



# Annual Report 2013

Waste Management Division



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# About This Report

The Region of Durham Waste Management Services Division provides cost effective waste collection, processing, composting, re-use and disposal services, as well as quality waste management facilities located in Brock, Scugog and Oshawa. This report highlights activities, accomplishments and program results for 2013.



## Contents

3-4	Overview
5-6	Year in Review
7-8	Blue Box Recycling
9-10	Green Bin and Yard Waste
11	Bulky Goods
11	Metal Goods, Electronics and Porcelain
12	Garbage
13-14	Multi-residential
15-16	Waste Management Facilities
17-18	Municipal Hazardous and Special Waste
19-20	Energy from Waste
21-22	Landfill and Perpetual Care
23-26	Other Diversion Activities
27-28	Community Outreach
29	Awards
30	Tonnes of Residential Waste Managed in 2013

# Overview

Curbside collection of Blue Box, Green Bin, leaf and yard waste and residual garbage waste is managed by the Region of Durham in Pickering, Ajax, Clarington, Brock, Scugog and Uxbridge. The Region only collects Blue Box recycling in Whitby and Oshawa, but partners with those municipalities to ensure uniform collection programs Region-wide.

All materials are delivered to Regionally owned or contracted facilities for processing or disposal by the Region of Durham. Regional waste management facilities offer residents additional opportunities for waste diversion.

Durham Region educates residents on its waste management programs through various promotion and outreach activities.

Durham Region is currently completing its annual waste diversion submissions to Waste Diversion Ontario(WDO), the organization tasked by the Province of Ontario to calculate residential waste diversion rates for each reporting municipality, as well as an overall average for the Province of Ontario.

The waste diversion rate is the percentage of Blue Box and other divertible materials kept out of landfill and reported to WDO. Diversion data are included for the following activities:

Municipally-operated recycling activities, including:

- Blue Box materials
- Waste Electrical and Electronic Equipment (WEEE)
- Municipal Hazardous or Special Waste (MHSW)
- other recyclables (e.g., scrap metal)
- used tires
- municipally-operated composting activities (e.g., kitchen organics)
- an allowance for provincial deposit systems based on the deposit containers returned from the residential sector
- an allowance for residential on-property management (e.g., backyard composting and grasscycling)
- an allowance for material scavenging
- municipally-operated reuse activities

The Region's waste management portfolio includes:

- Material Recovery Facility to process blue box recyclable material
- Waste Management Facilities in Oshawa, Scugog and Brock
- Municipal Hazardous and Special Waste Depots in Oshawa, Scugog, Brock and Pickering
- processing of source separated organics (SSO) through private contractors
- collection, processing and disposal of waste through private contractors
- active rural landfill site in Brock
- inactive landfill sites in Whitby, Oshawa, Clarington, Scugog and Uxbridge
- management of special waste events
- Durham York Energy Centre (operation expected fall 2014)
- promotion and education programs





## A Year in Review...

In 2013, new waste diversion initiatives supporting the Region's 70 per cent diversion target included:

- Enforcement of solid waste collection programs through the *Regional Solid Waste Collection By-law 46-2011*.
- Multi-residential Waste Electrical and Electronic Equipment (WEEE) recycling collection program continued to be rolled out.
- A comprehensive Battery Collection program with business partners to collect household batteries at the curb and in select multi-residential buildings.
- Special waste events to divert additional municipal hazardous and special waste (MHSW).
- Special waste events to divert additional waste electrical and electronic equipment (WEEE).
- Implementation of Mercury Exchange Program in the fall of 2013. Residents are encouraged to bring in household items containing mercury, such as thermometers and thermostats, to any of the Region's Waste Management Facilities or MHSW collection events.
- The Reuse Day pilot program continued in partnership with local non-profit/charitable organizations.
- Promotion and education programs focussing on waste diversion continued to be an integral part of the Waste Management services mandate. Reaching all residents through various media, to ensure understanding of the services offered in the Region, will assist in the delivery of co-ordinated and cost-effective services.

# Blue Box Recycling

In 2013, the Blue Box program made up 22 per cent of the materials captured and processed. The total amount of recyclables collected through the municipal Blue Box program was 47,737 tonnes.

The materials collected in the Blue Box program are processed at the Region's Material Recovery Facility (MRF) in Whitby.

Approximately 98 per cent of the material collected for recycling in Durham Region is marketed. The Region's materials are sold to brokers, mills and manufacturers locally and across North America. Materials collected and marketed are re-manufactured into a wide variety of products, preserving valuable natural resources.

