



Department of the Environment

# MARYLAND SOLID WASTE MANAGEMENT and DIVERSION REPORT

– 2017 –

(Calendar Year 2016 Data)

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Land and Materials Administration

Prepared for:

Senate Education, Health, and Environmental Affairs Committee

House Environment and Transportation Committee

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# Overview

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## Introduction

The Maryland Department of the Environment (the “Department”) respectfully submits to the Governor, General Assembly, House Environment and Transportation Committee, and Senate Education, Health and Environmental Affairs Committee the Department's Annual Report describing how solid waste was managed in Maryland **during calendar year (CY) 2016**. Beginning in 2009, the Maryland Waste Diversion Activities Report and Solid Waste Managed in Maryland Report were combined into one report. This report is submitted in accordance with Section 9-204(n) of the Environment Article, Annotated Code of Maryland, which requires the Department to prepare an annual report identifying the amount of solid waste, by weight or volume, disposed in the State during the previous year, and Section 9-1702(e), which requires the Department to prepare an annual report detailing recycling in Maryland.

Part I of the report addresses solid waste managed by Maryland permitted solid waste acceptance facilities and provides information regarding the management of solid waste, by weight or volume, which was captured by permitted solid waste acceptance facilities in the State during the previous calendar year. All permitted solid waste acceptance facilities must provide the Department with the information needed to prepare this report on an annual basis, including: municipal landfills; rubble (construction and demolition (C&D)) landfills; industrial waste landfills; land clearing debris (LCD) landfills; solid waste transfer stations; solid and medical waste processing facilities; solid waste processing facilities and transfer stations; municipal solid waste incinerator/waste-to-energy facilities; natural wood waste (NWW) recycling facilities; and composting facilities. The recycling data reported in Part I represents only the recycling activities conducted by Maryland permitted solid waste acceptance facilities.

Part II of the report addresses waste diversion (*i.e.*, recycling and source reduction) in Maryland and provides information on programs covered by Maryland’s waste diversion legislation, including local jurisdiction recycling and source reduction (SR) data **for CY 2016**, and an overview of the State’s technical assistance activities **during fiscal year 2016 (*i.e.*, July 2015 through June 2016)**. Data contained in Part II comes from annual reports submitted to the Department by Maryland’s 23 counties and Baltimore City, annual reports filed by Maryland permitted solid waste acceptance facilities, State government agencies participating in the All StAR (**All State Agencies Recycle**) Program, and newspaper and telephone directory publishers. Counties also provide the Department information on their collection programs, institutional recycling programs, public education efforts, source reduction activities, and disposal facilities.

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## Executive Summary

In 2016, Maryland counties and Baltimore City generated 11,967,810 tons of solid waste (see Table 1 – Maryland Waste Generation Totals, including footnotes, for details). The total represents solid waste managed by all sources, not just Maryland permitted solid waste acceptance facilities. As businesses in Maryland are not required to report the waste they generate, this total represents the best available solid waste generation data. This total is an decrease of 4.04 percent from the 12,471,636 tons generated in 2015. The Maryland Recycling Act (MRA) outlines the

types of waste that count towards a county’s recycling rate. MRA waste is equal to municipal solid waste (MSW) plus industrial waste from non-private, industrial waste landfills. MRA waste is comprised of 2,826,943 tons of MRA recyclables + 3,984,678 tons of MRA waste disposed (without recycled MSW ash and backend scrap metal) for a total of 6,811,621 tons of MRA waste generated in Maryland.

A total of 8,962,034 tons of waste was accepted at Maryland permitted solid waste acceptance facilities. Of the 8,962,034 tons of solid waste accepted, a total of 8,329,933 tons was managed by Maryland permitted solid waste acceptance facilities during CY 2016 by recycling, disposal (incineration and landfilling), or transportation out of State (see Table 3).

**Table 1 – Maryland Waste Generation Totals**

County	Total Waste (tons)
Allegany	474,558
Anne Arundel	1,215,173
Baltimore City	1,190,006
Baltimore County	1,463,542
Calvert	113,966
Carroll	371,443
Cecil	177,265
Charles	478,182
Dorchester	63,436
Frederick	424,087
Garrett	67,300
Harford	286,950
Howard	748,207
Mid-Shore *	355,907
Montgomery	1,466,740
Prince George's	1,689,099
Somerset	34,353
St. Mary's	209,692
Washington	187,949
Wicomico	331,300
Worcester	194,235
State Highways	424,421
<b>MARYLAND TOTAL ^</b>	<b>11,967,811</b>

\* Mid-Shore Counties include Caroline, Kent, Queen Anne's, and Talbot.

^ Due to rounding the Maryland Total differs from the actual value of 11,967,810.3. County total is 11,543,389.3.

Maryland achieved a 46.92 percent MRA waste diversion rate. This was comprised of a 42.91 percent MRA recycling rate (2,826,943 tons of MRA recycling, plus 96,086 tons resource recovery

facility credit) plus a 4.01 percent (284,708 tons reduced) source reduction credit. An additional 3,231,628 tons of materials (*e.g.*, scrap metal, asphalt, soils, etc.) that do not count towards the MRA recycling rate were also recycled for a grand total of 6,058,571 tons recycled in Maryland, including the resource recovery facility credit. (See Tables 17 and 18, including footnotes, for details.)

Other highlights for CY 2016:

- \* 2,632,512 tons (32 percent) of the waste managed by Maryland permitted solid waste acceptance facilities was landfilled in Maryland;
- \* 1,176,574 tons (14 percent) were recycled/reused in Maryland;
- \* 1,331,591 tons (16 percent) were incinerated in Maryland; and
- \* 2,563,325 tons (31 percent) were exported to out-of-State facilities. (See Table 15, including footnotes, for details.)
- \* Maryland remains a significant exporter of solid waste and exports more waste than it imports. A total of 2,563,325 tons of waste was exported from Maryland, while only 273,296 tons of waste was imported to Maryland. (See Tables 13 and 14, including footnotes, for details.)
- \* Maryland landfills reported a total available capacity of 81,439,850 tons in 2016. (See Appendix C, including footnotes, for details.)

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## Part I – Waste Management by Permitted Solid Waste Acceptance Facilities

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### Introduction

This part of the report **ONLY addresses waste managed by Maryland permitted solid waste acceptance facilities**. In accordance with Section 9-204(n) of the Environment Article, Maryland permitted solid waste acceptance facilities must provide the Department with the information needed to prepare an annual report detailing the amount of solid waste they managed. The annual report must identify:

- \* The amount of solid waste managed in each of the following categories:
  - Municipal Solid Waste (MSW);
  - Construction & Demolition (C&D);
  - Land Clearing Debris (LCD);
  - Industrial Waste;
  - Incinerator Ash;
  - Natural Wood Waste (NWW); and
  - Any other solid waste identified by the Department.
- \* The amount of solid waste managed in the State that is generated outside the State.
- \* The jurisdictions where the solid waste originated.
- \* The amount of solid waste generated in the State that is transported outside the State for disposal.

- \* An estimate of the amount of solid waste managed or disposed by:
  - Recycling;
  - Composting;
  - Landfilling; and
  - Incineration.

In addition to the mandatory information above, permitted solid waste acceptance facilities may submit optional information related to the economic benefits provided by those facilities to the community. Such information may include:

- \* An accounting of the facility's economic benefits provided to the locality where the facility is located;
- \* The value of disposal and recycling services provided to the locality at no cost or reduced cost;
- \* Direct employment associated with the facility; and
- \* Other economic benefits resulting from the facility during the preceding calendar year.

### **Solid Waste Disposal Data**

To collect the information necessary to comply with the reporting requirements of Section 9-204(n) of the Environment Article, the Department has reviewed and compiled the data reported in the Annual Tonnage Reports submitted by permitted solid waste acceptance facilities that accepted solid waste in CY 2016. A solid waste acceptance facility is any landfill, incinerator, transfer station, or processing facility whose primary purpose is to dispose of, treat, or process solid waste. The reports are required as a condition of each facility's Refuse Disposal Permit and describe each facility's solid waste management activities for the preceding year. Appendix A provides a summary of the information that the Department received from the facilities that voluntarily chose to report economic benefits in the Annual Tonnage Report.

### **Recycling Data**

To compile the required data summarizing recycling activities during CY 2016, the Department reviewed and analyzed the information contained in the Annual Tonnage Reports from permitted solid waste acceptance facilities. The **recycling data** reported in **Part I** of this report represents **only** the recycling activities **conducted by the permitted solid waste acceptance facilities**. Statewide recycling information is available in Part II, "Waste Diversion," of this report.

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## **Solid Waste Management by Solid Waste Acceptance Facilities in 2016**

In CY 2016, over 8.96 million tons of solid waste was accepted by Maryland permitted solid waste acceptance facilities and NWW recycling facilities. The 8.96 million tons includes waste stored on site and waste sent from one facility to another. Of the 8.96 million tons accepted, over 8.3 million tons were actually managed by storing, recycling and disposal in Maryland, or



transportation out of State. Table 2 details the difference between the amounts of waste generated in Maryland, highlighted in green, and the waste managed by Maryland permitted solid waste acceptance facilities, highlighted in blue and yellow. Table 3 details the waste managed by Maryland permitted solid waste acceptance facilities.

**Table 2 – Waste Generated in Maryland vs. Waste Managed by Maryland Permitted Solid Waste Acceptance Facilities**

Waste Detail		Tons
A	Total Waste Generated in Maryland (see Table 1, including “^” footer)	11,967,810
B	Total Maryland Waste Recycled (see Table 17, including “*” footer)	6,058,571
C	Total Maryland Waste Disposed (A – B)	5,909,239
D	Total Maryland waste recycled that was not managed through a Maryland permitted SWAF (6,058,571 (Table 17) – 1,400,876 (Table 3))	4,657,695
E	Total waste disposed by Maryland counties but not captured by a Maryland permitted solid waste acceptance facility ^	132,507
F	Natural Wood Waste Adjustment ^^	467,096
G *	Recycled Ash, Back-End Scrap Metal, and By-Pass Adjustment ^^^	188,586
H	Total waste imported into Maryland (see Table 14)	273,296
I **	Disposed Ash, Back-End Scrap Metal, and By-Pass ^^^	223,347
<b>Total Waste Managed by Maryland permitted solid waste acceptance facilities (A-D-E+F+G+H+I) (see Table 3)</b>		<b>8,329,933</b>

Waste generated in Maryland	Waste generated vs. managed adjustments	Waste managed by Maryland Permitted Solid Waste Acceptance Facilities
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\* To avoid double-counting and accurately report the amount of waste generated in Maryland, the amount of recycled product material from the incineration process is subtracted from the amount of material sent to the incinerator. However, this material is managed by permitted facilities.

\*\* To avoid double-counting and accurately report the amount of waste generated in Maryland, disposed product material from the incineration process is not counted as waste generated in Maryland. However, this material is managed by permitted refuse disposal systems.

^ Not reported separately in report. Reported by counties via the MRA Tonnage Reporting Survey (132,506.75 tons) and included in the 11,967,810 waste generated tons. Total also includes 424,421 tons of recycled road material.

^^ Waste disposed and recycled, but not reported by counties in the annual MRA Tonnage Reporting Survey, and managed by Natural Wood Waste Facilities in Maryland.

^^^ Reported by permitted solid waste acceptance facilities via the Solid Waste Tonnage Report (does not include coal ash). 166,012.4 tons of ash and bypass recycled + 22,573.88 tons of back-end scrap metal recycled = 188,586.28 tons. 223,347.29 tons of disposed ash, back-end scrap metal, & by-pass.

The amount of out-of-State waste that was managed in Maryland in 2016 slightly increased to 273,296 tons, compared to 271,005 in 2015. The quantity of solid waste accepted, processed, and disposed at the permitted refuse disposal systems in Maryland is similar to previous years. Over 2.63 million tons of waste was landfilled and over 1.33 million tons was incinerated in Maryland. Over 1.11 million tons of reclaimed recyclables were collected, sorted, and transferred to recycling facilities in Maryland. Figure 1 depicts the tons of waste managed by Maryland permitted facilities in previous years.

