



ANNUAL REPORT

Essex-Windsor Residential Waste Diversion 2018

Report Date: March 28, 2019

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Essex-Windsor Residential Waste Diversion

Annual Report for January – December 2018

1 Introduction

The Annual Waste Diversion Report provides information on the waste diversion activities carried out by the Essex-Windsor Solid Waste Authority during 2018 in compliance with Condition 5.2 of the Environmental Assessment Approval for the Essex-Windsor Regional Landfill.

1.1 Residential Waste Diversion Rate 2018

This report also provides the Authority with the ability to track any changes in the percentage of waste diverted through its waste diversion initiatives from year to year.

In 2018, the seven County of Essex municipalities and the City of Windsor delivered 100,565.47 tonnes of residential waste to the Regional Landfill. During the same time period, 58,750 tonnes of residential waste were diverted from the landfill via the blue and red box recycling program, municipal hazardous or special waste program, composting, and other waste diversion programs. These waste diversion initiatives resulted in a 2018 residential diversion rate of 36.3%. The 2017 diversion rate was 34.0%.

The 2018 and the 2017 residential diversion rate calculation formula is demonstrated in the diagram on page 2:

Residential Waste Diversion 2018 Report

The 2018 residential diversion rate is calculated using the following formula:

$$\frac{\text{58,750 Tonnes Diverted (see Table 18, page 23)}}{\text{100,565 Tonnes of Residential Refuse collected curbside + 2,440 Residuals + 58,750 Diverted Tonnes}} = \frac{58,750}{161,755} \times 100 = 36.3\%$$

The 2017 residential diversion rate is calculated using the following formula:

$$\frac{\text{54,746 Tonnes Diverted (see Table 18, page 23)}}{\text{104,150 Tonnes of Residential Refuse collected curbside + 2,146 Residuals + 54,746 Diverted Tonnes}} = \frac{54,746}{161,042} \times 100 = 34.0\%$$

2 Programs

2.1 Residential Recycling Blue Box Program

The tonnes of residential recyclable materials collected curbside during 2018 totaled 26,011 tonnes. The overall tonnes of recyclables collected in 2018 were slightly lower compared to the 26,512 tonnes collected in 2017.

A monthly summary and comparison of the tonnes collected curbside from the City and the County in 2017 and 2018 is shown in Table 1. Collection of recyclables in the County was carried out under contract in 2018 by Windsor Disposal Services Ltd. Collection of recyclables in Windsor was carried out by Green For Life Environmental Inc.

All materials were processed at the Authority owned Essex-Windsor Material Recovery Facility (MRF), located at E.C. Row and Central Avenue in Windsor where Windsor Disposal Services via contract process delivered materials.

In addition to the residential recyclables collected curbside, 735 tonnes of recyclables were delivered to the Authority's Public Drop Off Depots in 2018. This is down 36% from 2017 where 1,142 tonnes were delivered.

**Table 1: Residential Recycling Blue Box Collection Tonnes by Month
Comparison: 2017 with 2018**

Month	County of Essex	City of Windsor	2018 Combined Tonnes	2017 Comparable Tonnes
January	1,152.78	1,190.87	2,343.65	2,341.05
February	977.59	977.98	1,955.57	1,877.86
March	1,027.72	1,062.48	2,090.20	2,176.34
April	1,031.01	1,007.98	2,038.99	2,144.61
May	1,219.41	1,302.33	2,521.74	2,457.07
June	1,085.17	1,061.10	2,146.27	2,304.93
July	1,000.98	979.12	1,980.10	2,069.77
August	1,111.60	1,098.54	2,210.14	2,223.23
September	1,007.35	1,032.05	2,039.40	2,202.26
October	1,130.82	1,100.85	2,231.67	2,152.91
November	1,138.64	1,157.46	2,296.10	2,403.33
December	1,060.36	1,096.36	2,156.72	2,158.59
Column Totals:	12,943.43	13,067.12	26,010.55	26,511.95

Notes: The County of Essex includes the Town of Amherstburg, the Town of Essex, the Town of Kingsville, the Town of Lakeshore, the Town of LaSalle, the Municipality of Leamington and the Town of Tecumseh.

