

Year in Review 2013

Fredericton Region Solid Waste

A Division of Regional Service Commission 11



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General Manager's Report

This year in review covers the period from January 1 to December 31, 2013, for Fredericton Region Solid Waste (FRSW).

The year 2013 marked FRSW's first year as a division of Regional Service Commission 11 after operating as an independent entity since opening in 1986.

The purpose of the year in review is to provide an accurate data production that reviews and interprets the day-to-day operations of the FRSW.

FRSW has, and continues to operate, on the philosophy of continued improvement and that includes efficiency matters continued through 2013.

From a historical and revenue perspective, FRSW continued 2013 with its 20-year deal with NB Power to produce 2.1-megawatts of power from decaying garbage through its Landfill Gas Utilization Plant, an operation that is generating revenue and receiving positive environmental coverage.

FRSW is dealing with a 28-year-old landfill when it comes to ensuring proper cell construction for the placement of garbage it brings in from an expanding population base in our expansive region. The landfill received 79,019 metric tonnes of garbage in 2013.

Cells around the perimeter of the landfill are more expensive per cubic meter of waste capacity because of the lost volume associated with the exterior 4:1 slope ratio. Perimeter sloping is standard practice, required by regulators and necessary to ensure the safe functioning of a landfill. The current increase in landfill cell development costs has been forecasted for years and is part of the regular development and expansion of a landfill site.

Along with efficiency, sustainability, innovation and ensuring the communities we serve continue to be key elements of the daily operations of FRSW. This past year was a great example of those guiding principles.

FRSW remains committed to leading-edge innovation in terms of technology and environmental stewardship.

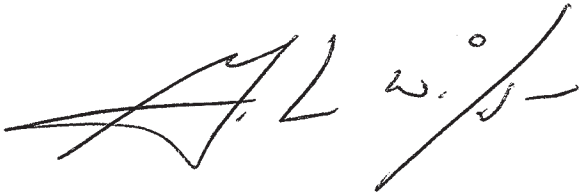
Our Household Hazardous Waste (HHW) program continues to gain community acceptance and offering three remote HHW collection days for our region-wide residents, allows for increased community contribution. Our Materials Recovery Centre continues to thrive.



Our staff, which remains consistent year after year, continues to excel, allowing FRSW to continue its dedication and commitment to our communities. We now have five lines of business with the FRSW (garbage, household hazardous waste, landfill gas utilization, recycle and construction and demolition) and we're only as good as our employees.

I would like to thank management and staff for their dedication, hard work and support which resulted in 2013 being a successful and innovative year.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'G. Wilson', written in a cursive style.

Gordon Wilson
General Manager
Fredericton Region Solid Waste



Household Hazardous Waste (HHW) Days

The Household Hazardous Waste Depot, located at the FRSW landfill, operated each Wednesday from 7:30 a.m. to 4 p.m. and each Saturday from 7:30 a.m. to 3 p.m.

In addition, three successful remote HHW days were held in 2013 including Stanley (May), Minto (August) and Kingsclear (October).

All three remote days ran from 11 a.m. to 3 p.m.

The total annual results for HHW are shown in Table 1.

Table 1: Household Hazardous Waste Depot Results 2013

Month	# vehicles	Labpack (kg)	Paint (kg)	Total Weight (kg)	Waste Oil (L)*	Glycol (L)*	Total Volume (L)
January	168	1,300	1,200	2,500	-	-	-
February	136	960	4,000	4,960	-	-	-
March	272	2,250	4,000	6,250	-	-	-
April	344	1,210	8,400	9,610	-	-	-
May	544	2,210	7,600	9,810	1,205	205	1,410
June	496	1,740	7,600	9,340	-	-	-
July	482	3,940	12,800	16,740	-	-	-
August	587	4,672	10,000	14,672	1,025	205	1,230
September	464	2,610	10,000	12,610	-	-	-
October	384	3,400	11,200	14,600	1,000	205	1,205
November	302	1,640	8,000	9,640	-	-	-
December	136	1,570	4,800	6,370	-	-	-
TOTAL	4,315	27,502	89,600	117,102	3,230	615	3,845

**Only includes oil and glycol collected at remote HHW events*

Landfill

Landfill operations went well in 2013, with no major problems to report. Construction of cell B4 phase 1 was completed on schedule, damage caused by the fire in the garbage baling facility was repaired and the facility brought back online, and areas A1 and A2 were cleared, grubbed and partially graded.