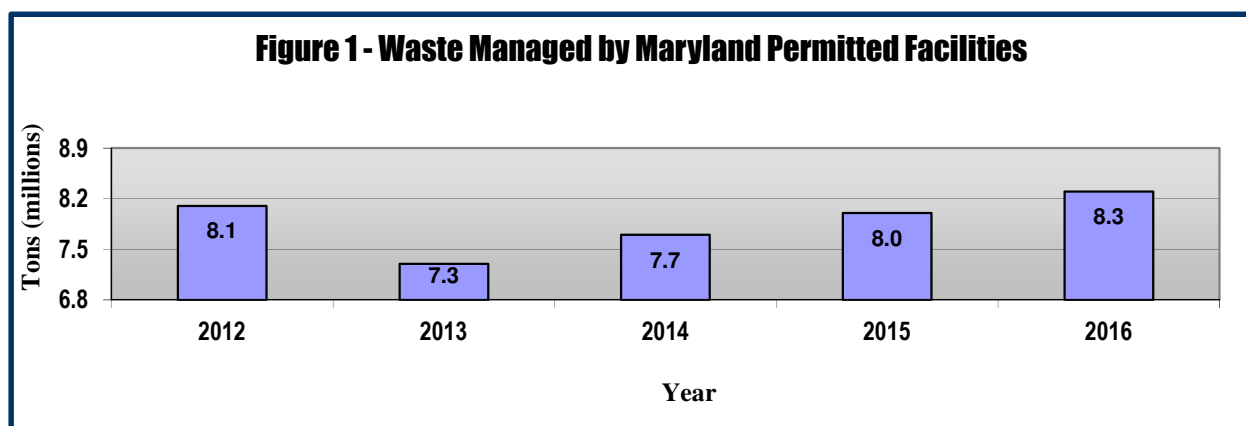
The use of out-of-State facilities for the disposal of Maryland generated waste continued in 2016. There was an increase, to 2,563,325 tons, in the amount of waste exported compared to 2015 (2,529,871 tons).

Table 3 details the total amount of solid waste that Maryland permitted solid waste acceptance facilities stored on site or managed via export, disposal (*i.e.*, landfilling and incineration), and recycling/reuse. Permitted solid waste acceptance facilities do not report the types of MSW collected, only total MSW. According to the U.S. Environmental Protection Agency’s (EPA) Advancing Sustainable Materials Management: Facts and Figures 2014, MSW is comprised of approximately 26.5% paper and paperboard, 14.9% food scraps, 13.3% yard trimmings, 12.9% plastics, 9% metals, 6.2% wood, 9.5% rubber, leather and textiles, 4.4% glass, and 3.3% other (*i.e.*, electrolytes in batteries, fluff pulp, feces, and urine in diapers).

**Table 3 – Waste Managed in 2016 by Maryland Permitted Solid Waste Acceptance Facilities**

Solid Waste Category	Tons Accepted <sup>1</sup>	Tons Recycled/ Reused <sup>2</sup>	Tons Disposed	Tons Stored	Tons Managed <sup>3</sup>
Municipal Solid Waste	5,371,610	350,535	4,068,008	17,406	<b>4,435,949</b>
Construction & Demolition Debris	2,567,401	439,205	1,693,189	496,930	<b>2,629,324</b>
Natural Wood Waste	484,079	429,191	10,007	111,595	<b>550,793</b>
Industrial Waste	38,001	116	37,885	0	<b>38,001</b>
Land Clearing Debris	37,102	17,402	20,376	0	<b>37,778</b>
Other Wastes <sup>4</sup>	84,797	4	84,793	0	<b>84,797</b>
<b>Total Waste Received</b>	<b>8,582,990</b>	<b>1,236,453</b>	<b>5,914,258</b>	<b>625,931</b>	<b>7,776,642</b>
Tons of Incinerator Ash	379,044	164,423	388,868	0	<b>553,291</b>
<b>TOTAL REPORTED</b>	<b>8,962,034</b>	<b>1,400,876</b>	<b>6,303,126</b>	<b>625,931</b>	<b>8,329,933</b>

- 1 "Tons Accepted" includes all waste accepted by permitted facilities including waste sent from one Maryland permitted facility to another.
- 2 Only includes recycling/reused waste that was captured by Maryland permitted solid waste acceptance facilities.
- 3 "Tons Managed" is equal to "Tons Recycled/Reused" + "Tons Disposed" + "Tons Stored". "Tons Managed" is waste that was managed both in Maryland and outside of Maryland (see Figures 3 and 4 and Tables 14 and 15).
- 4 "Other Wastes" includes special medical waste, asbestos, and sewage sludge.



## Refuse Disposal Systems

Under Maryland law, a refuse disposal system (“System”) includes an incinerator, transfer station, landfill system, landfill, solid waste processing facility, and any other solid waste

acceptance facility. Appendix B gives a complete list of permitted solid waste acceptance facilities. Appendix C provides details on permitted landfill capacities. Additional information on each type of facility is provided below.

### **Municipal Landfill**

A municipal landfill, which is also known as a MSW landfill, is designed, constructed, and operated so that all types of waste generated by a community, except waste specifically prohibited by solid waste regulations, can be accepted. During 2016, 24 Refuse Disposal Permits for municipal landfills were in effect. Of the 24 permits, 22 facilities have been developed. Of the 22 developed facilities, 21 facilities accepted MSW, managed/disposed MSW, and/or transferred recyclables to the marketplace.

The construction of new cells under the horizontal expansion for the Cecil County Central Landfill and the construction of Montgomery County Site 2 Municipal Landfill as a back-up facility to handle the County’s waste capacity in the future, are currently on hold. The Mid-Shore Regional Solid Waste Municipal Landfill in Talbot County ceased its landfill operations and did not accept any waste in 2016. Under a multi-jurisdictional agreement, waste from the four Mid-Shore counties (Caroline, Kent, Queen Anne’s, and Talbot) is currently disposed at the Midshore II Landfill in Caroline County. Details of MSW landfill waste management practices are presented in Table 4.

**Table 4 – Permitted MSW Landfills**

<b>Jurisdiction</b>	<b>Facility Name (Landfill)</b>	<b>Ownership</b>	<b>Waste Accepted *</b>	<b>Waste Handled</b>	
				<b>Waste Disposed</b>	<b>Waste Transported</b>
Allegany	Mountainview Sanitary	Private	84,258	84,258	0
Anne Arundel	Millersville Resource Recovery Facility	County	175,544	118,222	31,845
Baltimore City	Quarantine Road	City	349,551	275,388	288
Baltimore	Eastern Sanitary	County	221,000	173,455	2,639
Calvert	Appeal Sanitary	County	3,110	207	1,600
Caroline	Midshore II	County	121,158	110,199	1,378
Carroll	Northern Municipal	County	16,509	15,957	552
Cecil	Cecil County Central	County	103,736	85,570	4,159
	Cecil County Central-Horizontal Expansion	County	0	0	0
Charles	Charles County Municipal	County	123,341	96,665	1,424
Dorchester	Beulah Municipal	County	59,006	53,136	127
Frederick	Fort Detrick Area B	Federal	4,442	4,442	0
	Reichs Ford/Site B	County	19,004	12,379	1,044
Garrett	Garrett County Solid Waste Disposal & Recycling Facility	County	30,165	29,785	121

Jurisdiction	Facility Name (Landfill)	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
Harford	Harford Waste Disposal Center (Expansion)	County	96,274	45,030	22,527
Howard	Alpha Ridge Municipal	County	61,981	7,336	6,091
Montgomery	Montgomery County Site 2	County	0	0	0
Prince George's	Brown Station Road	County	290,220	288,509	1,711
St. Mary's	St. Andrew's Municipal	County	13,942	0	13,942
Somerset	Somerset County	County	25,162	24,793	369
Talbot	Midshore Regional Solid Waste Facility	County	0	0	0
Washington	Forty West Municipal	County	94,999	90,488	2,832
Wicomico	Newland Park Municipal	County	125,052	125,052	0
Worcester	Central Sanitary	County	79,288	69,438	1,812
<b>TOTAL</b>			<b>2,097,742</b>	<b>1,710,309</b>	<b>94,461</b>

\* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2016, but not managed until 2017.

### Construction and Demolition (C&D) Landfill

A rubble (C&D) landfill is a solid waste acceptance facility that is restricted to accepting waste derived from building construction, demolition, or remodeling, such as wood, metal, bricks (excluding refractory type) and masonry, cement and concrete, glass, shingles and roofing material, plaster and plasterboard, carpets, floor and wall tile, asphalt, insulation material, pipes, wires, and appliances, and debris derived from land clearing operations such as tree stumps, root mats, brush and limbs, logs, topsoil, vegetation, and rock. Paper or cardboard packaging or building materials are accepted, provided that they do not exceed ten percent of the waste by volume. Empty paint containers and empty caulk or glaze containers are accepted, provided any remaining residual material is dried before being accepted and these items do not exceed one percent of the waste accepted at the rubble landfill by volume. Details of C&D landfill waste management practices are presented in Table 5.

### Industrial Waste Landfill

An industrial waste landfill is a solid waste acceptance facility restricted to the acceptance of only non-hazardous industrial waste. Industrial waste is defined as any liquid, gaseous, solid, or other waste substance, or combination thereof, resulting from (a) any process of industry, manufacturing, trade or business; or (b) the development of any natural resource, including agriculture. Industrial waste may include materials such as dusts, powders or sludges from pollution control devices, residuals from filters or cleaning of items or areas, and residual materials from a variety of processes (*e.g.*, sandblasting grit, paint sludge, oil/water separator grit, etc). These materials must be characterized prior to disposal to ensure that they are not hazardous wastes. Industrial wastes may also be disposed in permitted MSW landfills. Details of industrial waste landfill waste management practices are presented in Table 6.

**Table 5 – Permitted C&D Landfills**

Jurisdiction	Facility Name (Landfill)	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
Anne Arundel	Tolson & Associates Rubble Landfill	Private	3,631	3,553	6
Baltimore County	Days Cove Rubble Landfill Lateral Expansion	Private	187,402	186,566	836
	Honeygo Run Reclamation Center	Private	207,794	204,773	7
Prince George's	Ritchie Reclamation Phase I & II	Private	419,091	305,834	7,185
Queen Anne's	Baker Rubble	Private	21,304	17,788	320
Washington	Washington County Rubble	County	0	0	0
<b>TOTAL</b>			<b>839,222</b>	<b>718,514</b>	<b>8,354</b>

\* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2016, but not managed until 2017.

**Table 6 – Permitted Industrial Waste Landfills**

Jurisdiction	Facility Name (Landfill)	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
Baltimore City	Fort Armistead Road-Lot 15	Private	165,499	165,499	0
	Hawkins Pt. Plant	Private	240	240	0
	W. R. Grace and Co. – Davison Chemical Division	Private	20,789	20,789	0
Frederick	Eastalco Aluminum Company	Private	28,506	17,161	0
	Essroc Cement Corporation	Private	0	0	0
<b>TOTAL</b>			<b>215,034</b>	<b>203,689</b>	<b>0</b>

\* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2016, but not managed until 2017.

**Land Clearing Debris (LCD) Landfill**

A LCD landfill is a solid waste acceptance facility that is restricted to acceptance of the following waste: earthen material such as clays, sands, gravels, and silts; topsoil; tree stumps; root mats; brush and limbs; logs; vegetation; and rock. Details of LCD landfill waste management practices are presented in Table 7.

**Solid Waste Transfer Station**

A solid waste transfer station is a solid waste acceptance facility where waste materials are taken from one collection vehicle (*e.g.*, compactor truck, etc.) and placed in another transportation unit (*e.g.*, over-the-road tractor-trailer, railroad gondola car, barge or ship, etc.) for movement to other solid waste acceptance facilities.

Individuals and businesses can dispose of a wide variety of solid waste materials at a transfer station. A typical transfer station may accept MSW, C&D, metals, wood waste, yard waste, recyclables, etc. Details of solid waste transfer station waste management practices are presented in Table 8.

**Table 7 – Permitted Land Clearing Debris Landfills**

Jurisdiction	Facility Name (Landfill)	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
Calvert	Hance Land Clearing Debris	Private	5,765	0	0
	Howlin Land Clearing Debris	Private	0	0	0
St. Mary's	Knott Land Clearing Debris	Private	0	0	0
<b>TOTAL</b>			<b>5,765</b>	<b>0</b>	<b>0</b>

\* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2016, but not managed until 2017.

**Table 8 – Permitted Solid Waste Transfer Stations**

Jurisdiction	Facility Name (Transfer Station)	Ownership	Waste Accepted *	Waste Handled	
				Waste Stored	Waste Transported
Baltimore City	Northwest	Municipal	54,679	0	54,679
Baltimore County	Eastern	County	189,193	0	189,193
	Western Acceptance	County	198,194	124	198,425
Calvert	Appeal	Private	99,025	0	99,025
Cecil	Stemmers Run	County	470	0	470
	Woodlawn	County	1,294	0	1,294
Howard	Workplace Essentials	Private	42	0	42
Talbot	Midshore Regional Solid Waste Facility	Maryland Environmental Service/State	34,500	0	34,500
Wicomico	Foskey Lane	Private	453	0	453
Worcester	Ocean City	Municipal	34,008	0	34,008
<b>TOTAL</b>			<b>611,858</b>	<b>124</b>	<b>612,089</b>

\* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2016, but not managed until 2017.