2.2 Recycling Residual Disposal

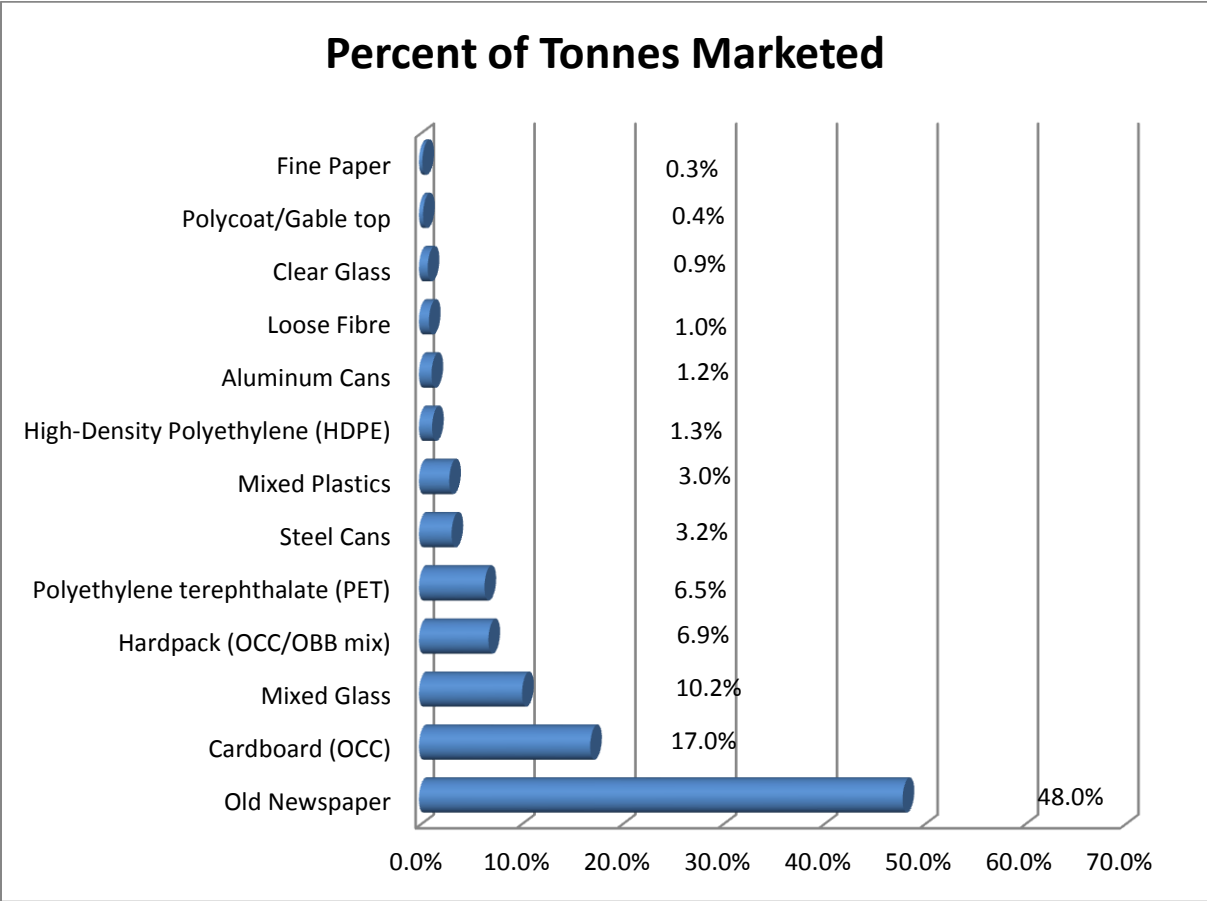
Recycling Residual is the material that is left over after the processing of the recyclable materials are collected and delivered to the MRF. The residuals consist of contaminated materials, non-recyclable materials, and packaging materials used to secure recyclables placed in the recycle box. A total of 2,439.71 tonnes of recycling residuals was disposed of in 2018.

3 Tonnes Marketed

For the purposes of waste diversion calculations, tonnes marketed are used instead of the tonnes collected curbside. The tonnes marketed by material type are shown in Table 2, 3 and 4. The Essex-Windsor Solid Waste Authority markets all materials processed through the MRF, and retains 100% of the revenue from the sale of materials. Revenue from the sale of

material in 2018 was approximately \$3,204,744 (see Table 5) representing a basket-of-goods revenue of approximately \$134/tonne compared to a basket-of-goods revenue of \$173/tonne in 2017. A brief discussion on market conditions and prices for each of the materials follows.

Figure 1: Percent of Tonnes for 2018 Marketed Recyclables



Note: Due to rounding total tonnes marketed does not total 100%.

3.1 Fibres

Old Newspaper (ONP)

In 2018, ONP prices ranged from a high of \$99 to a low of \$65 per tonne. The average price for 2018 was \$75 per tonne compared to an average price of \$125 per tonne in 2017. While actual revenue was down in 2018, the Authority’s average price of \$75 per tonne was higher than the provincial average (\$62 per tonne) per the CIF (Continuous Improvement Fund) Price Sheet- February 2019.

Old Corrugated Cardboard (OCC)

The price for old corrugated cardboard ranged from a high of \$163 per tonne to a low of \$112 per tonne in 2018. The average price per tonne was \$126 compared to \$213 per tonne in 2017. The Authority's average price of \$126 per tonne was just short of the provincial average (\$128 per tonne) per the CIF Price Sheet- February 2019.

Hardpack

(Example: cereal boxes, cardboard)

Prices for a cardboard/boxboard mix ranged from a high of \$123 to a low of \$77 per tonne in 2018. The 2018 average price was \$89 compared to \$177 per tonne in 2017. Even though market prices dropped severely in 2018, the Authority's average price of \$89 per tonne was much higher than the provincial average (\$57 per tonne) per the CIF Price Sheet- February 2019.

