

# 2016 Status of Waste Management Report

Bruce County

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Bruce County Highways Department

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## Executive Summary

The 1995 County of Bruce Waste Management Master Plan concluded that the administration of the waste management system would be shared between the County and its local municipalities. Bruce County assumed responsibility for monitoring and reporting on the County's progress towards its diversion target as well as monitoring the remaining capacity at the municipal landfill sites. The purpose of developing this report is to fulfill these responsibilities and to provide an overview of the current waste management system.

In 2016, the landfill sites within the County of Bruce had a combined fill rate of 53,361m<sup>3</sup> and a five year average annual fill rate of 55,406m<sup>3</sup>. Overall, the remaining landfill site capacity at the end of 2016 is estimated to be 1,851,484m<sup>3</sup>, and when applying the average fill rate, a remaining site life of approximately 33 years exists.

A number of waste diversion programs have been implemented to reduce material from entering the landfill site. Approximately 11,000 tonnes of material were diverted through reuse and recycling practices in 2016. Current waste diversion programs in place include:

Blue Box Recycling	Leaf & Yard Waste	Mattresses & Box Springs
Used Tires	Drywall & Shingles	Household Batteries
Electronics Recycling	Fluorescent Lights	Municipal Hazardous & Special Waste
Agricultural Bale Wrap	Scrap Metal & White Goods	Backyard Composting
Polystyrene	Automotive Batteries	Reuse Centres

Overall, the County has sufficient landfill site capacity available to meet their long term waste management planning needs. Municipalities and the County continue to operate waste diversion programs which divert recyclable material away from the waste stream. Additional options for improved diversion may exist by enhancing existing programs, investigating new initiatives and improving promotion and education strategies.

## Introduction

The Status Report on Waste Management provides an overview of the waste management system in the County of Bruce. The County and local municipalities work to protect and conserve landfill site capacity and continue to succeed in diversion practices. The purpose of this report is to:

- Outline Bruce County's current waste management system;
- Assess remaining landfill site capacity and the potential need for additional disposal options;
- Identify current and potential waste diversion programs;
- Evaluate the progress towards achieving the County-wide diversion target.

## Background

The County of Bruce completed a Solid Waste Management Master Plan in 1995. The plan provided a comprehensive strategy for diverting waste and for efficient use of existing landfill site capacity. The responsibility for the implementation of the plan and the administration of the waste management system is shared between the County and the local municipalities. The County passed by-laws to assume waste management responsibilities and to adopt the Waste Management Plan.

## County Responsibilities

As outlined in County of Bruce By-Law No. 3544, No. 3545 and No.3546, the County is responsible for the following waste management practices:

### Diversion

- Waste reduction education
- Household hazardous waste collection program
- Monitoring of the progress towards the County-wide target of 50% diversion as stated in the Master Plan (Provincial waste diversion target of 60% was set in 2004).

### Disposal

- The County can facilitate agreements between local municipalities for the use of existing landfill capacity for all municipalities
- Establish a Waste Management Future Planning Reserve Fund to pay for future County waste disposal requirements
- Assume responsibility for waste disposal education, including the exploration of alternative disposal facility operators in the County
- Monitor capacity and operations of existing sites.

## Municipal Responsibilities

As outlined in the County of Bruce By-Law No. 3544, the local municipalities are responsible for the following waste management practices:

### Diversification

- Responsible for recycling, composting, tipping fees, exchange facilities, data collection, monitoring and reporting.

### Disposal

- Existing landfill site ownership, operation, management, closure and post closure of landfill sites.

### Planning

- Responsible for providing information, on request, into the County's long range planning process. This could include information on costs, program description, landfill monitoring reports, etc.

## Policy Framework

Although waste is controlled at all levels of government - federal, provincial and municipal - it is primarily regulated at the provincial level. In Ontario, waste management is governed by the following Acts:

### Environmental Protection Act (EPA)

The EPA provides for the protection and conservation of the natural environment. Within the EPA there are specific regulations that mandate how waste generators in Ontario must manage their waste.

- O.Reg.347 - General - Waste Management (ECAs)
- O.Reg.101/94 - Recycling and Composting of Municipal Waste

### Environmental Assessment Act (EAA)

The EAA sets out a planning and decision-making process to evaluate the potential environmental effects of a proposed undertaking.

- O.Reg. 101/07 - Waste Management Projects Regulation

### Waste Diversion Act (WDA)

The purposes of the WDA is to promote the reduction, reuse and recycling of waste and to facilitate the development, implementation, and operation of waste diversion programs. This

Act established Waste Diversion Ontario (WDO) as the primary organization for achieving the Act's purpose.

- Proposed Waste Reduction Act (Bill 91) - June 2013.  
This bill was intended to replace the existing WDA and establish individual producer responsibility (IPR) requirements. This legislation stalled when the provincial election was set for June 12 2014.

These Acts, along with the Regulations under them, establish and detail the authority and responsibility of the Ministry of Environment and Climate Change (MOECC).

### Existing Provincial Stewardship Programs

In Ontario, producer responsibility was established by the WDA. The Act empowers the WDO to develop, implement and monitor the effectiveness of various waste diversion programs in the province.

Current program plans - Blue Box Program, Municipal Hazardous or Special Waste Program (Orange Drop), Waste Electrical and Electronic Equipment Program (WEEE), and Used Tires Program. These programs vary in terms of funding level, reporting obligations and operational requirements. Based on previous observations, the program plans change on a continual basis.

#### Blue Box Program

The Blue Box Program is operated by municipalities as required by O.Reg. 101/94. This program is partially funded through Stewardship Ontario, the Industry Funding Organization. Funding for the program is based on results of an annual Municipal datacall completed by municipalities. Blue box recycling services in the Bruce County are provided by Bruce Area Solid Waste Recycling (BASWR) and Waste Management.

#### Municipal Hazardous or Special Waste (MHSW) Program (Orange Drop)

The MHSW Program is partially funded by Stewardship Ontario and Product Care Association. MHSW materials collected through the program include: paints and coatings, solvents, oil filters, oil containers, household and automotive batteries, antifreeze, pressurized containers, fertilizers and pesticides, fire extinguishers, fluorescent bulbs and tubes, mercury containing devices, pharmaceuticals, flammable, corrosive, toxic, reactive, caustic and oxidizing materials.

The MHSW program has undergone numerous changes specifically the elimination of materials included in the funding since the County entered into an agreement in 2008. The County manages the MHSW collection and operates sixteen collection events throughout the County on an annual basis.

## Waste Electrical and Electronic Equipment (WEEE) Program

Waste Electrical and Electronic Equipment (WEEE) Program is managed by Ontario Electronic Stewardship (OES). Materials funded under this program include: computers, printers, televisions, telephones, cameras and audio visual equipment. Municipalities work with OES and OES approved processors and receive funding for WEEE materials collected at their landfill sites and transfer stations.

