended Producer Responsibility programs managed by the following agencies. Thrift or second hand stores (more than 25 stores), private and community garage sales and other charity programs provide a good source of reuse and recycling options.

Table 5 – Extended Producer Responsibility

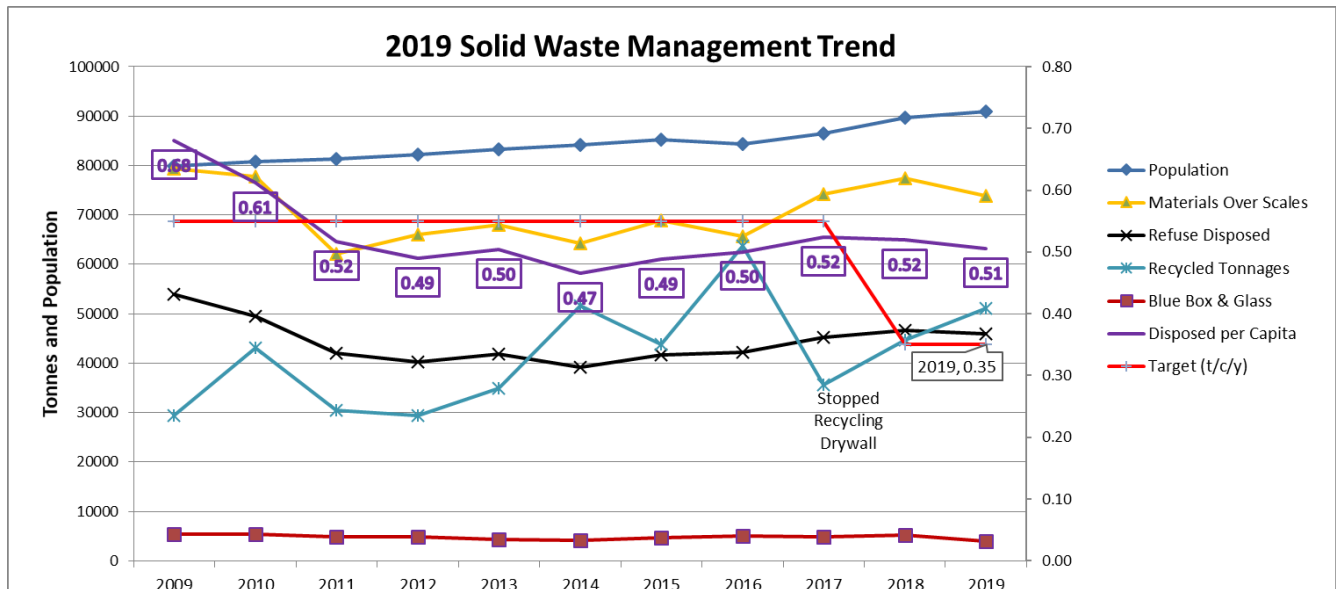
| | Steward | Product |
|----|--|---|
| 1 | AlarmRecycle | Smoke and Carbon Monoxide Detectors |
| 2 | BC Used Oil Management Association | Oil, Oil Filters, Antifreeze, Containers |
| 3 | Brewers Association of Canada | Beer Bottles and Cans |
| 4 | Call2Recycle | Cell Phones, Single Use & Rechargeable Batteries |
| 5 | Canadian Battery Association | Lead Acid Batteries |
| 6 | Electrical Equipment Manufacturers Association | See EPRA |
| 7 | Electronic Products Recycling Association | Computers, Toys, Audio/Visual Equip., Medical Equipment, etc. |
| 8 | ElectroRecycle Small Appliance Recycling Program | Small Appliances |
| 9 | Encorp Pacific (Canada) | Beverage Containers (except beer) |
| 10 | Major Appliances Recycling Roundtable | Fridges, Freezers, Water Coolers, Stoves, Washers, Dryers, etc. |
| 11 | Multi-Material BC | Packaging and Printed Paper (Residential) |
| 12 | Tire Stewardship BC | Tires |
| 13 | TELUS Return and Recycle Program | Mobile Hand Sets and Accessories |
| 14 | Switch the 'Stat | Thermostats |
| 15 | Recycle My Cell | Mobile Devices |
| 16 | Product Care | Paint, Pesticides, Solvents, Flammable Liquids, Light Bulbs, Aerosols |
| 17 | Outdoor Power Equipment Institute of Canada | Electronic/Electrical Mowers, Snow Throwing Equipment and Gardening Tools - Corded and/or Battery Powered |
| 18 | LightRecycle | Flourescent Lights and Fixtures |
| 19 | Health Products Stewardship Association | Medication |

Agencies listed above are required to report annually by regional district, so the quantity of products managed by these stewardship agencies is available by going to the individual web sites. The reports are available mid-year.

SOLID WASTE MANAGEMENT TRENDS

Trends in solid waste management in the RDNO have been tracked for 18 years. The following chart shows the last ten years of disposed and recycled waste quantities in graphic format. The total 'Materials Over Scales' includes Refuse Disposed plus Recycled Tonnes at all sites.

Over the last few years there has been a trend upward in amount of material recycled at RDNO DDFs and a slight trend upward in amount of material disposed and also the amount of refuse disposed per capita per year. The sharp decline in amount of recycled tonnages is primarily due to the timing of processing the inventory of yard and wood waste at the sites and the method used for measuring the chipped material. The amount of material recycled can vary dramatically from year to year depending on when the inventory is processed. Roofing and scrap metal leave the sites on a frequent basis, chipped wood waste is mixed with cover soils and applied to the waste, and yard and garden waste is chipped and composted (at the GVDDF only). Population data is sourced from BC Stats.



Prepared by: RDNO Solid Waste Management Staff
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