### Solid or Medical Waste Processing Facility

A solid or medical waste processing facility is a facility where a combination of structures, machinery, or devices are used to reduce or alter the volume, chemical characteristics, or physical characteristics of solid waste. This can include sorting for diversion of recyclables. In general, processes are performed either to remove recyclables or to reduce the volume that the waste occupies during transport or at final disposal (e.g., shredding). A wide variety of solid waste can be processed at these facilities. A typical solid waste processing facility accepts MSW, C&D, metals, wood

waste, etc. Details of solid or medical waste processing facility waste management practices are presented in Table 9.

**Table 9 – Permitted Solid and Medical Waste Processing Facilities**

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Stored	Waste Transported
Baltimore City	L & J Waste Recycling, LLC	Private	30,139	0	30,139
Baltimore County	Recovermat Mid-Atlantic	Private	0	0	0
Calvert	Southern Maryland Processing	Private	16,172	0	16,172
Carroll	Roll-Off Express, Inc.	Private	104,659	0	104,659
Montgomery	C&D Recovery Processing	Private	79,392	1,150	78,242
Prince George's	Dower House Recycling and Processing	Private	0	0	0
	Sun Services Processing & Recycling Center	Private	87,738	0	87,738
Wicomico	Peninsula Regional Medical Center **	Private	142	0	142
	Bennett Processing	Private	19,659	200	19,459
<b>TOTAL</b>			<b>337,901</b>	<b>1,350</b>	<b>336,551</b>

\* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2016, but not managed until 2017.

\*\* Peninsula Regional Medical Center is the only processing facility reporting medical waste.

**Solid Waste Processing Facility & Transfer Station**

Solid waste processing facilities and transfer stations are facilities that perform the functions of both a transfer station and a processing facility. Details of solid waste processing facility & transfer station waste management practices are presented in Table 10.

**Table 10 – Permitted Solid Waste Processing Facilities and Transfer Stations**

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Stored	Waste Transported
Allegany	Western Maryland Processing Facility and Transfer Station	Private	30,068	63	30,007
Anne Arundel	Curtis Creek Recovery Systems	Private	282,310	0	282,310
	Annapolis Junction Recycling and Transfer Station	Private	596,535	0	596,535
Baltimore City	BFI Baltimore Processing and Transfer Center	Private	0	0	0

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Stored	Waste Transported
	Stericycle, Inc.	Private	21,197	0	21,197
	Baltimore Recycling Center, LLC	Private	195,183	0	195,183
	Daniels Sharpsmart	Private	1,847	0	1,847
Baltimore County	Baltimore County Central Acceptance Facility	County	334,577	2,517	334,677
Carroll	Northern Municipal Landfill	County	85,938	0	85,938
Frederick	Reichs Ford Landfill	County	173,949	0	173,949
Harford	Auston Processing and Transfer Facility	Private	2,386	163	2,407
Howard	Alpha Ridge Municipal Processing & Transfer Facility	County	36,265	0	36,265
	Ameriwaste Processing and Transfer Station	Private	205,165	0	205,165
Montgomery	Montgomery County Solid Waste Transfer Station	County	740,807	0	740,807
Prince George's	Recycle One Processing & Transfer Station	Private	225,223	0	225,223
	Sheriff Road Processing Transfer Facility	Private	109,308	0	109,308
St. Mary's	St. Andrew's Waste Processing and Transfer Station	County	0	0	0
Wicomico	CES-Connelly Road Processing & Transfer Station	Private	721	0	721
<b>TOTAL</b>			<b>3,041,479</b>	<b>2,743</b>	<b>3,041,539</b>

\* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2016, but not managed until 2017.

### **Municipal Solid Waste Incinerator/Waste-to-Energy Facility**

A Municipal Solid Waste (MSW) incinerator/waste-to-energy facility is equipped with a furnace or combustion unit that uses controlled flame combustion for the thermal destruction of MSW, industrial waste, or special medical waste. Incinerators that are “waste-to-energy” facilities use the heat generated by combustion to create steam that is either used directly for heat or to drive electrical powered generators. Details of MSW incinerator/waste-to-energy facility waste management practices are presented in Table 11.

### **Natural Wood Waste Recycling Facility**

Natural Wood Waste (NWW) Recycling facilities consists of trees and other natural vegetative materials, including tree stumps and limbs, brush, root mats, logs,



leaves, grass clippings, and unadulterated wood wastes. NWW does not include pallets, crates, lumber, wood chips, firewood, or other products that may be made from NWW, but have subsequently been processed. Owners or operators of facilities that recycle NWW must obtain a permit to operate under Code of Maryland Regulations (COMAR) 26.04.09. A natural wood waste recycling (NWW) facility does not include a collection or processing facility operated by a nonprofit or governmental organization located in the State, or a single individual or business that provides recycling services solely for its employees or for its own recyclable materials generated on its own premises.

**Table 11 – Permitted Incinerator/Waste-to-Energy Facilities**

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Incinerated	Waste Transported
Baltimore City	Wheelabrator Baltimore, LP.	Private	722,020	722,789	216,331
	Curtis Bay Energy	Private	24,751	24,751	9,824
Charles	Naval Support Facility Indian Head Incinerator	Federal	123	2	121
Frederick	Fort Detrick – Area B and Main Post	Federal	2,311	2,036	666
Harford	Harford County Resource Recovery Facility	County	24,976	26,609	12,044
Montgomery	Montgomery County Resource Recovery Facility	County / Northeast MD Waste Disposal Authority	554,684	555,315	172,874
Somerset	Smith Island Incinerator	County	89	89	22
<b>TOTAL</b>			<b>1,328,954</b>	<b>1,331,591</b>	<b>411,882</b>

\* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2016, but not managed until 2017.

NWW recycling facility waste management practices are presented in Table 12. Details on NWW permits are provided in Appendix C. Additional information on Maryland’s NWW program is available on the Department’s Solid Waste Management in Maryland web page at [www.mde.maryland.gov/programs/LAND/SolidWaste/Pages/index.aspx](http://www.mde.maryland.gov/programs/LAND/SolidWaste/Pages/index.aspx), or by contacting the Department’s Solid Waste Program at 410-537-3315 or [kaveh.hosseinzadeh@maryland.gov](mailto:kaveh.hosseinzadeh@maryland.gov).

**Composting Facilities**

Composting means the controlled aerobic biological decomposition of organic waste material. Certain composting facilities are required to obtain composting permits as outlined in COMAR 26.04.11. Detailed information on composting in Maryland is available on the Department’s *Organics Diversion and Composting* web page at [www.mde.maryland.gov/composting](http://www.mde.maryland.gov/composting).

Composting facility waste management practices are presented in Table 13.

**Table 12 – Permitted Natural Wood Waste Recycling Facilities**

Jurisdiction	Facility Name	Permittee	Waste Accepted	Waste Handled	
				Waste Recycled*	Waste Marketed*
Allegany	Braddock Construction, LLC.	Braddock Construction, LLC.	12	8	0
Anne Arundel	A-A Recycle & Sand, Inc.	A-A Recycle & Sand, Inc.	23,618	0	20,897
	Bronson Contracting, Inc.	Bronson Contracting, Inc.	0	0	0
	L and W Recycling	L & W Recycling, Inc.	35,252	35,252	15,277
Baltimore County	King Mulch and Pallet	Albert J. Bierman	4,442	4,442	3,518
	Edrich Lumber, Inc.	Edrich Lumber, Inc.	19,164	19,164	36,869
	Northwest Recycling, LLC.	Northwest Recycling LLC.	9,750	9,750	9,235
	Wirtz & Daughters, Inc.	Wirtz And Daughters, Inc.	16,796	16,796	36,758
	Hollins Organic Products, Inc.	Hollins Organic Products, Inc.	14,118	14,118	13,850
	Hollins Organic Products, Inc. 2	Hollins Organic Products, Inc.	0	0	0
Calvert	A & L Natural Wood Waste Facility	A.H Hatcher Inc.	18,281	6,311	5,640
	231 Materials & Recycling Products, LLC.	231 Materials & Recycling Products, LLC.	0	0	0
Caroline	Cahall Construction, LLC	Cahall Construction, LLC	929	0	0
Carroll	C. J. Miller, LLC.	C. J. Miller, LLC.	882	882	6,084
	Harvest RGI, LLC	Harvest RGI, LLC	19,054	21,777	21,777
	Hidey's Landscape Supply Yard	Hidey's Lawn Services LLC.	1,777	2,327	3,018
Cecil	Chesapeake Wood Recycling	Chesapeake Investment, Inc.	690	680	480
	Mountain Mulch Elkton, LLC	Mountain Mulch Elkton, LLC	5,605	5,639	5,475
Charles	Beuchert Excavating, Inc.	Beuchert Excavating, Inc.	564	3,272	486
	Calvert Wood Recycling	Calvert Wood Recycling LLC	7,460	7,371	5,774
	Mona Recycling	Michael Mona Jr.	130	120	0
Frederick	Butler Wood Recycling	William Lee Butler	1,099	754	752
	Comus Stone-Woodsboro Operation	Comus Materials, LLC	0	0	0
	Grant County Mulch	Grant County Mulch, Inc.	19,597	18,892	41,718
	Bussard Brothers Landscape	R. W. Bussard & Sons, Inc.	7,119	7,119	5,975

Jurisdiction	Facility Name	Permittee	Waste Accepted	Waste Handled	
				Waste Recycled*	Waste Marketed*
Harford	Harford Industrial Minerals, Inc.	Harford Industrial Minerals, Inc.	0	0	0
	Heston's Mulch	Arthur D. Heston	329	329	410
	Brian Baker, Inc.	Brian Baker, Inc.	4,984	4,713	4,213
	Crouse Construction Company, Inc.	Crouse Construction Co., Inc.	0	0	0
	Comer Construction, Inc.	Comer Construction, Inc.	6,049	5,497	4,151
Howard	RLO Contractors, Inc.	RLO Contractors, Inc.	60,190	60,190	63,133
	Level Land Lisbon Mulch Yard	Level Land, Inc.	15,935	15,488	11,553
	Oak Ridge Farm	Oak Ridge Farm, LLC	17	18	18
Kent	Sharp Lawn & Tree, Inc.	Sharp Lawn & Tree, Inc.	454	394	371
Montgomery	Allentuck Landscaping, Inc.	Allentuck Landscaping, Inc.	0	0	0
	Acme Biomass Reduction, Inc.	Acme Biomass Reduction, Inc.	23,368	19,864	10,064
	Country Nursery	Country Nursery	0	0	0
	Grant County Mulch Ground Covers	Grant County Mulch, Inc.	16,289	13,818	6,175
Prince George's	Grant County Mulch Facility	Grant County Mulch, Inc.	128,180	115,975	117,104
Queen Anne's	Baker Rubble Landfill	R.B. Baker & Sons, Inc.	2,807	2,807	870
	Grange Hall Yard	Cole Ventures, Inc.	2,976	0	1,843
	Pardoe's Lawn and Tree Service, Inc.	Pardoe's Lawn and Tree Service, Inc.	327	0	800
St. Mary's	Charlotte Hall Lumber Yard	Bay Works Wood Processing, LLC	10,548	10,443	10,338
Talbot	Dependable Sand and Gravel Company, Inc.	Dependable Sand and Gravel Company, Inc.	4,311	4,005	34
Washington	Hess Road Recycling Center	Universal Contractor Inc.	296	296	0
Wicomico	Dunn's Tractor Service, Inc.	Dunn's Tractor Service Inc.	680	680	680
<b>TOTAL</b>			<b>484,079</b>	<b>429,191</b>	<b>465,340</b>

\* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2016, but not managed until 2017.