Regional staff has worked diligently to identify stable markets for #1 thermoform PET and #3 to #7 plastics in an effort to make recycling easier by expanding the Blue Box to include all rigid plastic food containers. The Region officially added these rigid plastic packages to the Blue Box program in April 2013.

Items added in April 2013 include:

- Molded plastic bakery trays and cake domes (including black base).
- Clear plastic fruit and vegetable containers and baskets, such as berry trays.
- Clear plastic egg cartons.
- Single-serve yogurt, fruit and pudding cups.
- Clear cold drink cups and lids, such as iced coffee and smoothie containers.
- Plastic take-out food containers, such as roasted chicken containers (including the black base).



# Green Bin and Yard Waste

Green Bin organics are separated from regular garbage and set out along the curb each week in a 47 litre Green Bin. Residents are required to use 100 per cent compostable bags, paper liner bags, or wrap contents in newspaper before putting their organic materials in the Green Bin.

In 2013, the Region collected 27,486 tonnes of Green Bin organic material for composting.

Brush, leaf and yard wastes are collected in kraft paper yard waste bags, rigid reusable containers or tied and bundled. Christmas trees are collected separately in each municipality during specified weeks in January.

In 2013, 23,593 tonnes of yard waste material was collected from curbside programs.

Processing of organic material, including leaf and yard into compost, an important soil conditioner, currently represents 23 per cent of the total waste managed by the Region.

Currently, Durham Region contracts composting of its organic materials to privately-owned facilities, Miller Compost in Pickering and Courtice, Ont. and All Treat Farms Ltd. in Arthur, Ont. These facilities provide Durham Region with sufficient processing capacity to meet its needs for the next several years.

Finished compost is marketed to farmers, landscapers, and soil remediation firms. The Region also receives finished compost for distribution back to residents at annual compost giveaway events in the spring each year.



## Bulky Goods

Collection of these materials is managed through a call-in service in the Townships of Uxbridge, Brock and Scugog and the Municipality of Clarington. City of Pickering and Town of Ajax residents are provided bi-weekly curbside collection that does not require a call-in. A limit of two bulky items per collection is permitted.

Residents also have the option of taking these materials directly to any of the Region's waste management facilities – fees will apply.

A total of 1,851 tonnes of bulky goods was collected in 2013.

## Metal Goods, Electronics and Porcelain

Residents in Ajax, Pickering, Clarington, Uxbridge, Scugog and Brock must schedule an appointment for the curbside collection of metal goods, electronics and porcelain.

A total of 301 tonnes of material was collected in 2013.



## Residual Waste

Disposal of waste is a Regional responsibility. All waste collected by private companies under contract to the Region, as well as waste collected by the City of Oshawa and Town of Whitby, is taken to one of three transfer stations for haulage to final disposal.

A total of 109,641 tonnes of garbage, collected from curbside and multi-residential sources, as well as the three Regional waste management facilities, was landfilled in 2013. This waste was received and then hauled to Modern Landfill in Lewiston, New York with the exception of curbside garbage from Brock that was delivered directly to the Region's landfill site in Brock Township.

The Durham York Energy Centre, being built in Clarington, Ontario is scheduled to be operational in fall 2014. Once operational, Durham Region will dispose of 110,000 tonnes of residual waste for energy recovery annually. Most of the Region's residual waste is planned for energy recovery management.

More than 23,500 multi-residential units are serviced by the Region of Durham's weekly apartment and townhouse complex waste collection program. Both garbage and recycling services are provided.

To be eligible for this service, buildings and townhouse complexes must meet the Region's Technical and Risk Management Guidelines for Waste Collection Services on Private Property.

A total of 2,124 tonnes of recyclables were collected in 2013 from Durham's multi-residential program.

In the summer of 2013, the Region began a pilot collection of spent batteries at 38 buildings. In partnership with Raw Materials Company (RMC), drums and pails are delivered to the buildings and residents are able to drop off used batteries for collection. Once full, the pails or drums are shipped to RMC in Port Colborne, Ontario, at no charge to the residents or the Region. 195 kilograms were collected from these sites. Expansion of this program is planned for 2014.

In 2013, AET Consultants (AET) was retained to conduct detailed waste composition audits to help identify opportunities for organics diversion. The audits sampled six multi-family residential buildings selected by Durham Region. They were conducted over a two-week period in the summer of 2013 and a two-week period in the fall of 2013. Results of the audit will be presented in 2014.