## Ontario Tire Stewardship Program

Ontario Tire Stewardship (OTS) is responsible for the administration of the Ontario Tire Stewardship Program. Municipalities are funded for tires collected at the landfill site and transfer station based on the type of tire. The following tires are included in the funding program:

- on-road passenger/light truck tires
- motorcycle, ATV and medium truck tires
- off-road tires including forklift and agricultural drive tires
- all sizes of off-road tires and solid industrial tires.

## MOE Policy Statement

In 2007, the MOE released its *Policy Statement on Waste Management Planning: Best Practices for Waste Managers*. The document addresses the Provincial direction for waste management primarily through the 3R's hierarchy (reduce, reuse, recycle) and achieving an overall waste diversion rate from final residual disposal of 60%.

## Bill 151 - Waste Free Ontario Act

On November 26, 2015, the Ministry of the Environment and Climate Change (MOECC) introduced new legislative framework for the waste management - Bill 151 - the Waste Free Ontario Act.

The Legislation encompasses two Acts:

- Resource Recovery and Circular Economy Act (RRCEA) - to set overarching Provincial direction and establish a full producer responsibility structure for products and packaging.
- Waste Diversion Transition Act (WDTA) - to replace the Waste Diversion Act (2002) to help transition of existing programs to the full producer responsibility structure.

The goal of the Waste Free Ontario Act is to correct the waste sector marketplace distortions caused by the current Waste Diversion Act and provide members with significant opportunities for business investment and growth in waste diversion and recycling.

The Resource Recovery and Circular Economy Act (RRCEA) shifts the waste management framework, making producers wholly responsible for the management of designated wastes.

The RRCEA enhances the former Waste Diversion Act by imposing full Extended Producer Responsibility (EPR) onto producers.

The future impacts of the regulations, policy statements, and programs established under the WDTA and the RRCEA on municipal waste diversion program costs and funding are yet to be determined.

### Current Waste Management System

The County of Bruce and local municipalities provide an integrated waste management service to reduce, divert and dispose of waste generated within the County.

### Waste Reduction

A holistic approach to waste management is identified in the Waste Value Chain, which illustrates that as the value of resources (prevention, diversion and disposal) decreases, disposal capacity needs increase. The first step in waste management is prevention and/or waste reduction. Behavioural and technological changes influence the waste generated by the residential, IC&I and C&D sectors. It is important to measure waste that is diverted and disposed of, but it is also essential to evaluate waste being generated. The County and municipalities promote the 3R's - Reduce, Reuse, Recycle, and should incorporate reduction initiatives prior to reuse and recycling options.

### Waste Disposal

Waste collection and disposal services for residents of Bruce County are undertaken by the local municipality either through municipal services or private contractor. The cost for residents to dispose of household waste varies for each municipality as outlined in Table 1 below.

**Table 1: 2016 Curbside Waste Collection**

Municipality	Bag Tag Fee / Limit	Waste Collection Contractor
Arran-Elderslie	2 bags (no cost) additional bag \$3.00	Bruce Sales & Services
Brockton	\$2.00 - clear bags required	Bruce Sales & Services
Huron-Kinloss	\$2.00	Bruce Area Solid Waste Recycling (BASWR)
Kincardine	\$2.00	BASWR
Northern Bruce Peninsula	2 bags (no cost)	Miller Waste Systems/Waste Management
Saugeen Shores	\$2.00	BASWR
South Bruce	\$2.00 (\$2.50 at the landfill site)	Waste Management
South Bruce Peninsula	1 bag (no cost) additional bag \$2.00; 3 bag limit	Miller Waste Systems



Municipalities manage waste from the Residential, Industrial, Commercial & Institutional (IC&I) and Construction and Demolition (C&D) sectors. Residential waste collected at the curbside and/or dumpster is disposed of at the municipal landfill site. IC&I and C&D waste is disposed of at either a municipal landfill or private landfill outside of the County. Landfill sites are owned and operated by the local municipalities, a map of their locations are provided in Figure 1.



In 2016, the total waste and daily cover consumed at the municipal landfill sites was approximately 53,361m<sup>3</sup>. This is an increase from the 2015 fill rate of 52,198m<sup>3</sup> and less than the five year average fill rate of 55,406m<sup>3</sup>. Fluctuations in annual fill rates are observed from year to year. Several factors may contribute to these changes including: decreased/increased waste generation, increased waste diversion practices, improved waste compaction, operational improvements, completion of topographical survey. Table 2 provides a summary of annual fill rates from 2012 - 2016.

**Table 2: Landfill Site Fill Rates 2012 - 2016**

Municipality	Landfill Site	Fill Rate (m <sup>3</sup> )					
		2012	2013	2014	2015	2016	Average
Arran-Elderslie	Arran	1,250	2,975	2,180	3,760	2,560	3,030
	Chesley	3,180	0	0	0	0	
Brockton	Greenock	3,000	1,850	1,220	1,480	0	3,521
	Brant	3,360	3,360	1,868	5,440	3,618	
	Hanover-Walkerton	3,701	3,012	3,945	2,925	4,306	3,577
Huron-Kinloss	Huron	6,750	4,825	7,250	6,060	8,140	6,605
	Kinloss	0	0	0	0	0	
Kincardine	Ward 1	17,100	0	0	0	0	9,257
	KWMC		17,100	9,198	7,466	4,931	
	Ward 3	1,821	1,821	1,821	1,821	1,821	1,821
Northern Bruce Peninsula	Eastnor	2,900	1,800	2,700	2,180	1,190	2,350
	St. Edmund's	2,800	3,300	3,000	1,905	2,270	2,655
	Lindsay	750	800	640	875	1,024	887
Saugeen Shores	Southampton	7,999	7,304	7,585	7,462	9,813	8,033
South Bruce	Mildmay	1,565	1,565	2,500	1,600	1,460	1,925
	Teeswater	1,234	1,234	1,234	1,234	1,820	1,560
South Bruce Peninsula	Amabel	12,067	10,188	10,269	7,990	10,409	10,185
	Albemarle	0	0	0	0	0	0
<b>Bruce County</b>		<b>69,477</b>	<b>61,134</b>	<b>55,410</b>	<b>52,198</b>	<b>53,361</b>	<b>55,406</b>

The overall remaining capacity for waste and daily cover at the end of 2016 was 1,851,484m<sup>3</sup>, which at the five year average fill rate of 55,406m<sup>3</sup> results in approximately 33 years of remaining site life within the County. Tables 3 & 4 and Figures 2 - 7 provide an overview of remaining capacities and fill rates.