**Table 13 – Permitted Composting Facilities**

Jurisdiction	Facility Name	Permittee	Facility Tier*	Feedstocks	
				Accepted	Compost Produced
Baltimore County	Eastern Sanitary Landfill	Baltimore County DPW	Tier 1	21,096	930
Caroline	Twin Maple Compost Facility	Mid-Atlantic Organic Resource Company, LLC	Tier 2	0	0
Cecil	Cecil County Central Landfill	Cecil County DPW	Tier 1	10,130	10,130
	West Coast Mushrooms	West Coast Mushrooms Inc.	Tier 2	16,170	20,700
Frederick	Reichs Ford Site B Landfill	Frederick County DPW	Tier 1	9,683	9,683
Harford	Harford Mulch and Compost Facility	Maryland Environmental Service	Tier 1	7,682	7,510
	Veteran Compost	Garrity Renewables, LLC	Tier 2	2,425	1,435
Howard	Composting Facility at Alpha Ridge Landfill	Howard County DPW	Tier 2	7,697	3,835
Montgomery	Montgomery County Yard Trim Composting Facility	Maryland Environmental Service	Tier 1	57,556	50,686
Prince George's County	City of College Park Composting Facility	City of College Park DPW	Tier 1	3,293	1,404
	Prince George's County Organics Composting Facility	Maryland Environmental Service	Tier 2	34,390	32,446
Washington	Forty West Landfill	Washington County DPW	Tier 1	4,523	4,523
<b>TOTAL</b>				<b>174,645</b>	<b>143,282</b>

\*Tier 1 facilities only accept yard trimmings, while Tier 2 facilities may accept yard trimmings and certain additional materials, such as food scraps and animal manure.

## Imported Solid Waste

Table 14 compares the tonnage of solid waste, by category, which was imported into the state to the total amount of solid waste managed at permitted solid waste acceptance facilities in Maryland. Figure 2 illustrates the amount of imported versus Maryland-generated solid waste managed at permitted solid waste acceptance facilities. In CY 2016, Maryland's permitted solid waste acceptance facilities accepted waste from Alabama, California, Canada, Colorado, Delaware, Georgia, Illinois, Kentucky, Louisiana, Maine, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Virginia, Washington D.C., West Virginia, and Wisconsin. Highlights include:

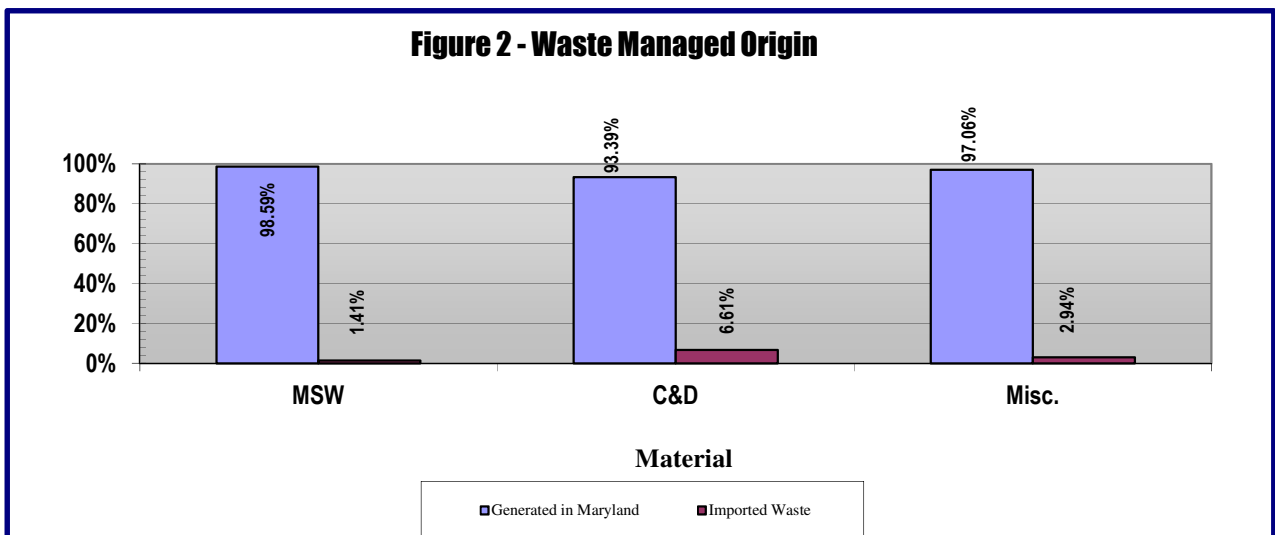
- \* There was a slight increase of approximately 1 percent in the amount of solid waste imported (273,296 tons) into Maryland compared to calendar year 2015 (271,005 tons).

- \* The solid waste imported into Maryland comprises 3.28 percent of the 8.33 million tons of solid waste managed at permitted Maryland solid waste acceptance and Natural Wood Waste Recycling facilities.
- \* Recycle One Processing & Transfer Station in Prince George’s County and the Mountainview Sanitary Landfill in Allegany County received the bulk (25,902 tons and 24,183 tons respectively) of the imported MSW to Maryland. Recycle One disposed the MSW in Virginia and the Mountainview Sanitary Landfill disposed the MSW in its facility in Allegany County.
- \* C&D waste that was imported into Maryland was disposed at privately owned rubble landfills, or was processed into segregated recyclables that were then transferred to Mid-Atlantic recycling facilities.

**Table 14 – Maryland Imported Waste**

Solid Waste Category	Tons of Solid Waste Imported Into Maryland	Jurisdictions Where the Solid Waste Originated	Tons Managed in Maryland
MSW	62,293	DE, PA, VA, WASHINGTON DC, WV	4,435,949
C&D	173,807	DE, NJ, PA, VA, WASHINGTON DC, WV	2,629,324
Miscellaneous *	37,196	AL, CA, CANADA, DE, GA, IL, KY, LA, ME, MA, NH, NJ, NY, NC, PA, RI, SC, TN, TX, VA, WASHINGTON DC, WV, WI	1,264,660
<b>TOTAL</b>	<b>273,296</b>		<b>8,329,933</b>

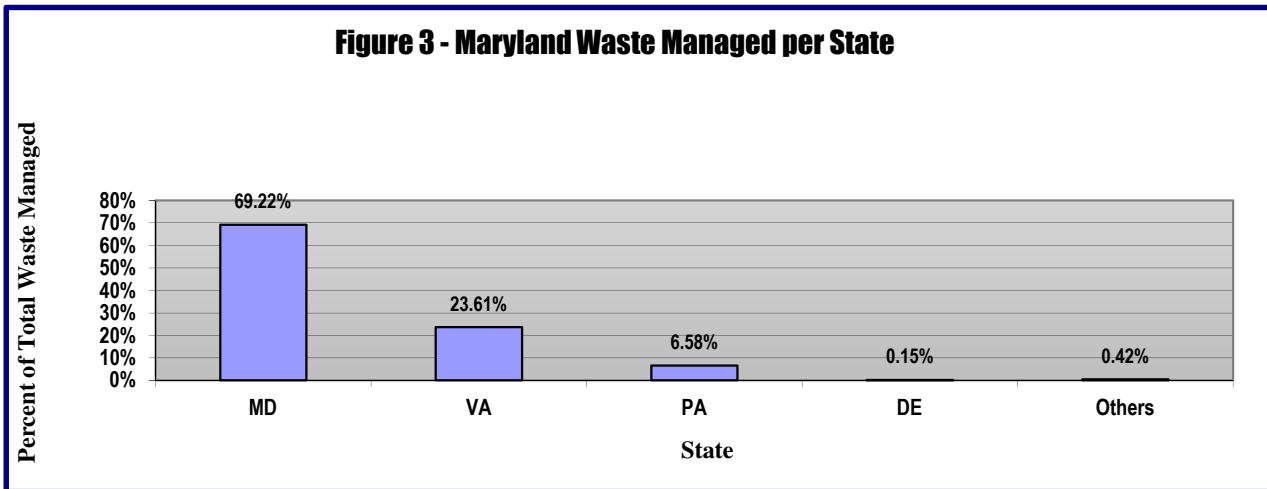
\* Includes special medical waste, incinerator ash, non-hazardous industrial waste, asbestos, wastewater treatment plant sludge, natural wood waste and other wastes imported into Maryland for disposal/recycling.



## Exported Solid Waste

Due to economic considerations and the desire to conserve disposal capacity in Maryland landfills, most of the counties (21) and Baltimore City transport some of their solid waste out of state for recycling or disposal. There was a slight increase of 1.2 percent in the amount of solid waste exported in 2016 compared to the amount of waste exported in 2015. Forty (40) of the 83 permitted solid waste acceptance facilities exported waste to 14 states. One facility exported waste to Germany.

Virginia was the most prevalent export destination for Maryland waste and accepted approximately 77 percent of the total exported waste. Ash from the Montgomery County Resource Recovery Facility in Dickerson was exported to Old Dominion Landfill in Virginia for recycling. Also, ash from Curtis Bay Energy Limited Partnership facility was disposed in King George Landfill in Virginia. Figure 3 illustrates, by percentage, where solid waste captured by Maryland’s permitted solid waste acceptance facilities was managed. Table 15 gives a destination breakdown of solid waste exported by Maryland permitted solid waste acceptance facilities.



**Table 15 – Maryland Exported Material Tonnage by State Destination**

Solid Waste Category	Virginia	Pennsylvania	Delaware	Other	Total (Tons)
MSW	1,185,746	434,287	3,771	30,626	1,654,430
C&D	607,538	87,702	9,098	3,721	708,059
Miscellaneous *	174,195	25,935	0	706	200,836
<b>TOTAL (Tons)</b>	<b>1,967,479</b>	<b>547,924</b>	<b>12,869</b>	<b>35,053</b>	<b>2,563,325</b>

\* Includes special disposed medical waste, incinerator ash, non-hazardous industrial waste, asbestos, wastewater treatment plant sludge, and other wastes.

## Solid Waste Management Practices

In CY 2016, the solid waste accepted at Maryland permitted solid waste acceptance facilities was managed by transporting the waste out of State or landfilling, incinerating, or recycling/reusing the waste in Maryland. Table 16 gives a breakdown of the management practices by the Maryland permitted solid waste acceptance facilities.

**Table 16 – Maryland Solid Waste Management Practices**

<b>Solid Waste Management Method</b>	<b>Tons</b>	<b>Percentage of Total Solid Waste Managed</b>
Landfilled in Maryland	2,632,512	31.6%
Exported and Disposed	2,339,023	28.1%
Exported and Recycled	224,302	2.7%
Recycled/Reused in Maryland	1,176,574	14.1%
Incinerated in Maryland	1,331,591	16.0%
Stored in Maryland Facilities	625,931	7.5%
<b>TOTAL</b>	<b>8,329,933</b>	<b>100%</b>

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## **Part II – Waste Diversion**

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### **Introduction**

In Maryland, waste diversion is defined as the amount of waste recycled and the amount of waste diverted from entering the waste stream through source reduction activities. Waste diversion saves energy, reduces greenhouse gases and other pollutants generated in the manufacturing process and at landfills, saves natural resources, and reduces the amount of waste disposed at solid waste acceptance facilities (*e.g.*, incinerators, landfills, etc.). The Department promotes and encourages waste diversion across Maryland by partnering with Maryland's jurisdictions and the public and private sectors. The Department also works with other State agencies to increase the volume of materials that are diverted from landfills.

The quantities of solid waste disposed in this Part are gathered from Maryland Recycling Act (MRA) Tonnage Reporting Surveys, submitted by Maryland counties (including Baltimore City) to the Department, which capture solid waste known to the counties to be exported directly out of state without passing through a Maryland permitted facility, **and** from Solid Waste Tonnage Reports submitted by permitted facilities to the Department.

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### **Maryland's Legislative Mandate**

In 1988, the **Maryland Recycling Act (MRA)** (Chapter 536) mandated that the Department reduce the disposal of solid waste in Maryland through management, education, and regulation. Since the original passage, additional legislation has passed to improve recycling in Maryland.