Fine Paper

Four loads of fine paper were sold in 2018 with an average price of \$279 per tonne. This is an increase compared to the \$256 per tonne received in 2017 for two loads.

Loose Fibre

Due to an operation issue in January 2018, the Fibre MRF was unable to process incoming delivered materials for a few days. As a result, all incoming materials to the Fibre MRF were redirected off-site to another processor where it was sold loose and sorted for an average price of \$5 per tonne.

3.2 Containers

Steel Cans

The pricing for steel cans ranged from a high of \$329 per tonne to a low of \$273 per tonne during 2018. The 2018 average price was \$304 per tonne compared to \$260 per tonne in 2017.

Aluminum Cans

The pricing for aluminium ranged from a high of \$2,098 per tonne to a low of \$1,175 per tonne. The 2018 average price was \$1,761 per tonne compared to \$1,824 in 2017.

Glass

The average price for clear glass, marketed for new containers, in 2018 was \$36 per tonne. This is slightly higher than the 2017 average price of \$33 per tonne. Clear glass is the only product that is not marketed FOB (Freight On Board) at the Essex-Windsor MRF. Mixed coloured glass was delivered to the Regional Landfill for use as road base.

Polyethylene terephthalate (PET)

(Example: Plastic Water Bottles)

PET prices ranged from a high of \$488 per tonne to a low of \$363 per tonne in 2018. The average price was \$438 per tonne in 2018 which is higher than the 2017 average price of \$397 per tonne.

High-Density Polyethylene (HDPE)

(Example: Laundry Soap Bottles)

HDPE prices ranged from a high of \$579 per tonne to a low of \$408 per tonne in 2018. The average price was \$497 per tonne in 2018 compared to the 2017 average price of \$520 per tonne.

Polycoat and Gable Top

(Example: Milk Cartons)

Five loads of polycoat were shipped out in 2018 at an average price of \$76 per tonne compared to the average price of \$65 per tonne in 2017.

Mixed Plastics

(Example: tubs & lids, clamshells, trays, cups, plastic bottles, excludes polystyrene and plastic film bags)

In 2018, mixed plastic prices ranged from a high of \$101 per tonne to a low of \$37 per tonne. The average price was \$72 per tonne in 2018 compared to the average price of \$44 per tonne in 2017.

Table 2: Marketed Fibres Summary Comparison: 2017 versus 2018

Fibre Material	2018 Tonnes	2017 Tonnes	% Change
Old Newspaper (ONP)	11,472	12,948	-11.4%
Cardboard (OCC)	4,062	3,629	11.9%
Hardpack (OCC/OBB mix)	1,647	1,786	-7.8%
Fine Paper	81	39	107.7%
Loose Fibre	237	0	100.0%
Totals:	17,499	18,402	-4.9%

Table 3: Marketed Containers Summary Comparison: 2017 versus 2018

Container Material	2018 Tonnes	2017 Tonnes	% Change
Clear Glass	207	222	-6.8%
Mixed Glass	2,446	2,205	10.9%
Steel Cans	773	781	-1.0%
Aluminum Cans	298	306	-2.6%
Polyethylene terephthalate (PET)	1,554	1,466	6.0%
High-Density Polyethylene (HDPE)	312	247	26.3%
Polycoat/Gable top	97	102	-4.9%
Mixed Plastics	718	768	-6.5%
Totals:	6,405	6,097	5.1%

Table 4: Residential Recyclables Marketed Comparison: 2017 versus 2018

Tonnes Marketed	2018 Tonnes	2017 Tonnes
a) Total Tonnes Marketed	23,904	24,499
b) ICI Tonnes	(746)	(965)
Net Marketed Residential Recyclables	23,158	23,543

Notes: a) Total Tonnes Marketed less b) ICI Delivered Tonnes = Net Marketed Residential Recyclables.