Table 3: 2016 Landfill Site Fill Rates & Remaining Capacity

Municipality	Landfill Site	2016 Fill Rate (m <sup>3</sup> )	Average Annual Fill Rate (m <sup>3</sup> )	Remaining Capacity (m <sup>3</sup> )	Remaining Site Life (years) 2016 Fill Rate	Remaining Site Life (years) Average Fill Rate
Arran-Elderslie	Arran	2,560	3,030	191,835	74.94	63.31
Brockton	Greenock	0	3,521	94,900	26.23	26.95
	Brant	3,618		71,405	19.74	20.28
	Hanover-Walkerton	4,306	3,577	174,450	40.52	48.77
Huron-Kinloss	Huron	8,140	6,605	113,079	13.89	17.12
	Kinloss	0		137,000	16.83	20.74
Kincardine	KWMC	4,931	9,257	566,835	114.96	61.23
	Ward 3	1,821	1,821	56,282	30.91	30.91
Northern Bruce Peninsula	Eastnor	1,190	2,350	6,890	5.79	2.93
	St. Edmund's	2,270	2,655	16,760	7.38	6.31
	Lindsay	1,024	887	33,189	32.41	37.42
Saugeen Shores	Southampton	9,813	8,033	166,975	17.02	20.79
South Bruce	Mildmay	1,460	1,925	34,920	23.92	18.14
	Teeswater	1,820	1,560	38,893	21.37	24.93
South Bruce Peninsula	Amabel	10,409	10,185	145,771	14.00	14.31
	Albemarle	0		2,300	2.21	2.23
<b>Bruce County</b>		<b>53,361</b>	<b>55,406</b>	<b>1,851,484</b>	<b>34.70</b>	<b>33.42</b>

- Fill Rates and remaining capacity values are for waste and daily cover. Remaining capacity does not include final cover material.
- Average Annual Fill Rate is calculated using previous five year fill rates.
- Hanover-Walkerton landfill calculations are based on the assumption that the Town of Walkerton accounts for 45% of the total landfill site fill rate and remaining capacity.

Table 4: 2016 Municipal Fill Rates & Remaining Capacity

Municipality	2016 Fill Rate (m <sup>3</sup> )	Average Annual Fill Rate (m <sup>3</sup> )	Remaining Capacity (m <sup>3</sup> )	Remaining Site Life (years) 2016 Fill Rate	Remaining Site Life (years) Average Fill Rate
Arran-Elderslie	2,560	3,030	191,835	74.94	63.31
Brockton	7,924	7,098	340,755	43.01	48.01
Huron-Kinloss	8,140	6,605	250,079	30.72	37.86
Kincardine	6,752	11,078	623,117	92.29	56.25
Northern Bruce Peninsula	4,484	5,892	56,839	12.68	9.65
Saugeen Shores	9,813	8,033	166,975	17.02	20.79
South Bruce	3,280	3,485	73,813	22.50	21.18
South Bruce Peninsula	10,409	10,185	148,071	14.23	14.54
<b>Bruce County</b>	<b>53,361</b>	<b>55,406</b>	<b>1,851,484</b>	<b>34.70</b>	<b>33.42</b>

- Fill Rates and remaining capacity values are for waste and daily cover. Remaining capacity does not include final cover material.
- Average Annual Fill Rate is calculated using previous five year fill rates.
- Hanover-Walkerton landfill calculations are based on the assumption that the Town of Walkerton accounts for 45% of the total landfill site fill rate and remaining capacity.

Figure 2: 2016 vs. Average Annual Fill Rate by Landfill Site

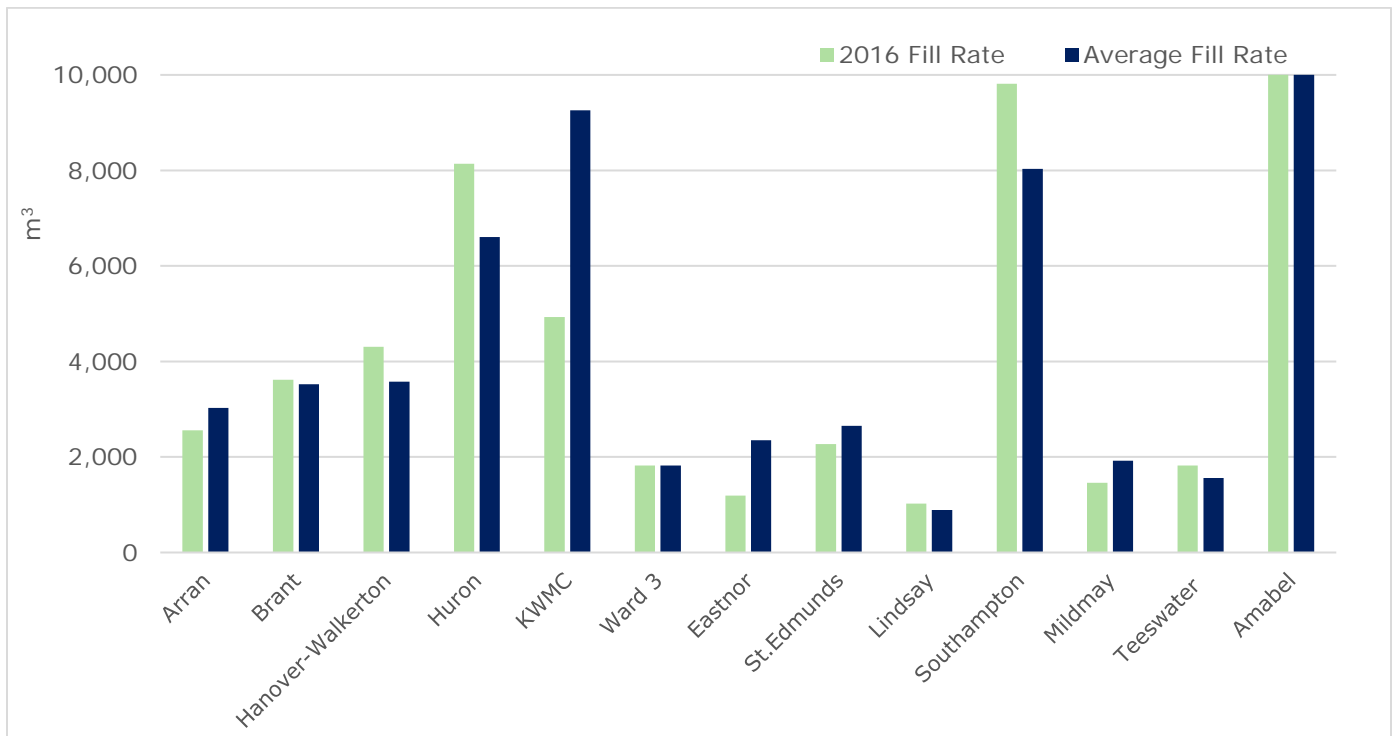
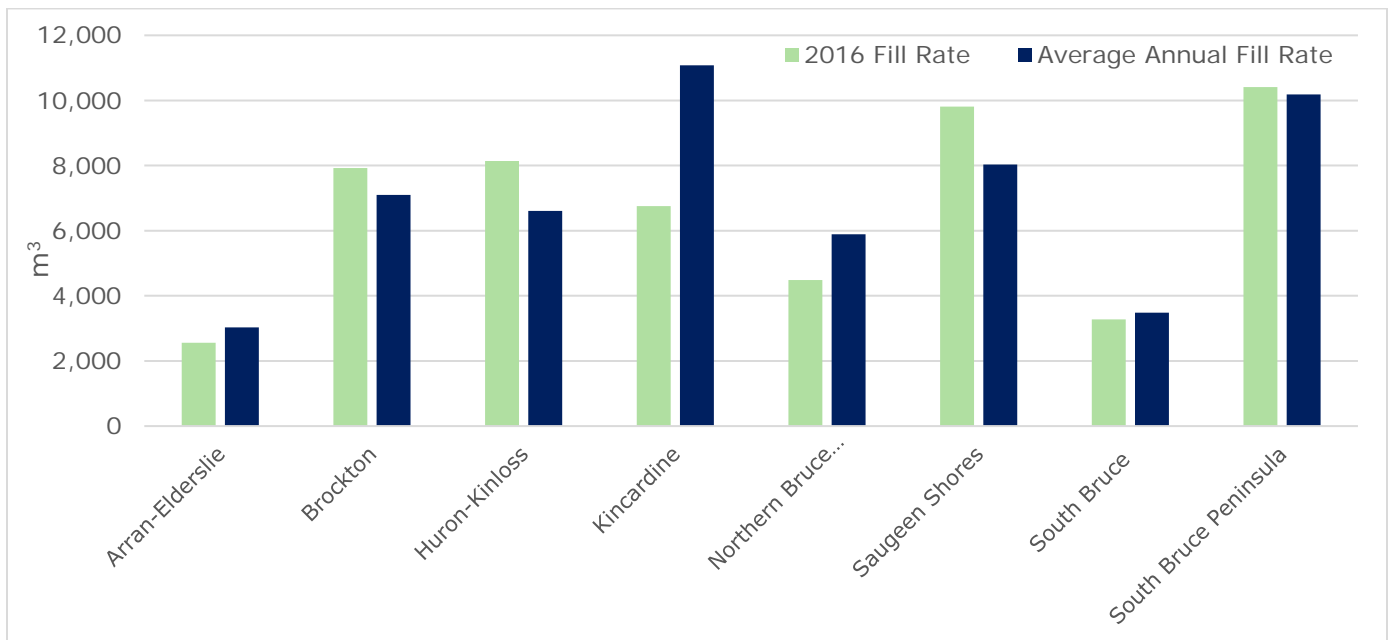