Timeline of legislative requirements:

1. Requiring each jurisdiction to develop and implement recycling programs by January 1, 1994. Jurisdictions with populations greater than 150,000 are currently required to recycle 20 percent or more of their waste and jurisdictions with populations less than 150,000 are currently required to recycle 15 percent or more of their waste. In no case is the recycling rate to be less than 10 percent (1988). (See Number 22 for an update.)
2. Requiring each jurisdiction to select the materials to be recycled and the manner in which they are separated and processed. If a jurisdiction fails to meet the specified reductions, state and local authorities can prohibit the issuance of building permits for all new construction (1988).
3. Directing state government to reduce by recycling the amount of the solid waste stream generated for disposal by at least 20 percent or to an amount that is determined practical and economically feasible, but in no case may the amount to be recycled be less than 10 percent. Additionally, state agency recycling plans shall include a system for the recycling of aluminum, glass, paper, and plastic generated for disposal (1988). (See Number 22 for an update.)
4. Requiring telephone directories distributed in the state to have a recycled content, by weight, of 40 percent in 2005 and all subsequent years (1988).
5. Providing that newsprint distributed in the state must have a 3-year rolling average recycled content, by weight, of 40 percent in 2005 and all subsequent years (1988).
6. Banning scrap tires from disposal in a landfill after January 1, 1994 (1991).
7. Including composting in the calculation of the recycling rate (1992).
8. Requiring counties to address the feasibility of composting mixed solid waste when developing solid waste management plans (1992).
9. Requiring private natural wood waste recycling facilities to obtain permits (1992).
10. Banning separately collected yard waste from disposal at solid waste acceptance facilities (1994).
11. Requiring mercuric oxide battery manufacturers to be responsible for the collection, transportation, and recycling or disposal of these batteries sold or offered for promotional purposes in the State (1994).
12. Establishing a program or system for the collection, recycling, or disposal of each cell, rechargeable battery or rechargeable product sold in the State (1994).
13. Establishing a voluntary, statewide waste diversion goal of 40 percent by the year 2005, consisting of a 35 percent MRA recycling rate plus up to 5 percent credit for source reduction activities (2000).
14. Reducing the impact of mercury in the environment by requiring that the Department provide outreach assistance to schools, businesses, and the general public relating to the proper management and recycling of mercury-containing products; prohibiting the sale of mercury thermometers beginning in 2002 (2001).
15. Prohibiting the sale of mercury containing thermostats by October 2007; requiring the Department to report to the Governor and Legislature detailing



- the state-wide collection, reclamation, and recycling of all products containing mercury (2006).
16. Requiring motor vehicle manufacturers to develop and submit to the Department a mercury minimization plan that includes information on mercury switch removal from motor vehicles (2009).
  17. Requiring a county recycling plan to address the collection, processing, marketing, and disposition of recyclable materials from county public schools; requiring a county to submit a revised recycling plan to the Department by October 1, 2010 (2009).
  18. Directing that by July 1, 2010, the State Agency Recycling Plan must address the placement of collection bins and the recycling of aluminum, glass, paper, and plastic; each agency and unit of State government must implement the plan by January 1, 2012 (2009).
  19. Requiring a county recycling plan to address the collection and recycling of fluorescent and compact fluorescent lights that contain mercury; requiring a county to submit a revised recycling plan to the Department by October 1, 2011 (2010).
  20. Requiring each property owner or manager of an apartment building or a council of unit owners of a condominium with 10 or more units to provide recycling for the residents of the dwelling units by October 1, 2014 (2012).
  21. Requiring a covered electronics device (CED) manufacturer to pay an annual registration fee based on the number of covered electronic devices sold in Maryland the previous year. The registration revenue may be used to provide grants to counties and municipalities for CED recycling activities (2012).
  22. Requiring a county with a population greater than 150,000 to recycle 35 percent and a county with a population less than 150,000 to recycle 20 percent of its waste stream by December 31, 2015. State agencies must implement a recycling plan with a 30 percent recycling rate mandate (2012).
  23. Increasing the voluntary statewide recycling and waste diversion goals to 55 percent and 60 percent, respectively for 2020 (2012).
  24. Requiring a person that operates a composting facility to do so only in accordance with regulations, orders, or permits adopted by the State (2013).
  25. Requiring a county recycling plan to address, by October, 2015, recycling at certain special events held on publicly owned property (2014).

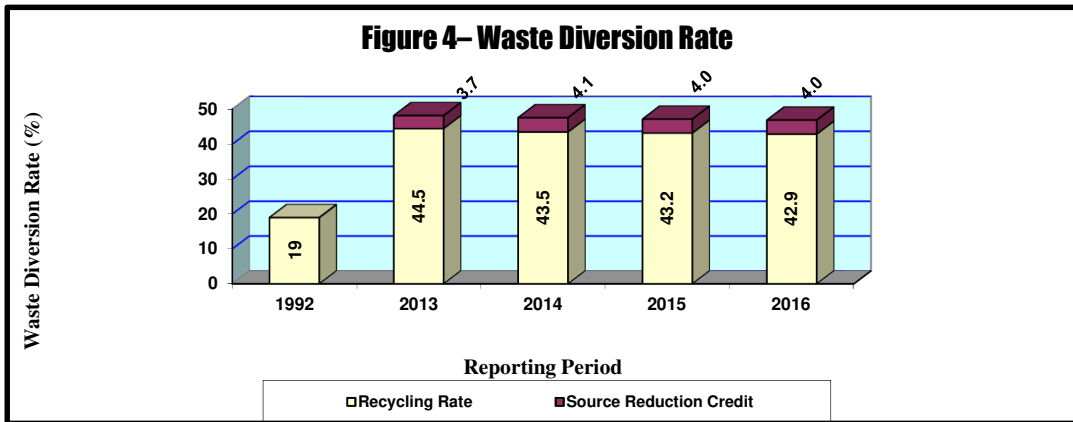
The MRA excludes from its scope scrap metal, land clearing debris, construction and demolition debris, sewage sludge, hospital wastes, and waste generated by a single individual or business and disposed in a facility dedicated solely for that entity's waste.

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## **Maryland's 46.9 Percent Waste Diversion Rate**

The recycling rate plus the source reduction (SR) credit make up the waste diversion rate. Through the efforts of its citizens, businesses, and government agencies, Maryland achieved a statewide waste diversion rate of 46.9 percent in calendar year (CY) 2016. The 46.9 percent waste diversion rate was composed of a 42.9 percent MRA recycling rate and a 4 percent SR credit. This exceeds the voluntary MRA 40 percent waste diversion goal targeted for 2005 in 2000's Senate

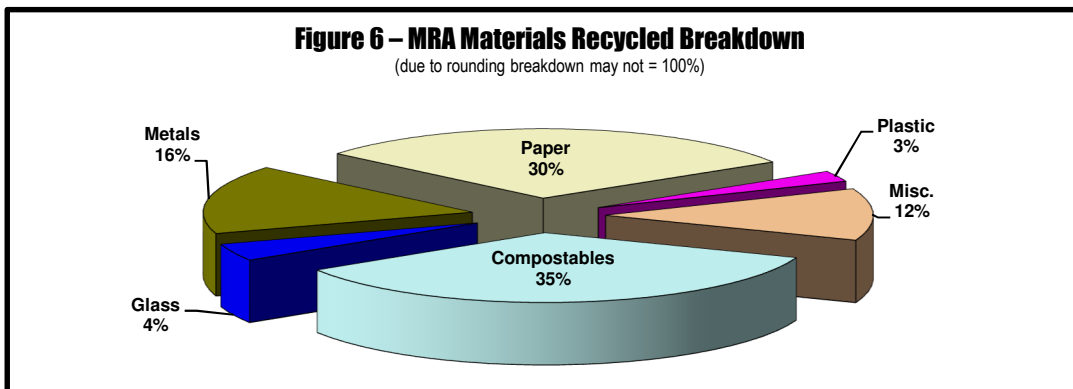
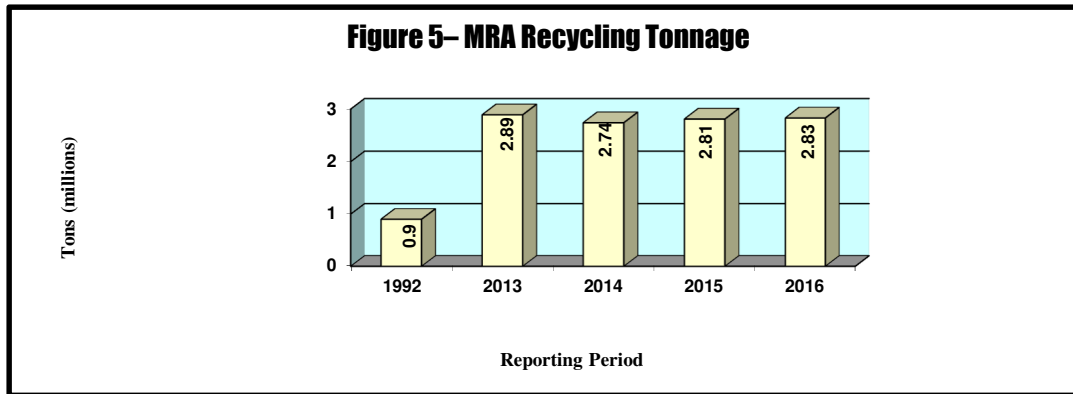
Joint Resolution 6 but is less than the 60 percent waste diversion goal for 2020 established in 2012 under § 9-1706.1 of the Environment Article. Figure 4 provides a historical breakdown of Maryland's waste diversion rate.



### Maryland’s 42.9 Percent Recycling Rate

In CY 2016, Maryland residents and businesses recycled 42.9 percent of the municipal solid waste generated. The MRA recycling rate is calculated as:  $(\text{MRA recycling tonnage} + \text{resource recovery facility credit}) \div (\text{MRA recycling tonnage} + \text{MRA waste disposed})$ . The resource recovery facility (RRF) credit is provided under the MRA in Environment Article, Section 9-1703(d), Annotated Code of Maryland. The provision specifies that a 5 percent recycling credit applies to each county that “achieves a reduction of at least 5 percent in the volume of its waste through the utilization of one or more resource recovery facilities in operation as of January 1, 1988.” All except four jurisdictions met the mandatory county recycling rate of 20 or 35 percent, based on population. See Table 17 for details.

Figure 5 summarizes the tons of recycling over the past several years, compared with recycling in 1992. Figure 6 shows the total MRA tons recycled by material in CY 2016. Compostables and paper materials constituted the largest portion of materials recycled. Table 17 details recycling and waste diversion totals for each of Maryland's jurisdictions.



### Estimated Material-Specific Recycling Rates

A more detailed look at the MRA materials recycled reveals varying degrees of recycling success. Using data compiled by the Department’s *2016 Maryland Statewide Waste Characterization Study*, the Department is able to estimate the amount of specific materials disposed in Maryland. This, along with data on the tons of each material recycled in Maryland (reported by the counties) allows for calculation of an estimated recycling rate for specific MRA materials. The data shows that Maryland recycled:

- \* 54.2 percent of compostables;
  - 85.3 percent of yard trimmings;
  - 15 percent of food scraps;
- \* 36.7 percent of glass;
- \* 74.2 percent of metal;
- \* 45.5 percent of paper products; and
- \* 13.7 percent of plastic.

**Table 17 – County Recyclables by Commodity in Tons for Calendar Year 2016**

Compiled by the Maryland Department of the Environment from Reports Submitted for Calendar Year 2016

County	MRA Rate <sup>2</sup> (%)	Mandatory Recycling Rate (%)	Waste Diversion Rate <sup>3</sup> (%)	Maryland Recycling Act (MRA) Materials							Non-MRA Recyclables <sup>4</sup>	Total Recycling *
				Compostables	Glass	Metals	Paper	Plastic	Misc.	Subtotal		
Allegany	44.00	20.00	<b>46.00</b>	20,064	293	7,768	9,982	1,278	6,160	<b>45,545</b>	350,800	396,345
Anne Arundel	32.51	35.00	<b>36.51</b>	116,148	11,812	12,053	76,951	7,721	15,366	<b>240,051</b>	266,686	506,737
Baltimore City	20.01	35.00	<b>23.01</b>	32,229	5,138	13,645	30,996	12,660	11,059	<b>105,727</b>	303,530	409,257
Baltimore Co.	36.50	35.00	<b>41.50</b>	71,004	11,102	81,828	89,181	8,938	25,366	<b>287,419</b>	323,307	610,726
Calvert	25.89	20.00	25.89	1,691	1,006	2,146	6,495	860	1,815	<b>14,013</b>	26,125	40,138
Carroll	52.54	35.00	<b>57.54</b>	81,685	8,991	8,069	11,704	5,660	1,257	<b>117,366</b>	118,995	236,361
Cecil	54.73	20.00	<b>58.73</b>	61,076	1,101	4,683	8,265	1,534	1,043	<b>77,702</b>	9,401	87,103
Charles	51.57	35.00	<b>55.57</b>	34,617	5,433	11,822	19,184	3,520	1,670	<b>76,246</b>	265,731	341,977
Dorchester	8.72	20.00	8.72	916	401	232	1,177	264	302	<b>3,292</b>	3,065	6,357
Frederick	41.34	35.00	<b>46.34</b>	34,088	3,675	4,426	39,235	2,584	5,228	<b>89,236</b>	87,603	176,839
Garrett	51.32	20.00	51.32	16,840	493	2,053	2,857	126	1,434	<b>23,803</b>	13,108	36,911
Harford	45.63	35.00	<b>50.63</b>	50,806	3,874	7,800	25,280	2,883	2,691	<b>93,334</b>	21,109	114,443
Howard	44.77	35.00	<b>49.77</b>	98,187	10,362	12,007	94,467	9,506	11,363	<b>235,892</b>	93,685	329,577
Mid-Shore <sup>1</sup>	49.87	20.00	49.87	33,890	4,219	5,271	27,248	2,683	37,155	<b>110,466</b>	92,904	203,370
Montgomery	55.01	35.00	<b>60.01</b>	162,759	25,914	104,374	135,170	11,348	159,217	<b>598,782</b>	117,072	715,854
Prince George's	55.61	35.00	<b>60.61</b>	108,593	10,709	158,364	194,071	9,538	10,976	<b>492,251</b>	411,597	903,848
Somerset	4.48	20.00	4.48	37	89	82	167	56	371	<b>802</b>	7,768	8,570
St. Mary's	33.83	20.00	<b>37.83</b>	9,990	1,497	2,019	4,954	1,014	2,237	<b>21,711</b>	113,996	135,707
Washington	52.51	35.00	52.51	2,309	983	602	64,237	2,577	240	<b>70,948</b>	27,254	98,202
Wicomico	46.29	20.00	46.29	26,694	1,528	6,734	6,838	1,841	57,183	<b>100,818</b>	93,920	194,738
Worcester	24.49	20.00	24.49	12,199	2,541	989	3,099	1,928	785	<b>21,541</b>	59,553	81,094
<b>State Highways of Additional Asphalt and Concrete Recycled</b>											424,421	424,421
<b>TOTAL*</b>	<b>42.91</b>	<b>N/A</b>	<b>46.92</b>	<b>975,822</b>	<b>111,161</b>	<b>446,967</b>	<b>851,558</b>	<b>88,519</b>	<b>352,918</b>	<b>2,826,945</b>	<b>3,231,630</b>	<b>6,058,575</b>