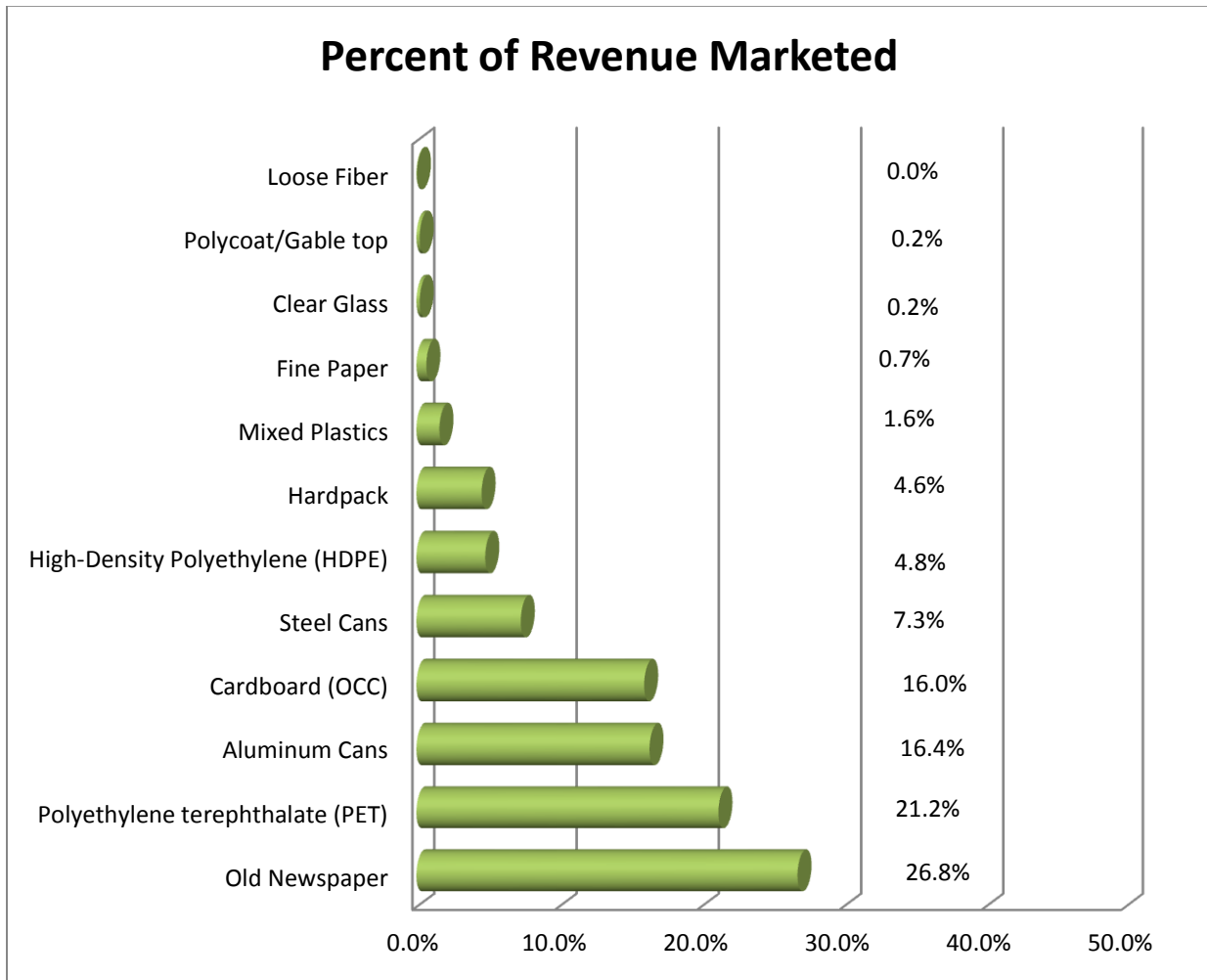
Table 5: Revenue Comparison: 2017 versus 2018

Recyclable Material	2018 Revenue	2017 Revenue
Old Newspaper (ONP#8)	\$858,637	\$1,621,616
Cardboard (OCC)	\$513,125	\$772,861
Hardpack	\$146,834	\$315,455
Fine Paper	\$22,470	\$9,978
Loose Fibre	\$1,182	—
Clear Glass	\$7,407	\$7,362
Steel Cans	\$235,222	\$203,364
Aluminum Cans	\$525,109	\$558,943
Polyethylene terephthalate (PET)	\$680,412	\$582,801
High-Density Polyethylene (HDPE)	\$155,100	\$128,524
Polycoat/Gable top	\$7,330	\$6,556
Mixed Plastics	\$51,916	\$33,951
Total Revenue	\$3,204,744	\$4,241,411

Table 6: Annual Revenue Comparison

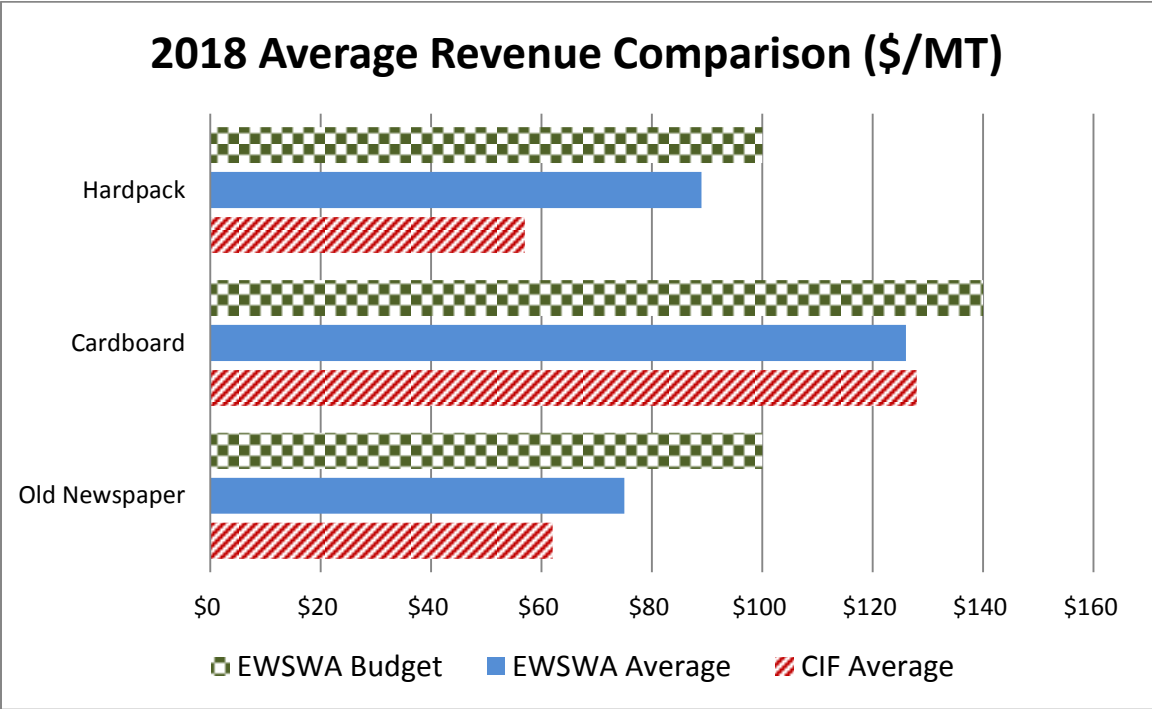
Year	Revenue
2014	\$3,306,026
2015	\$3,101,234
2016	\$3,414,055
2017	\$4,241,411
2018	\$3,204,744