Figure 3: 2016 vs. Average Annual Fill Rate by Municipality



Figures 2 and 3 provide a comparison of the 2016 fill rates and the five year average fill rate at the landfill and municipal level. Most municipalities have 2016 fill rates that are similar to the average fill rate, with the exception of Kincardine which had a 2016 fill rate significantly lower than the average.

Figure 4: 2016 Remaining Capacity by Landfill Site

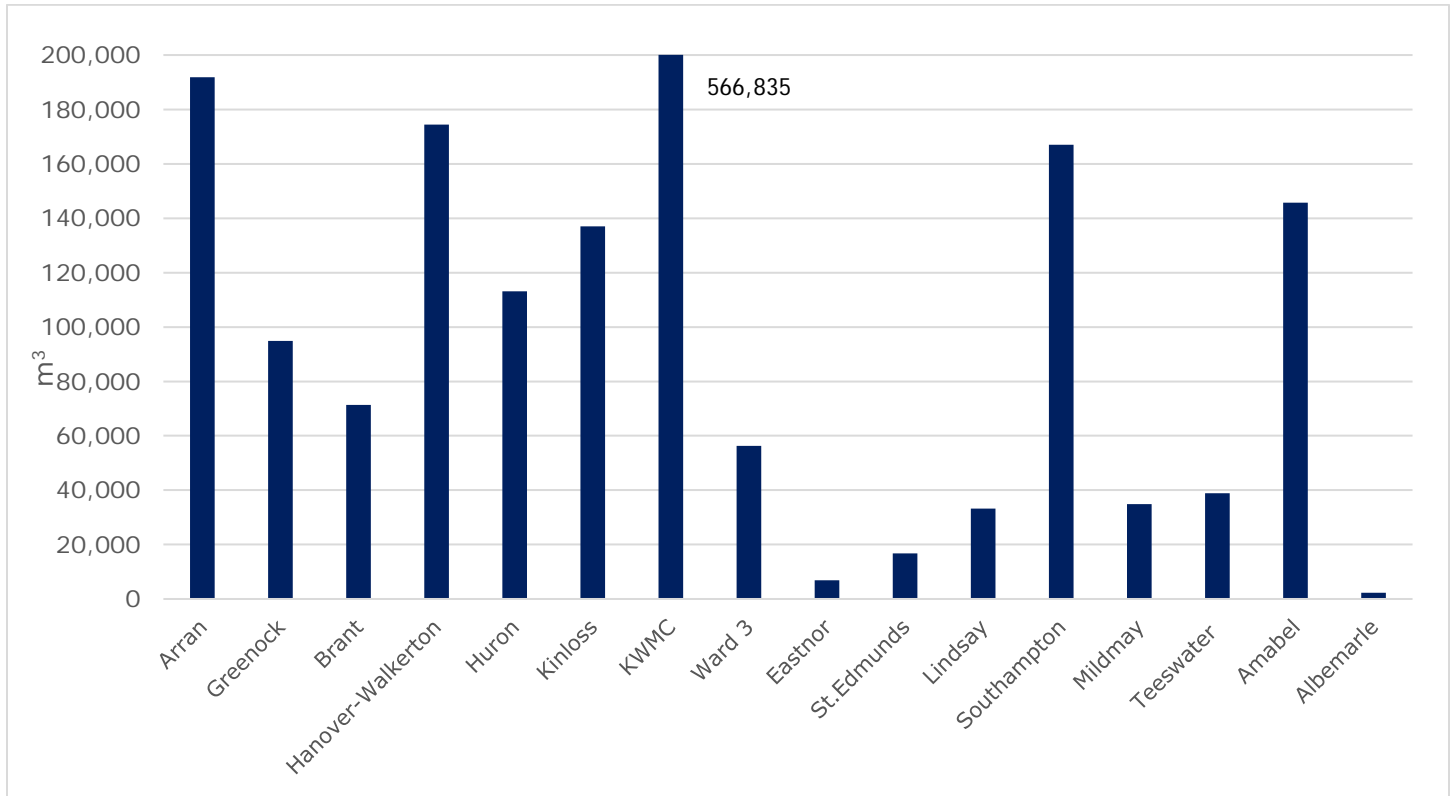
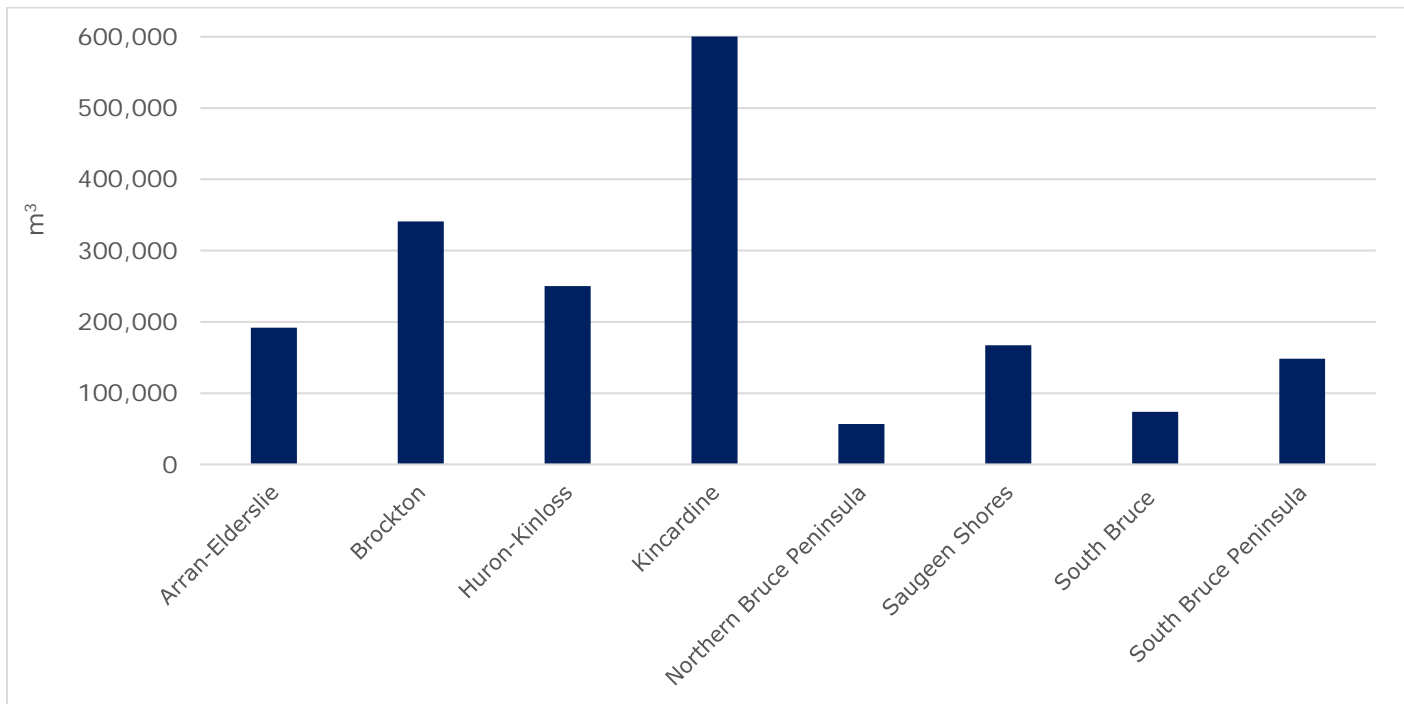


