



TRENDS ANALYSIS: WASTE GENERATION AND DIVERSION

FALL 2014

What does this measure & why is it important?

The RDI's waste disposal indicator tracks the amount of municipal solid waste generated by Basin-Boundary communities each year. Results are reported by regional district. Waste disposal data were acquired from the BC Ministry of Environment's [Environmental Reporting](#) system. Municipal solid waste is buried in landfills and includes "waste from residential, commercial, institutional, demolition, land clearing and construction sources" but does not include "hazardous waste, biomedical waste, agricultural waste, motor vehicles or components, or contaminated soil" (BC Ministry of Environment, 2014).

To provide context to waste disposal data, this Trends Analysis also considers information on waste diversion. Diverted wastes, which do not include municipal solid waste, include those that are recycled via blue box/blue bag/recycling depot programs (such as paper and plastics), and those that are collected through on-site diversion programs at landfills (such as yard waste and scrap metal). Waste diversion data were acquired directly from Basin-Boundary regional districts.

Our communities produce waste, and the management of that waste has financial and environmental costs. For example, decomposition of organic waste in landfills produces methane, a greenhouse gas with significant global warming potential (Scheutz et al., 2009). Efforts to reduce the amount of waste we generate, and to recover unavoidable waste (through reuse or recycling) can result in environmental benefits and savings for tax payers.

What are the trends & current conditions?

In 2012, a per-capita average of 647 kilograms of municipal solid waste was generated and disposed of in landfills across the region. The waste disposal rate of Basin-Boundary communities is over 13% higher than the average of all BC regional districts—570 kg per person per year. The Regional District of Fraser Fort George (represented in our region by the Village of Valemount) reported the highest waste disposal rate (871 kg/person), while the Regional District of Central Kootenay (RDCK) reported the lowest waste disposal rate (477 kg/person). The RDCK was the only Basin-Boundary regional district reporting a lower waste disposal rate than the BC average (figure 1).

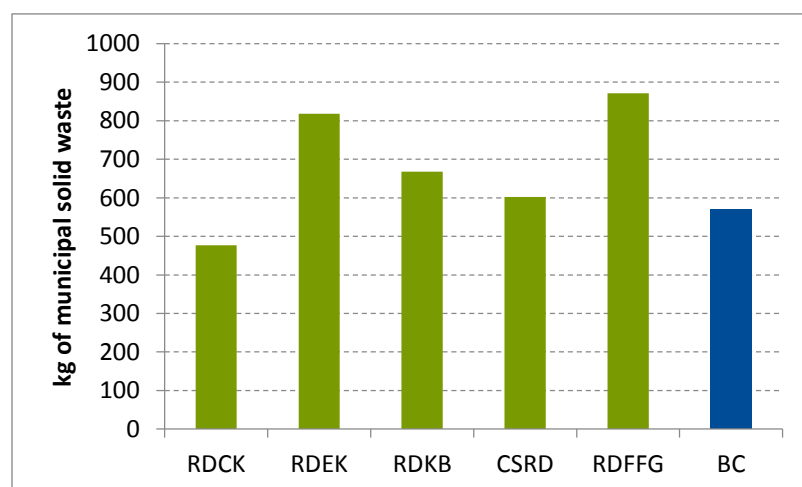


Figure 1: Per capita waste disposal rates for BC and Basin-Boundary regional districts, 2012
Source: BC Ministry of Environment, 2014

For landfills sampled in the RDI's analysis of available waste data, buried waste typically accounts for half to three quarters of the total amount of waste handled by Basin-Boundary regional districts. For example, in the area served by the Columbia Shuswap Regional District's (CSR D's) Golden landfill in 2012, 6,282 tonnes of waste were buried, 5,857 tonnes were diverted on-site and 317 tonnes were collected through recycling programs. In the area served by the Regional District of East Kootenay's (RDEK's) Central Subregion landfill in 2013, 23,734 tonnes were buried, 7,295 tonnes were diverted on-site and 3,724 tonnes were collected through recycling programs (figure 2).