\* Due to rounding, tonnage totals in this table may differ slightly from the sum of actual values (i.e., MRA Recyclables = 2,826,943.11, Non-MRA Recyclables = 3,231,628.31 tons, Total 6,058,571.42 tons. The MRA recycling rate includes an additional 96,085.56 tons for the RRF credit that is not included in this table).

<sup>1</sup> Mid-Shore Regional Recycling Program includes Caroline, Kent, Queen Anne's and Talbot Counties.

<sup>2</sup> MRA Recycling Rate = (MRA recycling tonnage + RRF credit tonnage) ÷ (MRA recycling tonnage + MRA waste) x 100

<sup>3</sup> Waste Diversion Rate = Recycling Rate + Source Reduction (SR) Credit (based on voluntary reporting of SR activities). **Bolded** rates include both recycling and SR activities. SR activities theoretically reduced the amount of waste generated by 284,708.49 tons.

<sup>4</sup> Column includes materials, such as construction and demolition debris, land clearing debris and recycled fluids, which fall outside the scope of the standard MRA Recycling Rate, but are reported by the counties as recycled materials.

## **Maryland's 38.4 Percent U.S. Environmental Protection Agency (EPA) Recycling Rate**

State recycling laws determine which types of materials count towards a state's recycling rate. The differences in state laws make the comparison of recycling activities between states difficult. In an effort to compare state data and generate a U.S. recycling rate, the EPA has developed recycling criteria that standardizes which materials count toward the recycling rate. This can then be used to compare data across states. The major differences between the EPA and Maryland recycling rates relate to Maryland allowing certain industrial materials and the reuse of certain materials (e.g., retread tires, refurbished pallets, etc.) to count toward the MRA recycling rate. Based upon the information currently available to the Department, adjusting Maryland's recycling rate to EPA protocol reduces the amount of material allowed to count toward the recycling rate by 370,181 tons to 2,456,762 tons. Maryland's EPA recycling rate of 38.4 percent exceeds the overall U.S. recycling rate of 34.6 percent for 2014 (most recent available as of the writing of this report).

## **Maryland's 4 Percent Source Reduction Credit**

In 2016, 13 of Maryland's jurisdictions were able to add from 1 point to 5 points to their waste diversion rates by conducting SR activities as a waste reduction strategy. They accomplished this by utilizing internet resources, demonstration sites (*i.e.*, backyard food waste and yard waste composting), and publications on reuse practices and yard waste reduction. A complete list of SR activities and a breakdown of Maryland SR activities in calendar year 2016 is available on the Department's Maryland State, County, and City Recycling web page at <http://mde.maryland.gov/programs/Land/RecyclingandOperationsprogram/Pages/recyclingrates.aspx>

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## **Beyond the Maryland Recycling Act**

The Department encourages the recycling of all materials because of the environmental and economic benefits provided. Local governments continue to seek recycling opportunities beyond those that apply toward the MRA rate, while businesses are constantly looking for recycling opportunities to reduce the cost of waste disposal. However, since these "non-MRA recyclables" do not count toward a county's mandated recycling rate, counties place varying levels of importance on gathering this information. This should be taken into account when assessing the completeness of non-MRA recyclables data. Over 3.2 million tons of non-MRA materials were reported as recycled in 2016. Table 18 offers a breakdown by category of the non-MRA materials reported as recycled in 2016.

## **Table 18 – Recycling of Non-MRA Materials in Tons**

*Compiled by the Maryland Department of the Environment  
from Reports Submitted for Calendar Year 2016*

<b>MATERIAL</b>	<b>TONS RECYCLED</b>
<b>Antifreeze</b>	<b>2,659</b>
<b>Asphalt &amp; Concrete</b>	<b>982,205</b>
<b>Coal Ash</b>	<b>343,924</b>
<b>Construction/Demolition Debris</b>	<b>323,567</b>
<b>Land Clearing Debris</b>	<b>85,681</b>
<b>Scrap Automobiles</b>	<b>119,642</b>
<b>Scrap Metal</b>	<b>554,617</b>
<b>Sewage Sludge</b>	<b>76,956</b>
<b>Soils</b>	<b>219,038</b>
<b>Waste Oil</b>	<b>62,470</b>
<b>Other Materials</b>	<b>460,869</b>
<b>TOTAL</b>	<b>3,231,628</b>

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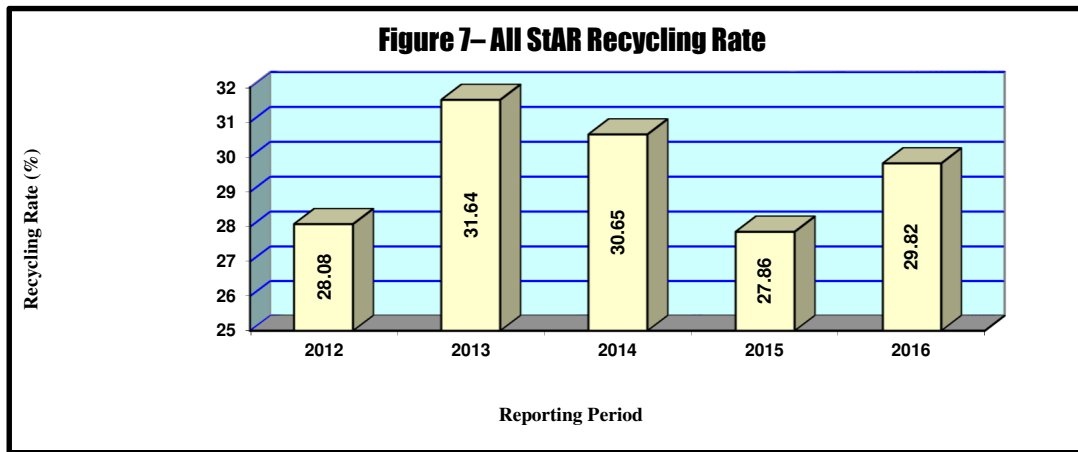
### **Maryland's 29.82 Percent All StAR Recycling Rate**

The **All State Agencies Recycle** (All StAR) Program is the name of the state government agency recycling program that is designed to help Maryland state government reach its recycling goals. Each All StAR agency designates a Recycling Coordinator to manage recycling activities at their various sites throughout Maryland. Recycling Coordinators provide technical support to encourage recycling and to facilitate reporting on collection activities.

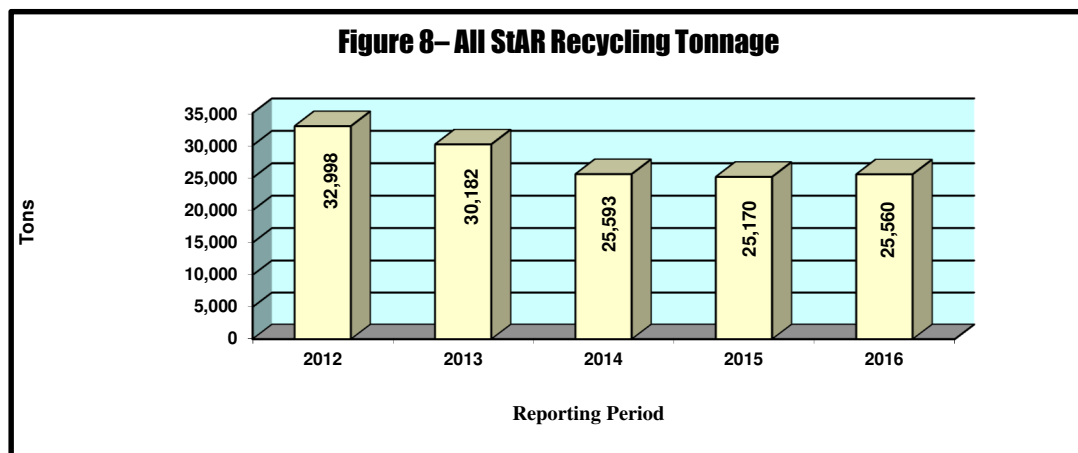
Maryland state government is required under Section 9-1706 of the Environment Article, Annotated Code of Maryland to achieve a recycling rate of at least 30 percent, or an amount that is determined "practical and economically feasible," but in no case less than 15 percent. State agencies are required to have recycling plans that address the placement of collection bins and the recycling of aluminum, glass, paper, and plastic at all state-owned or state-operated buildings where it is determined to be practical and economically feasible. Each state agency's recycling plan is on file with the Department. Individual site recycling plans are maintained by each agency recycling coordinator and at each state facility.

In 2016, state agencies recycled 25,560.77 tons of MRA materials for an overall MRA recycling rate of 29.82 percent. Beginning with calendar year 2012 data, a change was made to the volume-to-weight conversion factors used by some state agencies when estimating the amount of waste disposed. As a result, state agencies using the new conversion factors would show a recycling rate reduction, compared to previous years, even if the amount of material recycled remained constant. The conversion factors were revised as part of the Department's ongoing effort to provide an accurate representation of waste disposed totals. The new conversion factors are in line with the current volume-to-weight conversion factors published by the U.S. Environmental Protection Agency. A review of volume-to-weight conversion factors is needed as waste disposal technologies change and improve (e.g., waste compactors) and the amount of material used in the manufacture of a product changes (e.g., in 1972 a 12-fluid-ounce aluminum can weighed approximately 0.727 ounces; presently the same type of can weighs approximately 0.46 ounces).

Figure 7 provides a 5-year history of Maryland's All StAR recycling rate and Figure 8 summarizes the recycling tonnages since 2011. Table 19 summarizes the performance of each State agency participating in the All StAR program.



Also, state government recycled 239,575 tons of non-MRA materials, including construction and demolition debris, antifreeze, motor oil, scrap metal, land clearing debris, concrete, and asphalt, that do not count toward the MRA Recycling Rate. A complete breakdown of the 2016 All StAR statistics is available under "State Agency Recycling" on the Department's Waste Diversion in Maryland web page at [www.mde.maryland.gov/recycling](http://www.mde.maryland.gov/recycling). MRA tonnages reported by State agencies are included in the 2016 recycling totals reported by the counties (Table 21).