Figure 5: 2016 Remaining Capacity by Municipality



Figures 4 and 5 provide an overview of landfill site capacity available. Majority of municipalities have a sufficient amount of capacity available for their long term waste management planning. The Municipality of Northern Bruce Peninsula will have an increase in capacity with the PDO amendment at the Eastnor landfill which is anticipated to take effect in 2017. South Bruce has a low amount of remaining capacity compared to other municipalities, however it should be noted that the fill rate for South Bruce is less than other municipalities.



Figure 6: Remaining Site Life by Landfill Site

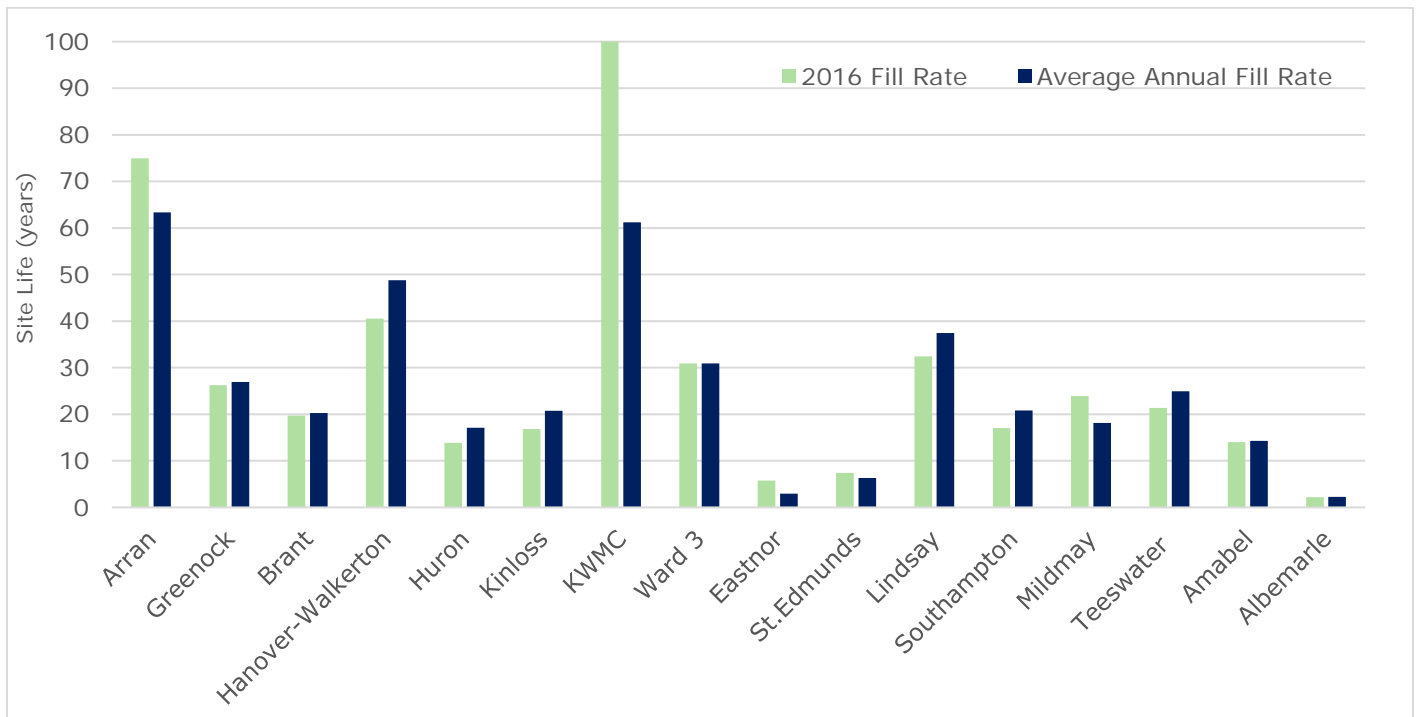
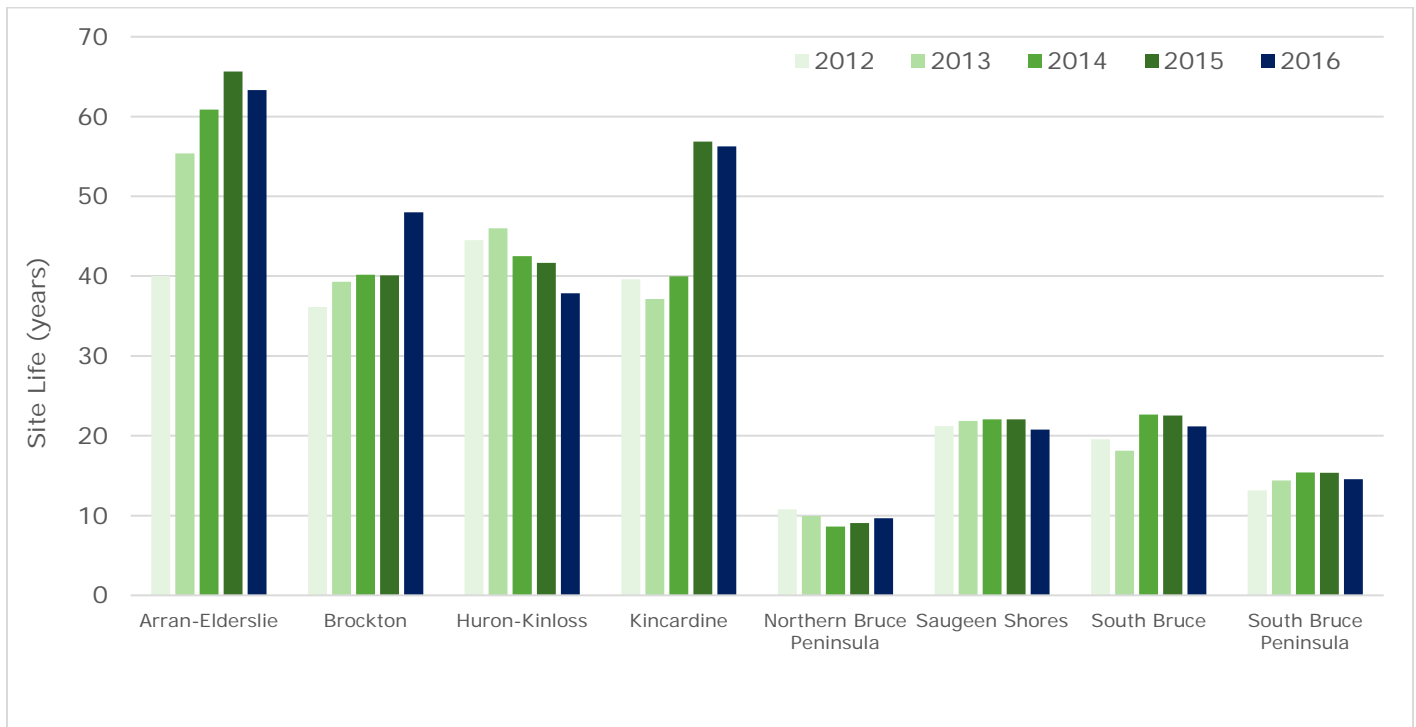