Figure 2: Percent of Revenue Marketed in 2018



Note: Due to rounding total revenue marketed does not total 100%.

Figure 3: 2018 Average Revenue Comparison for Affected Fibre Market Commodities (\$/MT)



NOTE: CIF (Continuous Improvement Fund) Price Sheet provides an estimate of the average commodity prices for a sample of municipalities across Ontario.

3.3 Markets

While delivered tonnages for 2018 were similar to 2017 tonnages, there was a reduction in year-over-year revenue. That being said, 2018 revenue was consistent with pre-2017 revenue levels (Table 6). In 2017, there was an immediate shift in waste import regulations in China. This legislation change raised China’s demand for purer recyclable materials; where, contamination was at a minimal 0.5 level, which adversely impacted North American recycling programs.

While EWSWA was well established in the domestic market, this market quickly became oversaturated especially in the fibre markets like Old Newspaper, Old Corrugated Cardboard, and Hardpack. This oversaturation drove up demands for high, quality final goods and severely dropped market prices. While the Authority saw a major variance in revenue between actual and forecasted numbers for 2018, it still managed to generate higher revenue prices than the reported Ontario market (per the CIF Price Sheet-February 2019). This is a result of many EWSWA strategies such as: being

well-established in the domestic market, efforts of Waste Diversion staff to produce higher quality, pure materials through continuous improvement efforts, and their ongoing successful work with buyers and contractors.

4 Other Residential Recycling Programs

4.1 White Goods

Since 1991, white goods, such as fridges, stoves, air conditioners, washers, dryers, freezers dishwashers, etc. have been restricted from landfill disposal. In 2018, curbside collection of white goods from County municipalities captured 1,405 white good units (approximately 126 tonnes).

While the City of Windsor did not operate a white goods collection program during 2018 there were also 158 tonnes of white goods delivered to the Public Drop Off Depots for a combined total of approximately 284 tonnes. Using the Resource Productivity & Recovery Authority (RPRA) Municipal Datacall residual percentage of 20%, approximately 227 tonnes of white goods were recycled. Table 8 details the white goods collection program for each of the municipalities in the County of Essex by month during 2018.

Table 7: Summary of White Goods Diversion for 2018

White Goods Summary	2018 Tonnes
Curbside Collection Converted to Tonnes	126
Drop Off Depots	158
Total White Goods Tonnes	284
Less 20% Residual Calculation Amount	57
Total Tonnes Recycled and Diverted	227

Table 8: 2018 White Goods Collected by Month in Municipalities across Essex County

Month	Tecumseh	Essex	LaSalle	Amherstburg	Leamington	Kingsville	Total for Month
January	4	11	21	22	7	7	72
February	10	7	14	15	18	16	80
March	7	13	18	17	13	23	91
April	12	15	25	46	22	17	137
May	11	16	19	31	30	15	122
June	17	27	30	35	32	17	158
July	13	15	28	38	22	26	142
August	22	22	30	33	20	24	151
September	9	14	19	31	7	22	102
October	16	16	17	39	17	21	126
November	18	15	16	29	25	26	129
December	8	20	16	22	13	16	95
Total Units	147	191	253	358	226	230	1,405

Notes: 1,405 units with the average weight of 90 kilograms per unit results in diversion of approximately 126 tonnes; there was no Tonnes reported for Lakeshore in 2018.

4.2 Tires

Automotive tire recycling is located at all three EWSWA facilities. The Ontario Tire Stewardship Used Tires Program as calculated in the RPRA Datacall resulted in diversion of approximately 2,830.90 tonnes in the Essex-Windsor area in 2018.