## Table 19 – Maryland State Agencies' 2016 Recycling Rates

*Compiled by the Maryland Department of the Environment from Reports Submitted for Calendar Year 2016*

Agency Name	No. of Sites	No. of Sites Reporting	No. of People	Total MRA Recycling 2016 (tons)	2016 MRA Recycling Rate (%)
Baltimore City Community College	1	1	396	7.50	1.09
<b>Comptroller of the Treasury</b>	<b>1</b>	<b>1</b>	<b>800</b>	<b>107.48</b>	<b>78.87</b>
Department of Agriculture	2	2	222	31.37	24.06
<b>Department of Assessments and Taxation</b>	<b>15</b>	<b>13</b>	<b>1,053</b>	<b>29.93</b>	<b>43.76</b>
Department of Budget and Management	1	0	0	0	0
Department of Education	30	28	1,414	61.11	19.76
Department of General Services	23	23	8,228	163.34	15.48
Department of Health and Mental Hygiene	18	8	6,545	569.97	12.23
Department of Human Resources	33	26	5,514	579.24	19.01
Department of Juvenile Services	15	15	2,954	493.02	18.02
Department of Labor, Licensing & Regulation	14	9	1,338	158.58	23.69
Department of Natural Resources	6	2	537	6.97	10.23
<b>Department of the Environment</b>	<b>5</b>	<b>5</b>	<b>1,009</b>	<b>38.98</b>	<b>37.17</b>
<b>Department of Transportation</b>	<b>83</b>	<b>83</b>	<b>25,988</b>	<b>10,033.20</b>	<b>42.20</b>
Department of Veterans Affairs	12	7	866	195.58	23.53
Dept. of Housing and Community Development	3	0	0	0	0
Dept. of Public Safety and Correctional Services	35	9	25,415	1,807.11	19.06
Gov's Office Crime Control Prevention	1	0	0	0	0
Judiciary of Maryland	2	2	407	41.20	27.39
<b>Maryland Automobile Insurance Fund</b>	<b>1</b>	<b>1</b>	<b>520</b>	<b>139.02</b>	<b>40.06</b>
Maryland Department of Disabilities	1	1	27	0.10	1.26
Maryland Department of Planning	1	1	185	8.20	12.35
<b>Maryland Environmental Service</b>	<b>4</b>	<b>4</b>	<b>298</b>	<b>16.88</b>	<b>58.73</b>
Maryland Food Center Authority	1	1	1,327	262.81	3.49
<b>Maryland General Assembly</b>	<b>1</b>	<b>1</b>	<b>852</b>	<b>115.10</b>	<b>37.53</b>
<b>Maryland Insurance Administration</b>	<b>1</b>	<b>1</b>	<b>242</b>	<b>23.68</b>	<b>61.28</b>
Maryland Military Department	33	33	502	59.26	9.25
Maryland Public Broadcasting Commission	1	1	211	70.00	18.60
Maryland School for the Deaf	2	2	989	117.38	29.25
<b>Maryland Stadium Authority</b>	<b>2</b>	<b>2</b>	<b>2,500</b>	<b>1,001.63</b>	<b>36.20</b>
Maryland State Archives	1	1	84	1.20	12.00
Maryland State Police	28	28	1,959	222.13	18.23
Morgan State University	1	1	1,241	181.95	10.90
St. Mary's College of Maryland	1	0	0	0	0
<b>Subsequent Injury Fund</b>	<b>1</b>	<b>1</b>	<b>17</b>	<b>4.67</b>	<b>81.08</b>
<b>University System of Maryland</b>	<b>17</b>	<b>17</b>	<b>127,125</b>	<b>9,012.18</b>	<b>40.27</b>
<b>TOTAL</b>	<b>397</b>	<b>330</b>	<b>220,765</b>	<b>25,560.77</b>	<b>29.82</b>

^ The 1988 Maryland Recycling Act mandates a State Government recycling rate of at least 30 percent.

**Bold Type** – Satisfied the 30 percent recycling rate



State agencies achieve cost savings by boosting the amount of waste diverted to recycling and, to an even greater extent, by reducing the total amount of waste generated.

The Department provides technical support and publishes the *All StAR News*, a newsletter devoted to recycling in state government; see Appendix E for an example. Finally, the Department acts as an information clearinghouse by forwarding any relevant recycling information to the appropriate State offices.

The ability to contract with a recycling contractor for recycling pick-up service at a reasonable price is the largest obstacle to increasing the All StAR recycling rate. Companies that process and collect recyclables are in business to make a profit. This is possible in large offices or offices in metropolitan areas where the quantity of recyclables generated makes it economically feasible to offer recycling pick-up service. In small offices or offices in rural areas, insufficient recyclables may be generated to make it economically feasible for recycling pick-up service. To address this issue, State office leases issued through the Lease Management and Procurement Division of the Department of General Services (DGS) require recycling to be integrated into State office space leases and janitorial contracts. This requirement, effective in 2013, is being phased in as old leasing contracts expire.

In addition, state agency recycling rates could be improved by designating a recycling coordinator for each state office that has the responsibility and authority for ensuring recycling goals are met. Finally, state offices must have the means necessary to support successful recycling programs such as funding to execute a recycling contract and establish material staging areas, and staff tasked with identifying proper recycling bin locations.

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## **Greenhouse Gases and Energy Consumption**

Using the EPA's Waste Reduction Model (WARM), Tables 20 and 21 detail greenhouse gas (GHG) and energy scenarios over the lifecycle of common recyclable materials when comparing alternative solid waste management methods to the landfilling of a product (*i.e.*, from production of a glass bottle → use of a glass bottle → disposal/recycling of glass bottle → production of a new glass bottle). In all cases where either recycling or source reduction is used instead of landfilling, there are reductions in the GHG emissions and energy used. Only when combusting a material instead of landfilling it were there increases in the GHG emissions or energy used.

Tables 22 and 23 detail product lifecycle GHG emissions and energy use with and without waste diversion activities in Maryland in CY 2016. In Table 22, for example, the GHG emissions associated with the lifecycle of glass is 8,050 metric tons of CO<sub>2</sub> equivalent without waste diversion (*i.e.*, recycling and source reduction) activities, and -40,277 metric tons of CO<sub>2</sub> equivalent with Maryland's waste diversion activities, for a total savings of 48,327 (*i.e.*, 8,050 + 40,277) metric tons of CO<sub>2</sub> equivalent. Additional information on EPA's WARM is available at [www.epa.gov/warm](http://www.epa.gov/warm).

**Table 20 – Per Ton Greenhouse Gas Emissions**

Material	MTCO <sub>2</sub> E* – Landfilled	MTCO <sub>2</sub> E* – Source Reduced	MTCO <sub>2</sub> E* – Recycled	MTCO <sub>2</sub> E* – Combusted
Aluminum Cans	0 **	(4.93) **	(9.13) **	0.02 **
Compostables	0 **	N/A **	(0.36) **	(0.36) **
PET Plastic Bottles	0 **	(2.22) **	(1.14) **	1.19 **
Newspaper	0 **	(3.95) **	(1.93) **	0.24 **
Glass	0 **	(0.55) **	(0.55) **	0.01 **

\* MTCO<sub>2</sub>E = Metric tons of carbon dioxide equivalent. It is a measure of carbon dioxide emissions and is equal to a unit of mass equal to 1,000 kg (2,205 lbs.).

\*\* Values vs. the landfilling of the material. Assigns MTCO<sub>2</sub>E – Landfilled a value of 0. A **negative value** (i.e., a value in parentheses) indicates an emission reduction, while a **positive value** indicates an emission increase compared to the landfilling of a material.

**Table 21 – Per Ton Energy Use**

Material	BTU <sup>^</sup> (million) – Landfilled	BTU <sup>^</sup> (million) – Source Reduced	BTU <sup>^</sup> (million) – Recycled	BTU <sup>^</sup> (million) – Combusted
Aluminum Cans	0 **	(89.96) **	(153.03) **	0.33 **
Compostables	0 **	N/A **	0.52 **	(2.32) **
PET Plastic Bottles	0 **	(50.53) **	(32.14) **	(10.40) **
Newspaper	0 **	(36.51) **	(16.54) **	(7.58) **
Glass	0 **	(7.17) **	(2.4) **	0.23 **

<sup>^</sup> BTU = 1 BTU is a unit of power that is equal to the amount of energy needed to heat 1 pound of water 1° F. It is also used to describe the heat value (energy content) of fuels.

\*\* Values vs. the landfilling of the material. Assigns BTU (million) – Landfilled a value of 0. A **negative value** (i.e., a value in parentheses) indicates a reduction in energy consumption, while a **positive value** indicates an increase in energy consumption compared to the landfilling of a material.

The over 6.6 million metric tons of CO<sub>2</sub> equivalent emission savings produced by Maryland’s waste diversion activities in 2016 (Table 22) are the equivalent of removing over 1.40 million passenger cars from the roadway each year or conserving over 747 million gallons of gasoline, over 276 million cylinders of propane used for home barbeques, or over 35,606 railway cars of coal. The 57.8 trillion british thermal unit (BTU) energy savings reported in Table 23 are the equivalent of the annual energy consumption of over 502,000 households (i.e., 21 percent of the estimated 2,447,127 households in Maryland in 2016), or the amount of energy contained in over 9.9 million barrels of oil or over 465 million gallons of gasoline. These reductions are important to meeting our climate change goals in Maryland.

**Table 22 – Maryland Waste Diversion and Greenhouse Gas Emissions for Calendar Year 2016**

MRA Material	MTCO <sub>2</sub> E* NWD <sup>^</sup>	MTCO <sub>2</sub> E* WD <sup>^^</sup>	MTCO <sub>2</sub> E* Savings	MTCE** NWD <sup>^</sup>	MTCE** WD <sup>^^</sup>	MTCE** Savings
Compostables	194,963	126,041	(68,922)	53,172	34,375	(18,797)
Glass	8,050	(40,277)	(48,327)	2,196	(10,985)	(13,180)
Metals	(218,822)	(2,150,465)	(1,931,643)	(59,679)	(586,491)	(526,812)
Paper	(233,095)	(4,329,133)	(4,096,038)	(63,571)	(1,180,673)	(1,117,101)
Plastic	395,306	174,194	(221,111)	107,811	47,508	(60,303)

MRA Material	MTCO <sub>2</sub> E* NWD <sup>^</sup>	MTCO <sub>2</sub> E* WD <sup>^^</sup>	MTCO <sub>2</sub> E* Savings	MTCE** NWD <sup>^</sup>	MTCE** WD <sup>^^</sup>	MTCE** Savings
Miscellaneous	23,467	(250,983)	(274,450)	6,400	(68,450)	(74,850)
<b>TOTAL</b>	<b>169,869</b>	<b>(6,470,623)</b>	<b>(6,640,491)</b>	<b>46,329</b>	<b>(1,764,716)</b>	<b>(1,811,043)</b>

\* MTCO<sub>2</sub>E = Metric Tons of Carbon Dioxide Equivalent

\*\* MTCE = Metric Tons of Carbon Equivalent

<sup>^</sup> NWD = No Waste Diversion (baseline = 66.31% landfilled and 33.69% incinerated)

<sup>^^</sup> WD = Waste Diversion from Maryland CY 2016 Waste Diversion Totals

Note: A **negative value** (i.e., a value in parentheses) indicates an emission reduction; a **positive value** indicates an emission increase.

**Table 23 – Maryland Waste Diversion and Energy Use for Calendar Year 2016**

(in million BTUs)

MRA Material	BTUs* NWD <sup>^</sup>	BTUs* WD <sup>^^</sup>	BTU* Savings
Compostables	(1,773,754)	(815,019)	958,735
Glass	122,680	(315,188)	(437,867)
Metals	(2,346,626)	(32,281,540)	(29,934,913)
Paper	(5,701,760)	(25,073,261)	(19,371,501)
Plastic	(4,258,553)	(9,315,641)	(5,057,088)
Miscellaneous	(1,618,190)	(5,603,244)	(3,985,055)
<b>TOTAL</b>	<b>(15,576,203)</b>	<b>(73,403,893)</b>	<b>(57,827,689)</b>

\* BTU = British Thermal Unit – the amount of energy needed to heat one pound of water one degree Fahrenheit

<sup>^</sup> NWD = No Waste Diversion (baseline = 66.31% landfilled and 33.69% incinerated)

<sup>^^</sup> WD = Waste Diversion from Maryland CY 2016 Waste Diversion Totals

Note: A **negative value** (i.e., a value in parentheses) indicates a reduction in energy consumption; a **positive value** indicates an increase in energy consumption.

## Promoting Recycled Products

The collection, sorting, and use of recycled materials in the manufacturing of new products are just part of the recycling process. Once manufacturers turn recyclables into products, it becomes every citizen's responsibility to "close the loop" and buy products made of recycled material. The Department works to create demand for these products by promoting a Buy Recycled training manual and program developed by the Maryland Environmental Service (MES) for government purchasing agents. The training manual provides information on increasing purchases of products made with recycled materials.