The Region of Durham continued to operate an electronics (e-waste) recycling program in partnership with RecycleYourElectronics.ca - Ontario Electronic Stewardship (OES) in 51 of the high-rise buildings and townhouse sites that receive Regional waste collection services. This recycling service provides residents with a convenient way to recycle their end-of-life or unwanted electronics in their building. In 2014, Durham Region will continue to expand the program into candidate buildings that receive municipal waste collection services.

Since 2013, the Region has diverted 13 tonnes of electronics from high-rise buildings and townhouse neighbourhoods in our communities.

# Multi-Residential Recycling

# Waste Management Facilities

The Region owns and operates three waste management facilities located in Oshawa, Port Perry and Brock. These facilities are open Tuesday to Saturday from 8 a.m. to 4 p.m. The Oshawa Waste Management Facility is the busiest site, averaging approximately 85 vehicles hourly. In 2013, a total of 238,270 vehicles used the Region's waste management facilities.

Loads containing only household hazardous waste, electronic waste, tires, polystyrene packaging material, plastic signs and farm wrap are accepted at no charge. Fees apply to all other waste coming into the facilities. In 2013, 8,250 tonnes of material was diverted from landfill through diversion programs available at these facilities.

Diversion programs available at these facilities include:

- Blue Box recycling
- Clothing
- Drywall
- Electronics
- Farm wrap
- Glass
- Municipal hazardous and special waste
- Polystyrene
- Porcelain
- Scrap metal
- Shingles
- Signs (plastic and paperboard)
- Tires
- Wood
- Yard waste



2013	
Waste Management Facility	Tonnes of Materials Diverted
Brock	588
Port Perry	1,809
Oshawa	5,671
Pickering (HHW only)	182
<b>Total</b>	<b>8,250</b>
<b>Total Cars Served</b>	<b>238,270</b>

*\*Amounts have been rounded to the nearest whole number.*



# Municipal Hazardous and Special Waste

The Region provides residents with a network of facilities and special events where residents can drop off municipal hazardous and special waste (MHSW), more commonly referred to as household hazardous waste. Through specialized contract services at these locations, MHSW are recycled, or treated and disposed of in an environmentally secure fashion.

Collection, processing and disposal of household hazardous material is partially funded by brand owners and first importers of these products.

Current MHSW drop-off locations include the waste management facilities in Oshawa, Port Perry and Brock. The Region also has an MHSW depot operated in co-operation with Miller Waste on site at 1220 Squires Beach Rd. in Pickering.

**2013**

MHSW Source	Tonnes
Brock	46
Port Perry	164
Oshawa	591
Pickering	182
Events	33
<b>Total</b>	<b>1,017</b>

*\*Amounts have been rounded to the nearest whole number.*



# Energy from Waste

Construction of the Durham York Energy Centre (DYEC) has progressed throughout 2013.

Many of the site buildings are now enclosed and work is primarily being completed on the mechanical and electrical components within the buildings.

Ambient air, groundwater and surface water, and soil monitoring are in place.

The DYEC, a state-of-the-art energy-from-waste (EFW) facility, will process Durham residential waste after diversion, when it is completed in late 2014.

# Landfill Perpetual Care Programs

## Brock Landfill Remedial Action Plan

Phase Two of the Brock Landfill Remedial Action Plan started in the summer/fall of 2013. Phase Two involves the application of an engineered final cap system over the active landfill area to provide groundwater protection by minimizing surface water infiltration into the waste below.

The first soil layer of the cap system was applied over a section of the landfill (approx. 31,000 m<sup>2</sup>) that had reached its waste capacity. A base liner consisting of soil and geomembrane layers was constructed over the final area of the site still receiving waste, and an 80 metre long push wall was completed in the drop-off area for recyclable material.

Construction of the final cap system and further upgrades to the Brock Waste Management Facility will resume in the spring of 2014. The final cap over the landfill area will be completed by late 2014 to coincide with the commissioning of the Durham York Energy Centre.

## Other Landfill Perpetual Care Activities

The Region maintains six other closed landfill sites including the Oshawa Landfill site. In 2013, the Region completed a Post-Closure Management Plan for the Oshawa Landfill site which outlined future maintenance and monitoring activities. Landfill cap and access road improvements were completed at the Darlington landfill and additional monitoring wells installed at the Whitby and Scugog landfill sites.

All of the Region landfills are inspected twice per year. Maintenance activities such as new monitoring well additions or replacements, and cover assessments or repairs, are conducted as identified.