Figure 7: Remaining Site Life by Municipality using Average Annual Fill Rate



Figures 6 and 7 show the remaining site life available at the individual landfill sites and on a municipal level.

As stated in the 1995 County of Bruce Solid Waste Management Master Plan, it is the County's responsibility to ensure that all area municipalities have disposal capacity for a minimum 20-year period. Table 4 notes that two municipalities, Municipality of Northern Bruce Peninsula and the Town of South Bruce Peninsula, do not have remaining site life for a minimum 20-year period when using the average fill rate. It is important to note that municipalities continue to make progress to ensure adequate future capacity is available. Northern Bruce Peninsula is undertaking a PDO amendment and hydrogeological investigation at the Eastnor landfill site that will provide approximately 270,000m<sup>3</sup> of additional capacity. The Town of South Bruce Peninsula is investigating options to extend the site life at the Amabel landfill.

### Landfill Operations

Landfill site operations are the responsibility of the local municipality and as a result, hours of operation, tipping fees, diversion programs and general operations vary throughout the County. The majority of landfill sites have weigh scales installed which assist in recording and monitoring all materials entering the site.

Compaction rates range in density from 400kg/m<sup>3</sup> to 800 kg/m<sup>3</sup> depending on the equipment and practices used for compaction. The denser the waste is packed, combined with the tighter controls on the amount of cover material used would affect the remaining capacity and site life of a landfill. It is important to recognize that achieving higher compaction levels may not be a practical solution for small landfills that operate on a limited service basis.

### Waste Diversion

Waste diversion programs are managed by the local municipalities, blue box recyclers (Bruce Solid Waste Recycling and Miller Waste Systems) and the County of Bruce. A number of diversion programs have been implemented in recent years to augment the traditional waste management services and to work towards achieving the County's diversion target of 50%.

### Blue Box Recycling

Residential recyclable materials are collected through the blue box program. Bruce Area Solid Waste Recycling (BASWR) provides curbside blue box collection to seven municipalities. Miller Waste Systems provides curbside and depot blue box collection for the Municipality of Northern Bruce Peninsula. Recyclables are collected curbside on a bi-weekly basis and no limit is placed on the amount of recyclables accepted. Materials included in the blue box program include:

#### Metal

- Aluminum foil containers & wrap
- Food tins
- Pop cans
- Empty aerosol cans
- Empty metal paint cans

#### Paper

- Newspaper & inserts
- Magazine & catalogues
- Boxboard
- Brown paper bags
- Spiral Boxboard containers

#### Plastic

- #1 PET plastic containers
- #2 HDPE screw-top plastic bottles
- #3 V or PVC plastic bottles
- #4 LDPE plastic bottles
- #5 PP plastic tubs
- #7 other plastics

#### Glass Bottles & Jars

- Flint Glass (clear)
- Coloured Glass

### Municipal Hazardous & Special Waste (MHSW) Collection Program

The County of Bruce manages the MHSW collection program throughout the County. In 2015, the County operated sixteen collection events which provided residents an opportunity to bring material from their household that require special recycling or disposal. Over 2,600 vehicles attended the events and approximately 135 tonnes of material was received. The following are examples of materials accepted in the program: paints, oil, solvents, cleaners, batteries, propane tanks and cylinders, pesticides and fertilizers, pool chemicals, antifreeze, pharmaceuticals and fluorescent lights.

### Backyard Composting

Five municipalities currently offer composters and/or green cones to their residents at a cost, to encourage backyard composting. Backyard composting removed organics from the waste stream reducing the weight and volume of material going to landfill. Backyard composting can divert 100kg to 250kg of organic material per year.

### Landfill Diversion Programs

The local municipalities support a variety of waste diversion and recycling programs at their landfill sites. These program include:

- Blue Box Recycling
- Leaf & Yard Waste
- Electronics Recycling
- Used Tires
- Scrap Metal & White Goods
- Fluorescent Lights
- Agricultural Bale Wrap
- Polystyrene
- Mattresses & Box Springs
- Household & Automotive Batteries
- Shingles & Drywall
- Reuse Centres

### Blue Box Recycling

Landfill sites have a number of blue box bins where residents can drop off acceptable materials free of charge.

### Leaf & Yard Waste

Leaf and yard waste is diverted to the landfill site and composted to be used on-site for cover material where available.

### Electronics Recycling

Municipalities operate an electronic waste diversion program at the landfill or transfer station through Ontario Electronic Stewardship (OES). Electronic waste includes: televisions, computers, printing and copying devices, telephones, cameras and other video devices. Residents can dispose of electronic waste at no cost.

### Used Tires

Landfill sites are certified collection sites with Ontario Tire Stewardship (OTS). Tires collected are transported and processed by an OTS approved company. Residents can dispose of used tires free of charge.