4.3 Scrap Metal

There are 40-yard roll off bins located at the Public Drop-off Depot for collection of ferrous and non-ferrous scrap metal material. The metals are sold through a competitive bid process to local scrap dealers. In 2018, approximately 560.23 tonnes of metals were collected and recycled. While the Authority does not advertise that it accepts other metal household objects besides steel cans in the blue box program, the Authority does receive and does try to capture any metal objects which are called "mixed metal". An additional 84.13 tonnes of mixed metals were received in 2018 for a total of 644.36 tonnes of scrap metal.

4.4 Electronics Recycling

Under contract to the Authority, Greentec supplies roll off bins for the collection of electronics at the Authority's Public Drop-off Depots. EWSWA staff place the electronic items from the public in these bins. In 2018, a total of 337.97 tonnes of computers, televisions, audio visual equipment, and various electronic items were collected through the Waste Electrical and Electronics Equipment (WEEE) stewardship program. Based on a residual portion of 20% the total electronics recycled was approximately 270 tonnes.

4.5 Deposit/Return Program

The Authority implemented a capture program at its Material Recovery Facility for deposit/return containers (i.e. aluminum beer cans; glass, wine and spirit bottles) that were placed curbside for blue box collection and continued to be successful in 2018. During 2018, approximately 18.9 tonnes of deposit/return containers were received at the MRF and are included as part of the 2,196.94 tonnes that were diverted throughout Essex-Windsor as part of the Deposit/Return & Stewardship Program. The 2,197 diversion tonnes figure is calculated as part of the 2018 Resource Productivity and Recovery Authority Datacall and is based on the Essex-Windsor population as determined by the latest Statistics Canada Census data.

Table 9: Other Recyclables Comparison: 2017 versus 2018

Recyclable Material	2018 Tonnes	2017 Tonnes	% Change
White Goods (all sites)	227	230	-1.30%
Used Tire Program	2,831	2,831	0.00%
Scrap & Mixed Metal	644	613	5.06%
Electronics	270	296	-8.78%
Deposit/Return & Stewardship Program	2,197	2,197	0.00%
Total Other Recyclables	6,169	6,167	0.03%

Note: RPRA Datacall calculation is based on population for Used Tire Program and Deposit/Return & Stewardship Program in the Essex-Windsor area as reported by the Statistics Canada Census. .

5 Residential Organics

5.1 Yard Waste

Grass, leaves, tree trimmings and brush are restricted from disposal at the Essex-Windsor Regional Landfill Site. As a result many local municipalities have established separate collection systems for yard waste, including special collections in January for Christmas trees. Furthermore, individual residents and grounds maintenance contractors also brought yard waste to one of the three yard waste depots operated by the Essex-Windsor Solid Waste Authority in 2018.

The Essex-Windsor area accepts the use of paper bags, wheeled carts, garbage bins and cardboard boxes for the collection of yard waste. Plastic bags are not accepted. Approximately 34,437 tonnes of yard waste was received in 2018, which an increase of 15% compared to the 29,875 tonnes delivered in 2017.

Table 10: 2018 Yard Waste Summary for all sites

Material Type	Windsor Public Drop Off	Kingsville Transfer Station 2	Regional Landfill
Municipal Delivered	10,557	1,621	3,781
Residential Delivered	6,557	793	112
Total Res. Organics	17,114	2,414	3,893
ICI Organics and Pallets	574	295	10,145
Grand Total (Tonnes)	17,688	2,709	14,038

Note: ICI is Industrial, Commercial and Institutional delivered material type.

Table 11: Yard Waste Tonnes Comparison: 2017 versus 2018

Material Type	2018 Tonnes	2017 Tonnes
Municipal Delivered	15,959	14,898
Residential Delivered	7,462	4,201
Total Res. Organics	23,421	19,099
ICI Organics and Pallets	11,014	10,776
Grand TOTAL (Tonnes)	34,435	29,875

Note: ICI is Industrial, Commercial and Institutional delivered material type.

5.2 Screened Compost Sales

The Authority undertakes an in depth process to the organics and yard waste it receives to turn it into saleable, quality compost. The composting process involves grinding up yard waste and placing it in long rows called 'windrows'. The material is turned frequently and the temperature is maintained above 55 degrees Celsius in order to kill any pathogens or weed seeds. Once the compost has matured it is tested, screened, and then sold for use in landscaping, as well as flower and vegetable gardens.

In 2018 compost was sold as bulk (delivered or pick-up), bag your own, and prepackaged items as listed in Table 12.

Table 12: Compost Sales 2018 Summary

Compost Material	Quantity Sold	Tonnes
Delivered	746 cubic yards	439
Bulk Sales	24,399 cubic yards	14,347
Bag Your Own Compost	1,028 bags	28
Prepackaged Garden Gold Compost	9,906 bags	178
		Total: 14,992

Notes: Prepackaged bag weights are based on approximately 19 kg/bag; bag your own compost is approximately 27 kg/bag and bulk compost is approximately 588 kg/cubic yard.