All of these sites have individual environmental monitoring programs that are tailored to each specific site, and include sampling for surface and groundwater, and landfill gas where required.



# Other Diversion Program Updates and Studies

## Polystyrene Collection Program

In January 2012, the Region executed a five-year agreement with Grace Canada Inc. (Grace) to expand the polystyrene (EPS) recycling program to all three waste management facilities (WMF). The EPS recycling program includes white expanded polystyrene foam packing only. Loads containing this foam cushion packaging are accepted at all Durham Region WMFs free of charge. Grace Canada, based in the Town of Ajax, collects the material from the Region and recycles it to produce fire-resistant commercial insulation products. Through this program, a total of 6.7 tonnes of polystyrene was diverted from landfill in 2013.

## Curbside Waste Electronic and Electrical Equipment Recycling

In February 2012, the Region implemented a standardized call-in curbside collection program for Waste Electronics and Electrical Equipment (WEEE) in Pickering, Ajax, Scugog, Uxbridge, Brock and Clarington, collecting an additional 7.1 tonnes of curbside WEEE materials.

The Town of Whitby operates its own WEEE collection program. The City of Oshawa does not currently have a curbside collection program for WEEE.

## Curbside Battery Pilot

In 2012, Durham Region initiated a one-year curbside battery recycling pilot program. The pilot consisted of two curbside collection weeks—one in November 2012 and another in March 2013. The collections diverted 39 metric tonnes of household batteries from landfill—about the same as collected by all of Durham's Waste Management Facilities in one year.

Based on the success of the pilot program, Regional Council adopted this waste diversion program as a component of its regular waste program on September 18, 2013.

In addition to providing residents with a more convenient option for proper battery recycling, the program aims to remove batteries from the waste stream by collecting and recycling reusable materials. Recycling allows materials to be recovered and reused for other technologies.





### Sign Recycling

This program recycles all temporary signs made of corrugated plastic, plastic film and paperboard to help keep these materials out of landfill. Acceptable signs include election and real estate signs made from these materials. Wooden stakes and wire mounts are also recycled. Signs may be dropped off free of charge at any of Durham Region's WMFs.

### The Reuse Pilot

The Region concluded a one-year pilot project to assess the diversion potential and public participation of a monthly collection event for re-usable items such as renovation materials, furniture, clothing and other durable goods.

This pilot was held at the Durham Waste Management Centre facility on 4600 Garrard Road in Whitby in partnership with local charitable organizations including Habitat for Humanity, the Salvation Army, Goodwill and the Canadian Diabetes Association. During the pilot, 851 vehicles delivered a total of 38 tonnes of material which was diverted from landfill disposal. The program has been extended with collection days occurring on the second Saturday of most months in 2014.

### Residue Clean-up System

In December 2012, upgrades and additions to Durham's Material Recovery Facility (MRF) were completed. This included the installation of a residue cleanup system (RCUS) in an effort to minimize the amount of recyclables being lost to the residue stream from cross contamination and existing processing equipment limitations. The system was designed and installed by Miller Waste Equipment Inc. as part of RFP-168-2012.

The RCUS ensures that the residue/cross contamination collected from all areas of the MRF can undergo a final quality control sort prior to disposal.

Since the installation of these upgrades, and with the introduction of #3 through #7 plastics and #1 thermoform PET to the program, the Region has seen a reduction of approximately 50 per cent in the amount of residue sent to disposal from the MRF.

### Mercury Recovery Program

The Mercury Recovery Program pilot was launched in October 2012 to divert items that contain mercury from the residential waste stream. Mercury containing items have always been accepted as part of the Region's Municipal Hazardous and Special Waste Program (MHSW). The focus of the pilot program is to increase awareness of this hazardous substance and to divert more liquid mercury, which is found in common household items such as thermometers, thermostats, barometers and hydrometers and blood pressure monitors. Residents are given one free oral digital thermometer in exchange for mercury containing items that are brought in to any of the Region's three waste management facilities or to any of the Region's HHW collection events. Recently, the pilot program was expanded to include Miller Waste Durham's location in Pickering, where the Region has a hazardous waste collection location.

To date, a total of 577 mercury containing items have been collected and includes: 378 thermometers, 187 thermostats, 8 barometers and 4 blood pressure monitors.

Upon conclusion of this pilot in the fall of 2013, Durham Council made this a permanent program. Even though mercury containing items are light-weight and success may not be reflected effectively in large diversion tonnages, mercury is hazardous to the environment and keeping mercury-based products out of the disposal stream is an important goal.