### Scrap Metal & White Goods

Scrap metal and white goods are diverted from disposal and recycled through local contractors. Residents and businesses can dispose of these materials either free of charge or for a fee, depending on the municipality.

### Fluorescent Lights

Fluorescent lights (tubes and bulbs) are collected for recycling at the Southampton landfill and Kincardine Waste Management Centre. Fluorescent lights were collected and recycled through the Phase 2 program. The Phase 2 program was cancelled in October 2014, however both locations continue to accept these materials for recycling. Fluorescent lights are also accepted through the MHSW collection program.

### Agricultural Bale Wrap

The collection of used agricultural bale wrap creates an additional waste diversion stream. In 2014, municipalities diverted this material through Think Plastic Inc. As of November 2014, Think Plastics no longer operates a bale wrap recycling program. In 2016, Municipalities directed interested residents to Switch Energy's program which picks up the material at the farm as opposed to the landfill.

## Polystyrene

Municipalities have established polystyrene recycling programs at their landfill sites and transfer stations. Polystyrene is a light, bulky material made up of 98% air, 2% plastic and has an average mass weight of approximately 100kg/m<sup>3</sup>. Grace Canada, accepted in truck-load quantities, white, un-baled, bagged polystyrene. Residents disposed of polystyrene at participating municipalities free of charge. In 2017, it was announced that Grace Canada was no longer accepting polystyrene for recycling, and all end markets for polystyrene seemed to disappear at a rapid pace. At this time, municipalities have stopped accepting polystyrene for recycling purposes until a solution is found. The County and municipalities will continue to research viable options for recycling this product.

## Mattresses & Box Springs

The majority of municipalities have implemented a mattress and box spring diversion program at the landfill. These materials are disposed of by residents and businesses for a fee and then recycled through Recyc-Mattresses. The recycling of mattresses and box springs can provide large savings in landfill capacity. Recyc-Mattresses has experienced a number of shut downs and delays in receiving the product at their recycling facility. Municipalities continue to divert mattresses and box spring from the landfill but are at times required to store the materials for long periods of time before recycling is scheduled. TRY Recycling will accept mattresses and box springs at their transfer station, however the materials are shredded and landfilled, as opposed to recycled. Municipalities and the County will continue to monitor this program to determine if it is a feasible program to continue operating.

## Household & Automotive Batteries

Municipalities collect household batteries at the landfill site, municipal office and at additional municipal buildings to remove these items from entering the waste stream. The batteries collected are recycled through Raw Materials Inc. Automotive batteries are collected at the landfill site and are recycling through a local contractor.

## Shingles & Drywall

The Kincardine Waste Management Centre and Hanover-Walkerton landfill segregate and recycle shingles and drywall through Try Recycling. South Bruce diverts shingles and drywall at the Teeswater landfill.

## Reuse Centres

Five landfill sites have established reuse centres to promote waste diversion through reuse practices.

Table 5 provides an overview of the 2016 Waste Diversion programs that diverted approximately 11,000 tonnes of material from the landfill. An overview of diversion from 2012 to 2016 is provided in Table 6.

Table 5: 2016 Waste Diversion Programs

Municipality	Blue Box	MHSW	Backyard Composting	Electronic Waste	Scrap Metal	Leaf & Yard	Polystyrene	Tires
Arran-Elderslie	BASWR	8.28		2.79	32.10			18.90
	465.03							
Brockton	BASWR	22.29	Composter - \$30.00 Green Cone - \$85.00	23.42	112.92	118.80	2.31	9.89
	595.80							
Huron-Kinloss	BASWR	5.04	Green Cone - \$55.00	20.19	132.60			182.69
	436.09							
Kincardine	BASWR	25.19		34.78	185.51	170.00	25.4	18.76
	827.50							
Northern Bruce Peninsula	Miller Waste	14.06	Composter - \$38.00	18.73	94.60	61.30		20.02
	326.00							
Saugeen Shores	BASWR	38.62	Composter - \$15.00 Green Cone - \$40.00	44.50	153.00	1,683.00	44.80	231.00
	1,135.00							
South Bruce	BASWR	6.16		15.16	129.54		0.46	47.70
	305.73							
South Bruce Peninsula	BASWR	16.19		28.82	146.44	921.07		11.92
	699.43							
<b>2016 Total</b>	<b>4,790.58</b>	<b>135.83</b>		<b>188.39</b>	<b>986.71</b>	<b>2,954.17</b>	<b>72.97</b>	<b>540.88</b>

- Values in tonnes
- Blue indicates program is implemented and measurements may not be available.
- MHSW- Municipal Hazardous & Special Waste

Municipality	Bale Wrap	Mattresses & Box springs	Automotive Batteries	Shingles	Drywall	Fluorescent Lights	Reuse Centres	Other	Total
Arran-Elderslie		10.90						0.51	538.51
Brockton				45.95	7.38			1.86	940.62
Huron-Kinloss		11.76							788.37
Kincardine		18.37	0.61	414.72	95.09	0.54		408.75	2,225.22
Northern Bruce Peninsula	22.50	3.31	0.14				4.75		565.41
Saugeen Shores		37.70	1.03			1.76		187.00	3,557.41
South Bruce	24.00	4.73		162.20	11.00				707.08
South Bruce Peninsula		15.93							1,839.80
<b>2016 Total</b>	<b>46.50</b>	<b>109.15</b>	<b>1.78</b>	<b>623.27</b>	<b>113.47</b>	<b>2.30</b>	<b>4.75</b>	<b>598.12</b>	<b>11,168.87</b>

- Values in tonnes
- Blue indicates program is implemented as values may not be available.