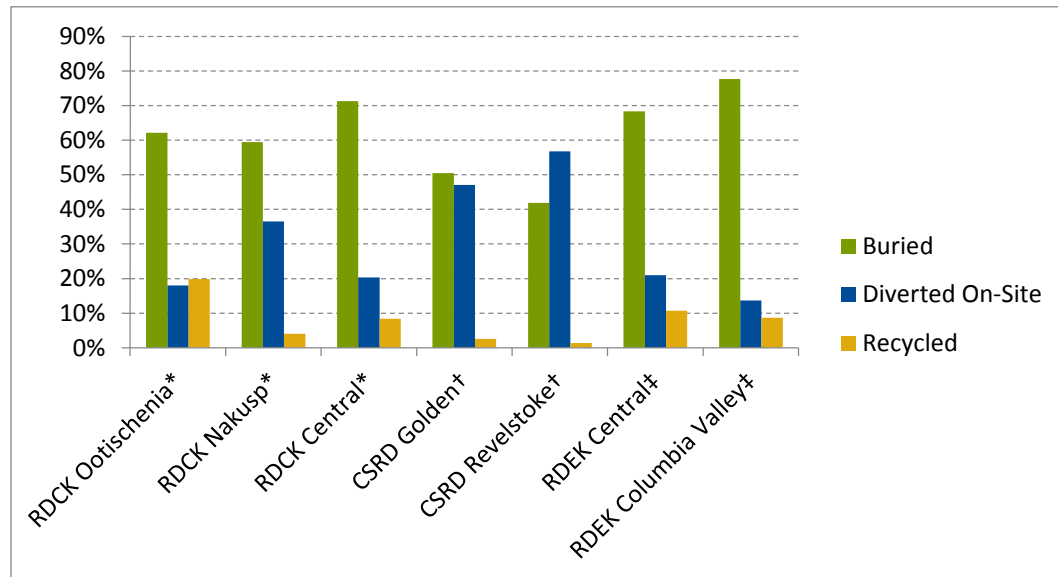


Figure 2: Component of total waste buried, diverted on-site and recycled, select Basin-Boundary landfills

Source: RDCK (2011a, 2011b, 2011c), CSR D (2013a, 2013b), RDEK (2014)

*2010 data

†2012 data

‡2013 data

Many factors can influence the amount of waste collected or diverted in a given year, including the existence of major construction or demolition projects in a landfill's service area, or changes to waste disposal programs or regulations. For this reason, it is difficult to reliably compare year-to-year waste disposal and diversion rates. Instead, waste managers look at general trends over time. To view trends in each regional district's waste disposal rate, visit the Ministry of Environment's environmental reporting [website](#).

Waste management policies across local governments and at individual landfills also influence waste generation and diversion rates. For instance:

- Tipping fees create a direct disincentive to generate waste, and differential tipping fees create an incentive to separate recyclable or recoverable materials from buried wastes (which are generally more expensive to dispose of). The RDCK and RDKB's landfills have the highest tipping fees for household waste in the region, while the RDEK and RDEK have the lowest or no fees for this type of waste.
- On-site diversion programs remove recoverable materials from the waste stream for re-use at the landfill or for collection by third party recyclers. The CSR D's on-site diversion programs include certain heavy and bulky materials like concrete and drywall that are not diverted at some other landfills in the region.

Important changes to provincial waste management policies could significantly affect the amount of waste handled by regional districts in 2014 and going forward. 'Extended Producer Responsibility' programs transfer responsibility for management of certain wastes from local governments to

producers of the product. Key goals of this policy are to create financial incentives for producers to reduce the amount of waste generated by their products, and to make residual wastes easier to recycle. Such programs have existed in BC for materials like beverage containers, tires and electronics for several years. In 2014, a program for packaging and printed paper was introduced. In future years, it will be interesting to examine how this change may influence waste generation and diversion rates in Basin-Boundary communities.



The Columbia Basin Rural Development Institute, at Selkirk College, is a regional research centre with a mandate to support informed decision-making by Columbia Basin-Boundary communities through the provision of information, applied research and related outreach and extension support. Visit www.cbrdi.ca for more information.

References

- Columbia Shuswap Regional District (CSRD). (2013a). Annual Operations and Monitoring Report: Golden Refuse Disposal Site, 2012.
- Columbia Shuswap Regional District (CSRD). (2013b). Annual Operations and Monitoring Report: Revelstoke Refuse Disposal Site, 2012.
- Ministry of Environment. (2014). Municipal Solid Waste Disposal in BC (1990-2012). Retrieved August 10, 2014 from: http://www.env.gov.bc.ca/soe/indicators/waste/municipal_solid_waste.html.
- Regional District of Central Kootenay (RDCK). (2011a). 2010 Annual Operations and Monitoring Report: Central Landfill.
- Regional District of Central Kootenay (RDCK). (2011b). 2010 Annual Operations and Monitoring Report: Nakusp Landfill.
- Regional District of Central Kootenay (RDCK). (2011c). 2010 Annual Operations and Monitoring Report: Ootischenia Landfill.
- Regional District of East Kootenay (RDEK). (2014). 2013 Environmental Services Annual Solid Waste Report.
- Scheutz, C., Kjeldsen, P., Bogner, J., et al. (2009). Microbial methane oxidation processes and technologies for mitigation of landfill gas emissions. *Waste Management & Research*, 27: 409-455.