### Porcelain Recycling Program

In February 2012, the Region tested a standardized call-in service for the residential curbside collection of porcelain bathroom fixtures as part of an expanded curbside recycling pilot. The service is now permanent and is offered in Pickering, Ajax, Clarington, Brock, Scugog and Uxbridge, and at the Region's WMFs in Oshawa, Port Perry and Brock.

This program diverted 360 tonnes of material from landfills in 2013, comprised of 189 tonnes collected through the curbside collection and an additional 171 tonnes collected at the WMFs.

### Special Events Diversion

In 2013, five household hazardous waste (HHW) collection events, eight compost give-aways, and nine electronics (E-waste) collection events were hosted across the Region, with over 30 tonnes of diversion waste received from almost 5,000 vehicles. The compost give-away events are held in combination with blue box, green bin and backyard composter sales and exchanges, with remaining compost made available to local area municipalities to use on public gardens and parks.



# Community Outreach

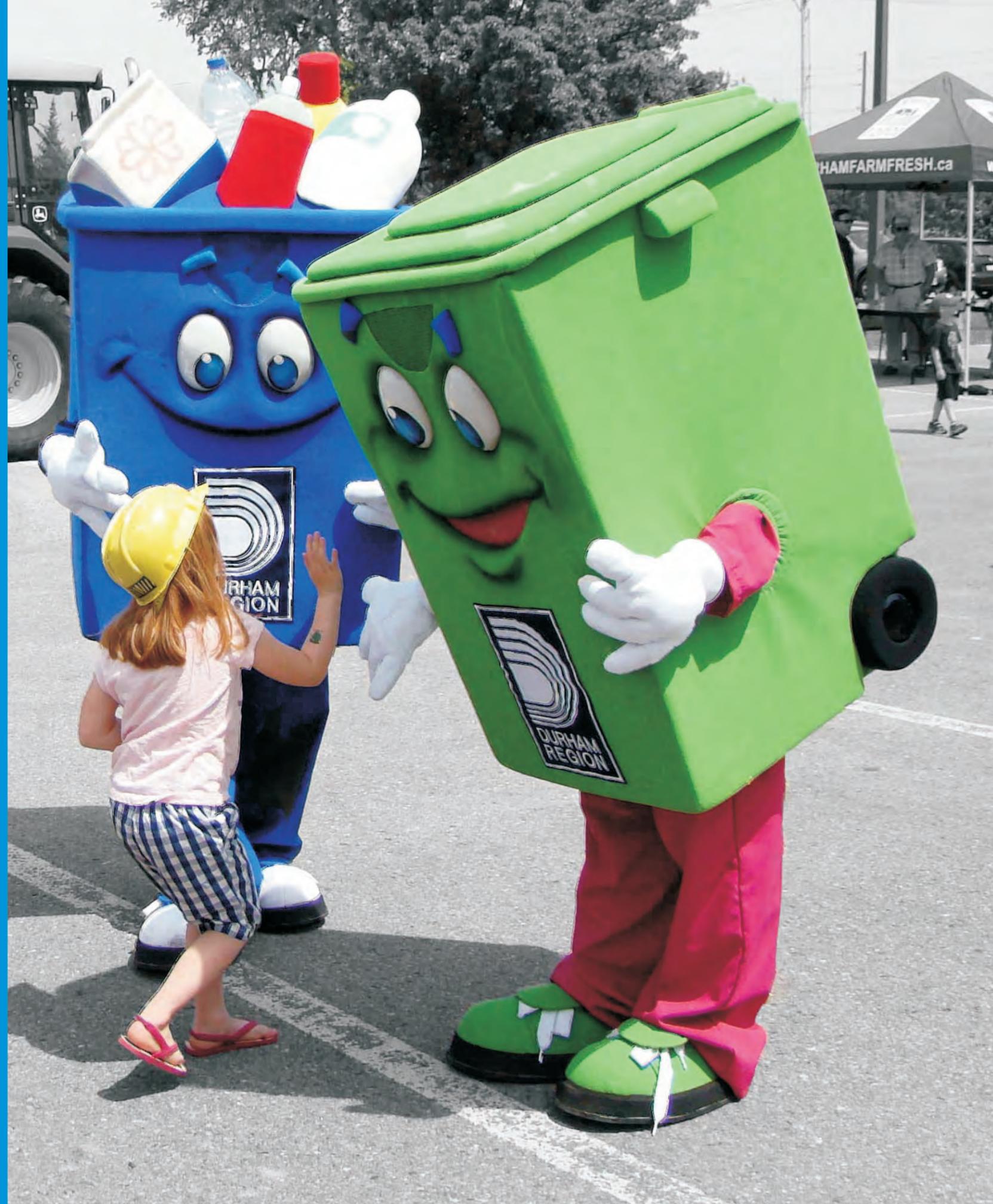
The Region actively promotes its waste diversion programs through an extensive communication and education program. Key objectives include:

- Promoting participation in waste diversion programs.
- Encouraging an understanding of correct participation in programs.
- Promoting compliance with Regional waste management policies and by-laws.