Figure 8: 2016 Waste Diversion by Weight

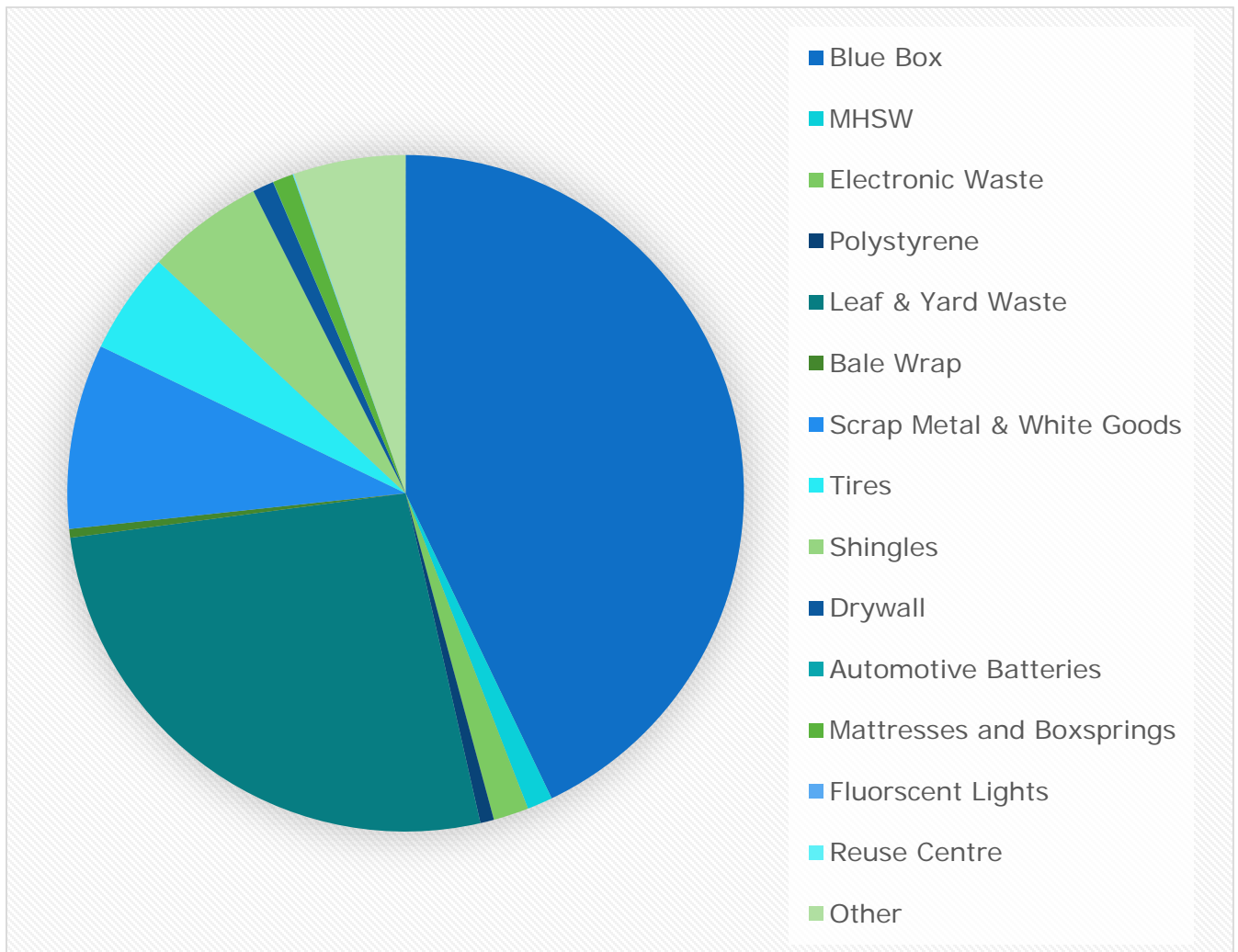


Table 6: Diversion by Weight 2012 - 2016

Year	Blue Box Program	All Other Diversion Programs	Total
2012	5,017.58	4,974.88	9,992.46
2013	4,809.61	3,970.54	8,780.15
2014	5,416.72	4,984.81	10,401.53
2015	4,952.41	5,615.92	10,568.33
2016	4,790.58	6,509.11	11,168.87



## Monitoring

The County and local municipalities monitor and report on waste management. Since 2007, Bruce County has prepared an annual status report on waste management which outlines current waste management practices, landfill site capacity and opportunities for enhancing the waste management system. Landfill site annual monitoring reports are compiled by municipally retained consultants as required by the Ministry of Environment and Climate Change (MOECC). The County reviews the reports on an annual basis to obtain data for the status report.

## Waste Management Opportunities

Municipalities continue to provide a sustainable waste management system for residents and businesses of Bruce County. This report identifies the waste management opportunities for disposal, diversion and long term waste management initiatives.

### Disposal

The majority of municipalities employ a user pay curbside waste management program. User pay systems provide additional incentive for residents to maximize their diversion efforts while assisting municipalities in offsetting the collection and disposal costs. Municipalities continue to improve landfill site operations through waste screening, records management, installation of weigh scales and improved compaction practices. Municipalities should continue or strongly consider the following opportunities relating to waste disposal:

- Evaluate waste collection and disposal fee structures (bag tags/tipping fees)
- Ensure effective compaction practices are implemented;
- Undertake waste screening at the landfill;
- Continue effective data collection of materials disposed and diverted.

### Diversion

There continues to be support for reducing, reusing and recycling through a variety of waste management programs. Implementing new diversion programs, enhancing existing programs and ensuring a high degree of public education will be an ongoing task for municipalities and the County. It is important to note that the uncertainty of provincially funded waste diversion programs makes it difficult to implement and maintain a number of initiatives.

Now in force, the Waste Diversion Transition Act (WDTA) represents an interim step ensuring a smooth transition of existing Blue Box, WEEE, MHSW and Used Tires programs to the new Resource Recovery and Circular Economy Act (RRCEA) avoiding disruptions to recycling services currently provided or financed by Producers. Municipalities and the County will continue to keep updated on the WDTA and RRCEA as the province moves forward with the implementation of this Regulation.

The following opportunities should be considered to increase diversion practices:

- Consider the effectiveness of recycling by-laws;
- Implement a ban on recyclable materials from the waste stream;
- Encourage backyard composting;
- Continue to implement promotion and education strategies.

## Long Term Waste Management Initiatives

In 1995, the County assumed the power to provide landfilling sites for all local municipalities forming part of the County of Bruce. This authority was limited to the power to enter into agreements with local municipalities for the use of existing landfill site capacity. The County also assumed responsibility for monitoring the remaining capacity at the municipal landfill sites and to ensure that all area municipalities have disposal capacity for a minimum 20 year period. As capacity at landfill sites continues to increase and fill rates remain stagnant or decrease, municipalities will have sufficient capacity for their long term waste management needs. The County and municipalities should consider the following opportunities relating to long term waste management planning:

- Encourage and facilitate the sharing of information between the County and municipalities to ensure municipalities have a site capacity for a minimum of 20 years;
- Monitor performance of current waste management programs;
- County to provide technical support to municipalities with their long term waste management initiatives;
- County to investigate options for a permanent household hazardous and special waste collection program;
- County and municipalities stay informed of provincial initiatives, programs, policies and funding opportunities as they become available.

## Conclusion

There is a desire at the County and municipal level to maximize the use of existing landfill site capacity, recognizing this capacity as a finite resource with significant value.

Ultimately, reducing the amount of waste generated through reduction and reuse practices is best as it reduces the amount of energy and resources required to transport, process and/or dispose of waste materials. Local municipalities have implemented successful waste diversion programs for items that would have previously been landfilled.

The Province encourages cooperation among municipalities to seek efficiencies and to find mutually acceptable solutions to waste management. This partnership approach has the potential to expand waste management options available to the municipalities involved. The waste management realm is considered to be dynamic with changes occurring to both diversion and residential waste opportunities as technology advances and markets change.

The Resource Recovery and Circular Economy Act (RRCEA) will fundamentally change how waste diversion programs are developed and delivered to our communities. There is a great amount of work that is required under this Act to ensure that new programs provide adequate service to our communities and that all municipalities have access to quality diversion programs. Moving forward, the County and municipalities will gain knowledge and understanding of the new Act and work to ensure programs are transitioned in an effective manner. It is imperative that the voice of rural communities be heard during this significant transition to the province's waste management industry.