Under contract to the Authority, Frank Dupuis Landscaping and Trucking provided delivery services for the sale of 439 tonnes of bulk compost to local residents. Also 14,347 tonnes in bulk sales were sold to residents and businesses at EWSWA Depots. Additionally about 9,906 prepackaged bags of compost were sold at the Depots and the Truckload Sales. Many residents also bagged their own compost at one of the depots. The combined total weight of compost sold was approximately 14,992 tonnes. In 2018, compost sales totaled \$198,568.

5.3 Backyard Composting

Backyard composters (BYC) with the brand name “The Earth Machine” and “The Green Cone” were sold to Essex-Windsor residents in 2018. The Earth Machine was sold through local Home Hardware stores year round. Both units were sold during the Truckload Sale held in the City of Windsor. Approximately 42 Earth Machine units were sold through the Home Hardware stores and 287 units were sold during the truckload and miscellaneous sales for a total of 329 units sold in 2018. This is a slight drop from the 370 units sold in 2017. There were 85 Green Cones sold in 2018. This brings the cumulative total to 658 Green Cones distributed since 2010, which is when they were first introduced to the area. The combined BYC distributed in 2018 was 414 units bringing the total number of units sold since 1988 to 39,533 units.

Current research has indicated that approximately 100 kg/year/BYC is diverted as a result of the backyard composting program. This translates into 3,953 tonnes of organic waste diverted from the landfill through this program. This does not take into account homemade composters or

composting done independent of the Authority’s backyard composting program.

Table 13: Residential Organic Waste Reduction Comparison: 2016 — 2018

Residential Organic Programs	2018 Tonnes	2017 Tonnes	2016 Tonnes
BYC Program	3,953	3,912	3,865
Mulching Blades	1,343	1,343	1,343
Yard Waste (Residential)	23,423	19,099	19,613
Total Residential Organics	28,719	24,354	24,821

Notes: The mulching blade program was no longer directly offered through EWSWA after 2001. Even though mulching blades and mowers are used by residents in the area, it can’t be measured for the purposes of this report; therefore no increase in diversion is indicated.

6 Promotion and Education

6.1 School and Community Presentations

In 2018, Authority staff conducted 103 presentations at various locations; where 62 school presentations were made to approximately 12,223 students. An additional 41 presentations were provided to community groups, event attendees, open houses, etc. The emphasis in 2018 presentations was placed on how to reduce, reuse and recycle plastic.

6.2 Special Community Events

Authority staff organized displays and talked to area residents at various special events scheduled at the Horticultural Show, Earth Day Celebrations and the Truckload Sale. There were 96 special events serviced with recycling in 2018 resulting in an equivalency of 7,220 gallons of paper materials, saving 27.33 m³ of landfill space. Moreover, 12,350 gallons of container related recyclable material equivalent to 46.73 m³ of landfill space from Essex County and the City of Windsor were also collected. Many special event venues have implemented their own sustainable recycling program throughout the season (April through September) and do not require the per event service offered by EWSWA.

6.3 On-going Public Education Activities

The Authority maintains a Waste Reduction Hotline (1-800-563-3377), a website (www.ewswa.org), and an annual newsletter called Enviro-Tips which is delivered to each household and is available online.

E-newsletters are also part of the program as they are low cost and reach residents quickly and effectively. The Authority has 2,549 e-newsletter subscribers. Industry standards indicate that a decent open rate is anything between 20-33%. Open rates for e-newsletters are as follows: Earth Day, 61%; Truckload Sale, 69%; Gold Box, 80%; Waste Reduction Week, 61%.

The EWSWA website (www.ewswa.org) is updated on a regular basis to provide detailed information and public education to residents. Topics covered range from waste management and reduction, to details about waste diversion activities. Residents have access to instructions, tenders, reports, calendars, acceptable recycle box materials, incentives, etc. In 2018 there were approximately 46,148 hits on the website bringing the total hits to 243,077 hits since the launch of the new website in 2012; the monthly average hits in 2018 were 3,520 with duration of approximately 1:50 minutes. The 'What Goes Where' material search database resulted in 6,971 searches in 2018.

In 2018 the Recycle Coach App had 5,936 users, 8,436 resident interactions, 3,723 total subscribers and 5,108 content page views.

EWSWA also continues to maintain a presence in social media sites such as Facebook and Twitter. EWSWA started with 30 Twitter followers in January 2015 and had 685 followers by December 2018. EWSWA has 665 followers on Facebook with the highest reach of 13,239 in a December 2018 post.

6.4 Gold Star Program

In 2016, the Authority launched a new recycling incentive program aimed at increasing public awareness regarding the red and blue box recycling program. Residents were encouraged to apply for a new "Gold Recycling Box" through a program that evaluated their curbside recycling, provided feedback and rewarded successful recyclers with a gold box. The program's ultimate objective is to decrease the amount of contamination being put out by residents and thereby decrease the amount of contamination at the MRFs. The program was renewed in 2017 and 2,050 residents registered for

the “Gold Star” program. In 2017, 1,000 households were inspected and 604 gold boxes were awarded. In 2018, the fourth round of inspections were undertaken to complete the inspections of all 2,050 residents who registered in 2017. During 2018, 613 gold boxes were awarded.