Key tools include the use of print, radio, and television media, the Region's web site, social media tools, public space advertising, and the annual waste collection calendar.

Over 27 different events and activities took place in 2013, including:

- Waste Management call centre handled 36,271 phone calls, answering questions related to waste programs.
- Eight spring compost events, one in each municipality.
- Nine special electronic equipment drop-off events were held and promoted throughout the year in each municipality.
- Four municipal hazardous and special waste drop-off events.
- Promotion of waste diversion programs during National Public Works Week.
- Durham Region celebrated "Waste Reduction Week" in October promoting waste reduction and diversion options for residents.



- Ten reuse drop-off events were held from January to October, partnering with local charities.
- "Durham Works," the Works Department's external newsletter was distributed twice to 210,000 households in the Region. It featured information on the Green Bin and Blue Box Programs, curbside battery collection pilot, programs offered at the Waste Management Facilities and updates on the DYEC.
- In the fall of 2013, the Region initiated and participated in a one-time Greater Toronto Area (GTA) wide expanded plastics recycling campaign with six other municipalities. The campaign's aim was to promote the expanded Blue Box program for new plastics. Funding was made available for this initiative from Stewardship Ontario and the Continuous Improvement Fund. The campaign included print media, radio advertisements, billboards, digital ads at WalMart stores throughout the GTA, Google ads and other social media.

# Awards

The Region thanks residents in Durham for their continued participation in reducing waste to landfill.

The Region's Waste Management division once again received international recognition for its waste management practices, when it was recognized as a double winner by the Solid Waste Association of North America (SWANA). The awards included:

- the 2013 Special Waste Management Gold Excellence Award presented for the battery collection program,
- the 2013 Public Education Bronze Excellence Award presented for the battery collection.

The Solid Waste Association of North America's Excellence Awards Program recognizes outstanding solid waste programs and facilities with environmentally and economically sound solid waste management practices.

The Region's Waste Management division was also honoured with the 2013 Recycling Council of Ontario (RCO) Municipal Gold Award.

The RCO Municipal Award recognizes municipalities, regional governments and/or groups of municipalities that have successfully diverted a significant percentage of municipal waste from disposal (landfill or energy from waste) through reduction, reuse and/or recycling initiatives.



TABLE 1 REGION OF DURHAM ESTIMATED TONNES OF RESIDENTIAL WASTE MANAGED IN 2013

Descriptions	Curbside Garbage	Apartment Garbage	Bulky Goods	Curbside Recycling	Apartment Recycling	Food Composting	Leaf & Yard Composting	Composter Credits	Grasscycling Credits	Reuse Programs	Total Waste	Waste Diversion
<b>1 Curbside &amp; multi-residential wastes</b>												
sub-totals	76,125	13,739	1,851	47,737	2,124	27,486	23,593	5,820	4,365	301	203,140	55%
		91,715		49,860		51,080		10,184				
<b>2 Regional waste disposal sites</b>												
sub-total	0	0	17,926	604	0	0	1,675	0	310	5,988	26,503	32%
<b>3 Special Events</b>												
sub-total	0	0	0	0	0	0	0	0	0	96	96	100%
<b>4 Summary</b>												
municipal residents	76,125	13,739	1,851	47,737	2,124	27,486	23,593	5,820	4,365	301	203,140	55%
Regional waste sites	0	0	17,926	604	0	0	1,675	0	310	5,988	26,503	32%
Special Events	0	0	0	0	0	0	0	0	0	96	96	100%
sub-total	76,125	13,739	19,777	48,341	2,124	27,486	25,268	5,820	4,675	6,385	229,739	
<b>Total Tonnes, with credits</b>		109,641		50,464		52,754		10,494		6,385	229,739	
<b>Total Tonnes, no credits</b>		109,641		50,464		52,754		6,385			219,245	
<b>Percentages of Total</b>	33%	6%	9%	21%	1%	12%	11%	2%	2%	3%	100%	
<b>Waste diversion rate</b>												52%



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