The landfill gas collection system was upgraded during the year, with the construction and installation of three P-traps on horizontal extraction wells in cells B1, B2 and B3 and the construction and installation of a condensate trap overflow pipe. The LFG Utilization Facility has continued to work well throughout the year, with 9,047 Mwh sold to the New Brunswick Electric Power Commission and revenues of \$884,239.

Garbage Tonnage/Tipping Fee

Table 2 shows the garbage tonnage and tipping fee for each of the last six years. The tipping fee for 2013 was \$74 per metric tonne. Garbage intake for 2013 was 79,019 metric tonnes, an increase of 789 metric tonnes from 2012.

Table 2: Garbage Tonnage

Year	Tonnage (tonne)	Tipping Fee (per tonne)
2008	81,636	\$66.00
2009	79,835	\$66.00
2010	81,345	\$69.00
2011	81,864	\$74.00
2012	78,230	\$74.00
2013	79,019	\$74.00

Leachate Treatment Pond

The leachate treatment pond, constructed in 2000, receives leachate generated in the landfill cells and provides treatment through biological activity supported by an aeration system. Leachate remains in the pond for approximately 127 days prior to discharge to the Fredericton Area Pollution Control Commission for final treatment. In 2013, a total of 44,222,659 litres of treated liquid were discharged from the leachate treatment pond.

Construction and Demolition Site

The Construction and Demolition site (C&D) increased. The 2013 total was 7,789 metric tonnes, an increase of 1,794 metric tonnes from a year ago. The tipping fee was \$32 a tonne for the seventh consecutive year.

Table 3 details the tonnages and tipping fees for the C&D site since 2008.

Table 3: Construction and Demolition Tonnages

Year	Tonnage (tonne)	Tipping Fee (per tonne)
2008	4,788	\$32.00
2009	4,989	\$32.00
2010	5,351	\$32.00
2011	5,997	\$32.00
2012	5,995	\$32.00
2013	7,789	\$32.00



Scales

In 2013, a total of 65,011 vehicles crossed the weigh scales, an average of 223 per day.

Ash Cell

A cell designed for the disposal of ash generated by the University of New Brunswick's physical plant was constructed in late fall of 2001. UNB reimburses FRSW for capital and operational costs associated with the ash cell. In 2013, a total of 1,332 metric tonnes of ash were received from UNB. The revenue was \$98,568.

Table 4 details the tonnages and revenue for the Ash Cell since 2008.

Table 4: Ash Cell

Year	Tonnage (tonne)	Revenue
2008	1,975.50	\$130,383.00
2009	1,719	\$113,454.00
2010	1,359	\$94,791.00
2011	1,319	\$98,459.00
2012	1,602	\$118,549.00
2013	1,332	\$98,568.00

Asbestos

FRSW continues to accept asbestos from a variety of construction sites. In 2013, the site had 201.95 cubic metres delivered.

Table 5 details the asbestos volume since 2008.

Table 5: Asbestos Volumes

Year	Volume (m ³)
2008	228.38
2009	327.30
2010	246.36
2011	757.83
2012	73.13
2013	201.95

Recycling

The overall tonnage handled by the Materials Recovery Facility (MRF) was 5,630 metric tonnes.

Table 6 shows the breakdown of tonnage entering the MRF.

Table 6: Breakdown of Recyclable Material Tonnage

Recyclable Material Source	Tonnage 2012	% of Tonnage 2012	Tonnage 2013	% of Tonnage 2013
Recycling@Work Program	1,375	23.4%	1,366	24.3%
City of Fredericton	1,913	32.5%	1,823	32.4%
Drop Off	649	11.0%	557	9.8%
Village of New Maryland	234	4.0%	241	4.3%
Town of Oromocto	401	6.8%	404	7.2%
Minlak Training Programs	48	0.8%	38	0.7%
Region-wide Blue/Grey Box Program	1,206	20.5%	1,155	20.5%
Confidential Shredding	50	1.0%	46	0.8%
TOTAL	5,876	100.0%	5,630	100.0%

Table 7 shows the breakdown of recyclable materials by commodity.