7 Municipal Hazardous or Special Wastes (MHSW) Program

7.1 MHSW Depots

The Essex-Windsor Solid Waste Authority opened its Windsor MHSW Depot in October of 1995. In addition to the Windsor facility, the Authority opened a second MHSW Depot at Transfer Station No. 2 in the Town of Kingsville in 1997. A third depot was opened at the Essex-Windsor Regional Landfill Site in October 2013. The Depots replaced the annual Household Chemical Waste Days held in Essex-Windsor. All facilities were operated year round in 2018. A total of 536,186 litres and 108,925 kg of MHSW materials were delivered to the sites. See Table 14 and 15 for details.

Reuse Centre

A Reuse Centre has been operated at the Windsor MHSW facility since its opening in 1995.

Paint is distributed in both 1-gallon and 5-gallon pails for reuse. According to the records, 2,737 residents accessed the Reuse Centre and took 54,555 products or approximately 77,853 kg of paint and miscellaneous materials in 2018 compared to 56,208 products or 80,077 kg of reusable materials in 2017.

Demand for the Reuse Centre remains high, however quantities available depend largely on how good the products are that are delivered by households to the facility.

Table 14: Municipal Hazardous or Special Waste for 2018 in Litres

Material	MHSW from Facilities	Reuse Centre Quantities	Total Litres
Adhesives/Flammable Organics	4,590	18,298	22,888
Aerosols	7,675	1,338	9,013
Antifreeze (Glycol)	13,800	0	13,800
Corrosive Liquid	7,125	736	7,861
Gasoline/Fuels	80,280	0	80,280
Inorganic Acids	895	0	895
Paints & Coatings	229,806	49,252	279,058
Pesticides	7,065	798	7,863
Recyclable Waste Oil	184,950	0	184,950
Total MHSW Litres	536,186	70,422	606,608

Table 15: Municipal Hazardous or Special Waste for 2018 in Kilograms

Material	MHSW from Facilities	Reuse Centre Quantities	Total Kgs
Car Batteries	29,920	0	29,920
Dry Cell Batteries	2,190	0	2,190
Fire Extinguishers	1,375	0	1,375
Fluorescents/Misc. Lamps/Ballasts	22,888	0	22,888
Inorganic Oxidizers	2,670	7,430	10,100
Mercury (HG items)/Lead	23	0	23
Pharmaceuticals	800	0	800
Plastic Used Oil Containers	13,639	0	13,639
Propane Cylinders	4,030	0	4,030
Propane Tanks/Misc. Tanks	16,736	0	16,736
Rechargeable & Mixed Batteries	14,019	0	14,019
Waste Oil Filters	635	0	635
Total MHSW kilograms	108,925	7,430	116,355

Table 16: MHSW Diversion Comparison: 2017 versus 2018

	2018 Tonnes	2017 Tonnes
MHSW Recycled or Reused	723	699
MHSW not Recycled	(19)	(17)
Total MHSW Diverted	704	682

7.2 Waste Motor Oil

Waste motor oil is collected curbside with the residential recycling program. As well, residents are able to deliver oil to the MHSW facilities. The quantity of waste motor oil collected during 2018 was 184,950 litres, which is down by 0.8% compared to the 186,386 litres collected in 2017. The quantity of oil collected by month is shown in Table 17 with historical data over four years.

Table 17: Motor Oil Collected (Litres) 2015 through 2018

Month	2018 Litres	2017 Litres	2016 Litres	2015 Litres
January	10,225	14,680	9,390	9,775
February	4,950	8,700	12,480	6,475
March	13,100	7,311	10,160	10,745
April	20,800	20,320	20,771	23,840
May	22,750	21,600	22,683	19,925
June	16,400	18,400	21,685	20,700
July	20,150	20,575	16,310	17,790
August	16,350	17,300	18,245	17,085
September	15,325	14,450	20,401	18,975
October	18,425	14,900	16,716	17,495
November	13,425	20,200	18,840	16,860
December	13,050	7,950	8,000	13,195
Totals:	184,950	186,386	195,681	192,860

8 Overall Summary of Residential Diversion Quantities

8.1 Residential Waste Diversion

The following table summarizes the residential waste diversion activities detailed in this report.

Table 18: Residential Waste Diversion Activity

Residential Waste Diversion Summary	2018 Tonnes	2017 Tonnes
Net Marketed Recyclables-Table 4	23,158	23,543
Other Recycling Programs-Table 9	6,169	6,167
Yard Waste, BYC & Mulching Blades-Table 13	28,719	24,354
MHSW Waste including Motor Oil-Table 16	704	682
Total Residential Tonnes Diverted	58,750	54,746

For further information please contact the Essex-Windsor Solid Waste Authority Hotline at 1-800-563-3377.

Catherine Copot-Nepszy
Manager, Waste Diversion



Eli Maodus
General Manager



Report prepared by: **Margaret Shires**, Administrative Assistant