Table 7: MRF Commodity Tonnage

Commodity	2012 Tonnage	% of Total 2012 Tonnage	2013 Tonnage	% of Total 2013 Tonnage
Old Corrugated Cardboard	897.3	19.9%	866.9	18.9%
Office Mix	92.0	2.0%	94.8	2.1%
Coated Book	9.2	0.2%	45.8	1.0%
Plastic Containers (1-7)	261.8	5.8%	228.2	5.0%
Plastic Bags	24.7	0.5%	26.4	0.6%
Metal Cans	111.8	2.5%	84.0	1.8%
#6 News	1,368.7	33.9%	1,983.1	43.2%
Hardpack	1,702.6	37.7%	1,143.3	24.9%
Aluminum Cans	3.9	0.1%	1.4	0.1%
Milk Cartons	34.6	0.8%	33.0	0.7%
Box Board			78.5	1.7%
TOTAL	4,506.6	100.0%	4,585.4	100.0%

**The difference in total tonnage between Table 6 and Table 7 is refundables, inventory not shipped at year-end and the weight of out throws.*

Revenues totaling \$37,590.27 five and 10 cent refundable units were received in 2013.



Diversion Rate

Material diverted on-site from the engineered landfill cells for 2013 was 15.0 per cent. The breakdown for tonnage for each of the diverted materials is shown in Table 8:

Table 8: Diversion Rate 2013

	Garbage (tonne)	Metal (tonne)	Tires (tonne)	C&D (tonne)	Recycle (MRF tonne)	HHW (tonne)	Total (tonne)
Landfill Tonnage	79,019						79,019
Diverted Tonnage		409.07	36.55	7,789	5,630	117.1	13,981.72
Total Diversion Rate							93,000.72 15.0%

Capital Purchases and Disposals

Capital purchases in 2013 were made using money from the Operating Fund, and borrowing from the New Brunswick Municipal Finance Corporation. Some of the larger purchases included on-site paving services, all work on cell B4.

Carbon Credits

The FRSW continued to sell carbon credits – including one sale - following its 2010 approval through projects that qualified through a demanding and public registration process designed to ensure real, measurable and verifiable emission reductions through strenuous United Nations' protocol. The ability to sell carbon credits continued after almost six years of behind-the-scenes work, diligence and FRSW dedication to the process.

Landfill Gas Management System (Utilization of Gas)

The utilization of the landfill gas management system continues to be an environmental and financial success for FRSW. Since signing its deal with NB Power, the system has received positive media response and has worked well toward the continued goal of sustainability from an environmental impact to the contractual success of the extended contract with the provincial utility.

Public Relations Campaign

In 2013, FRSW was the recipient of key media exposure for environmental stewardship and remained in a visible position in its region, throughout the province and Atlantic Canada through a series of Environmental Moments campaign that was well received. Public education campaigns promoted recycling, milk carton recycling, Landfill Gas Management System, Household Hazardous Waste and recycling. FRSW was also represented at a number of environmental and climate conferences throughout New Brunswick. FRSW hosted numerous on-site tours and attended several off-site visits not including trade shows and environmental events. Other media coverage included:

- The Daily Gleaner
- Oromocto Post-Gazette
- Astral Radio
- Rogers Radio
- Riverside Neighbours
- Grand Lake Mirror
- Rogers Television
- Aitken University Centre
- FRED FM
- Here Magazine
- CBC radio
- CBC Television
- CTV (Atlantic)
- Global Television
- Joy FM
- CJPN Radio
- New Brunswick Telegraph Journal
- Halifax Metro Newspaper

Staff members of the FRSW attended a number of workshops, provided media interviews, delivered tours and classroom visits for elementary through university age groups along with numerous off-site presentations to businesses and departments of various governmental agencies.

Blue, Grey Box Collection Schedules

The FRSW produced its annual Blue Box/Grey Box program and calendar for Fredericton and New Maryland. Approximately 30,000 copies were distributed to households and local businesses for public pickup for those using the weekly blue and grey recycling box program.



University Partnership Continues

The University of New Brunswick Fredericton (UNBF) and FRSW have a long history of partnership in a wide range of our operations. In addition to having provided UNBF reliable paper recycling services for more than 15 years, FRSW is a regular contributor to UNBF programs and continues working with UNBF to provide ash disposal services.

FRSW also continued its relationship with St. Thomas University. FRSW provides bins for all residences at STU, provides boxes for each classroom as well as desk side boxes and dollies allowing for paper recycling.

Minlak

FRSW continued its association with Minto-based Minlak and also supplied a letter of support in its pursuit of New Brunswick Environmental Trust Fund grants.