The Department encourages State government to increase the use of products made with recycled materials by supporting the following procurement initiatives:

- \* Participating on the Maryland Green Purchasing Committee. The committee was created on October 1, 2010 (Chapters 593 & 594, Acts of 2010) and provides information, assistance, and guidelines for environmentally preferable purchasing, so that Maryland government is procuring goods and services that have less impact on human health and the environment.
  - \* Working with the Maryland Department of General Services (DGS) to promote government purchasing of materials with recycled content.
    - In FY 2016, buying paper products made with recycled content paper was the rule, not the exception, with nearly all of the paper products (*e.g.*, bond paper, computer paper, etc.) purchased made from recycled content paper.
    - Details on State procurement guidelines along with lists of products available with recycled content such as picnic tables, park benches, and re-refined motor oil are available on the DGS web page at [www.dgs.maryland.gov/Pages/Procurement/index.aspx](http://www.dgs.maryland.gov/Pages/Procurement/index.aspx). Local jurisdictions in Maryland are able to piggyback on State procurement contracts.
    - Boilerplate language stating, "All products used in packing to cushion and protect during the shipment of commodities are to be made of recycled, recyclable, and/or biodegradable materials" is included in all Maryland Invitation to Bid Solicitations and Purchase Orders.
- 

## Special Programs

From July 2016 through June 2017, the Department continued implementing special programs designed to expand recycling and protect public health and the environment.

### Newsprint

Maryland law mandates that, on a statewide basis, newspapers distributed in Maryland shall contain at least 40 percent recycled content newsprint. To determine compliance with the law, publishers are required to file quarterly and annual reports with the Department. In the year following a reporting period (each reporting period is comprised of the current calendar year and the immediately preceding two calendar years) where the statewide recycled content percentage requirement is not met, each newspaper publisher who distributes a newspaper in Maryland is required to satisfy the recycled content percentage requirement or pay a fee of \$10 for each ton a publisher falls below the 40 percent requirement. In the reporting period ending CY 2016, the newsprint recycled content percentage was 52.96 percent, exceeding the requirements of the MRA.

Table 24 contains 49 known publishers that distribute 140 different newspapers in Maryland. The Department continues to seek increased compliance from publishers who did not comply with the reporting requirements.

**Table 24 – Maryland Newspaper Publishers**

<b>Publisher</b>	<b>Content %</b>	<b>Publisher</b>	<b>Content %</b>
A&C Business News	1.50	Herald-Mail	17.35
Afro-American Newspapers	11.57	Independent Newspapers, Inc.	0.20
Ascend Communications	NR	Korea Daily	59.77
Asian Fortune	NR	Latin American Times	NR
Baltimore Business Journal	NR	Legal Times	NR
Baltimore Sun Media Group	78.30	Maryland Coast Dispatch	NR
Baltimore Times Publications	NR	Morgan Messenger	NR
Bay Weekly	15.35	New York Daily News	86.93
Capital-Gazette Newspapers	67.10	New York Times Company	18.95
Carroll Publishing Company	15.00	News Journal, Wilmington	1.60
Catholic Review	7.00	Post Newsweek Media	64.98
Chatsworth Enterprises	NR	Prince George’s Post	23.46
Chesapeake Publishing Corporation	30.44	Randall Family, LLC	26.60
Citizen Communications, Inc.	27.00	Sentinel Newspapers	22.48
City Paper	NR	Sincell Publishing Company	NR
Connection Publishing	NR	Southern Maryland Publishing Co.	NR
Courier	0.58	USA Today	0.15
Cumberland Times News	14.71	Washington Business Journal	NR
Daily Record	40.70	Washington County Pickett	NR
Dow Jones & Company	12.67	Washington Newspaper Company	NR
Express Publications Company, LLC	60.87	Washington Post	48.55
Flag Communications	58.09	Washington Times	NR
FT Publications, Inc.	NR	Western Montgomery Bulletin	NR
Gannett Company, Inc.	1.36		
Gay & Lesbian Community Ctr. Of Baltimore	0.0		
Greenbelt Cooperative Publishing	NR	<b>Statewide</b>	52.96
<b>NR – Did not report</b>		<b>% based upon partial reporting period data</b>	

**Telephone Directory**

The MRA requires telephone directory publishers that in the previous calendar year used at least 50 tons of directory stock in telephone directories distributed in Maryland to use directory stock with a recycled content of at least 40 percent, by weight. If a publisher does not meet 40 percent recycled content, it is required to pay a fee of \$10 per ton for each ton the publisher falls below the 40 percent requirement. Publishers of telephone directories must submit to the Department an annual report detailing the recycled directory stock content used in their directories. Any publisher that fails to submit the required report is deemed to have failed to meet the percentages established

There are four known publishers of telephone directories distributed in the State of Maryland. In 2015, recycled content for these directories was reported as follows:

- \* Berry – Distributes less than 50 tons of directory stock, therefore is exempt from reporting requirements;
- \* Dex Media – Zero percent recycled content;
- \* Hibu – Did Not Report; and

- \* Ogden Directories, Inc. – Distributes less than 50 tons of directory stock, therefore is exempt from reporting requirements.

In 2016, Dex Media was granted a 1-year exemption from meeting the 40 percent recycled content requirement.

### **Electronics Recycling (eCycling)**

Computers, televisions, and other consumer electronics are a rapidly growing part of the waste stream. The potential environmental and health threats



posed by discarded computers and other consumer electronics that may contain toxic materials such as lead, mercury, cadmium, and chromium, continue to raise concerns about these products' disposal.

In 2005, Maryland became the third state to enact electronics recycling legislation. The Statewide Electronics Recycling Program (SERP) requires manufacturers of covered electronic devices (CED) to register with, and pay an annual registration fee to, the Department in order to sell their products in Maryland. A retailer may not sell a CED unless the CED's manufacturer is registered. The annual registration fee is based upon the number of CEDs sold in Maryland the previous year. A reduced registration fee is available for manufacturers who have a Department-approved takeback program. Registration fees may be used by the Department to award grants to counties and municipalities to conduct CED recycling activities.

One-hundred forty-seven (147) manufacturers registered with the Department and were authorized to sell their products in Maryland in 2016. Forty (40) manufacturers have Department-approved free takeback programs. Acer America, Cellco Partnership (dba Verizon), Dell Marketing, Funai, Hewlett Packard, Hisense USA, Hitachi America, Huawei Device USA, Mitac Digital, Motorola Mobility, Nintendo of America, Nook Digital, Panasonic Corp. of North America, PLR IP Holding, Sony Electronics, Summer Infant, TTE Technology, Venturer Electronics, Viewsonic Corporation, Vizio, and Vtech Electronics reported recycling nearly 525 tons of electronics through their free recycling programs in 2016.

In FY 2016, \$250,000 in grants were issued to 9 municipalities and 18 counties in support of their electronics recycling programs. Grant activities ran through March 2017.

The Department performed 453 inspections at 450 electronics retailers during FY 2017. The inspection coverage rate was 58% (450 retailers inspected of the total 781 known sites). The inspections resulted in the issuance of 28 Site Complaints against retailers for selling unregistered manufacturer brands. All Site Complaints were successfully resolved.

Cumulative highlights of eCycling in Maryland include:

- \* 307 special collection events (*i.e.*, 1 or 2-day collection events) have been held in 24 jurisdictions over the life of Maryland's eCycling program from October 2001 through December 2016.
- \* There were 18 special events in 2016, an increase from the 14 collection events in 2015. The increase could be attributed to the Department's eCycling grant.
- \* Permanent collection programs have been established in Allegany, Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Frederick, Garrett, Harford, Howard, Kent, Montgomery, Prince George's, Queen Anne's, St. Mary's, Washington, Wicomico, and Worcester Counties, and Baltimore City.
- \* Regularly scheduled eCycling collection events are held in the cities of College Park, Laurel, Annapolis and Salisbury.

Information on Maryland's eCycling program is available on the Department's web page at [www.mde.maryland.gov/ecycling](http://www.mde.maryland.gov/ecycling). Table 25 gives a breakdown of the electronics equipment collected in 2016. Figure 9 summarizes the electronics tonnage totals collected since collection began in 2001. An additional 3,489 tons of electronics from commercial businesses were reported by the counties in 2016 as having been recycled. These were not part of residential eCycling programs.

**Table 25 – eCycling Collection Programs**

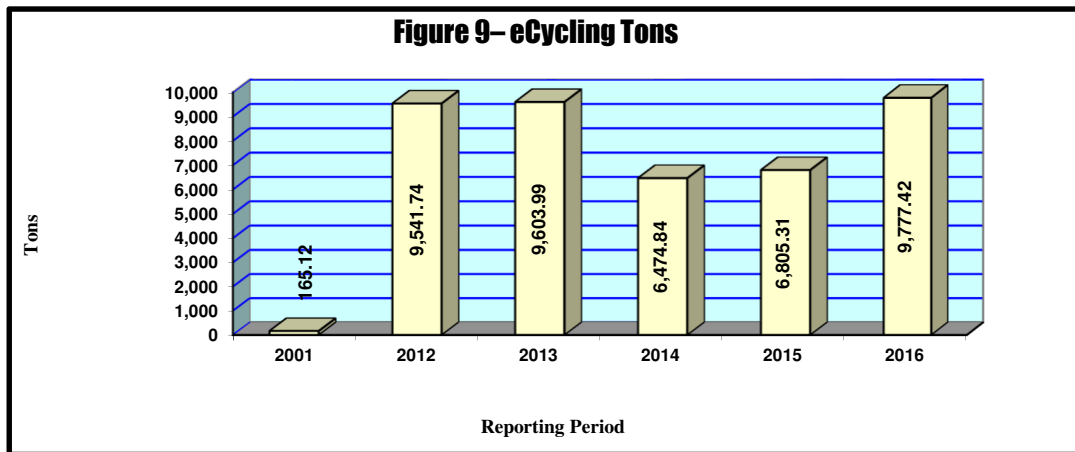
County	Population	Type	Date(s)	No. of participants	Tons collected ^	Pounds collected ^	Pounds/participant
<b>Subtotal Maryland</b>	6,056,421	–	2001-2015	–	77,541.09	155,082,178	–
<b>eCycling Special Events in 2016</b>							
<b>Allegany</b>	75,194	1-day	Sept	-	80.04	160,080	NA
<b>Frederick</b>	260,643	1-day	-	-	152.99	305,980	NA
<b>Harford</b>	260,663	2-day	Oct	-	13.66	27,320	NA
<b>Midshore (2)</b>	148,522	1-day	Apr, Nov	715	28.47	56,940	80
<b>Prince George's * (10)</b>	892,660	1-day	Feb, Apr, Jul, Oct, Nov, Dec	1,534	97.76	195,554	127
<b>Washington</b>	159,190	1-day	Nov	1,000	19.5	39,016	39
<b>Worcester (2)</b>	53,852	1-day	Apr, Oct	762	26.62	53,240	70
<b>Subtotal Events</b>	<b>1,850,724</b>	<b>–</b>	<b>2016</b>	<b>4,011</b>	<b>419.04</b>	<b>838,130</b>	<b>209</b>
<b>Permanent eCycling in 2016</b>							
<b>Allegany</b>	75,194	–	2016	–	7.70	15,400	–
<b>Anne Arundel **</b>	546,878	–	2016	–	243.23	486,460	–
<b>Baltimore City</b>	621,849	–	2016	–	66.35	132,703	–
<b>Baltimore County</b>	823,815	–	2016	–	350.95	701,900	–
<b>Calvert</b>	94,594	–	2016	–	403.25	806,500	–
<b>Carroll</b>	182,267	–	2016	–	57.49	114,980	–
<b>Cecil</b>	115,729	–	2016	–	22.10	44,200	–
<b>Charles</b>	161,876	–	2016	–	308.00	616,000	–
<b>Frederick</b>	260,643	–	2016	–	175.55	351,100	–
<b>Garrett</b>	30,849	–	2016	–	53.14	106,280	–
<b>Harford</b>	260,663	–	2016	–	123.37	246,740	–
<b>Howard</b>	299,993	–	2016	–	743.81	1,487,620	–

County	Population	Type	Date(s)	No. of participants	Tons collected ^	Pounds collected ^	Pounds/participant
Midshore Region	148,522	-	2016	-	49.23	98,466	-
Montgomery **	1,023,389	-	2016	-	1,632.36	3,264,724	-
Prince George's **	892,660	-	2016	-	268.83	537,664	-
St. Mary's	117,626	-	2016	-	352.00	704,000	-
Washington	159,190	-	2016	-	151.52	303,040	-
Wicomico **	103,092	-	2016	-	4,228.74	8,457,480	-
Worcester	53,852	-	2016	-	120.76	241,520	-
<b>Subtotal Permanent</b>	<b>6,000,066</b>	<b>-</b>	<b>2015</b>	<b>-</b>	<b>9,358.38</b>	<b>18,716,777</b>	<b>-</b>
<b>TOTALS (2001 - 2016) ^</b>				<b>4,011 (2016)</b>	<b>87,318.51</b>	<b>174,637,085</b>	<b>209 (2016)</b>

^ Due to rounding, tons to pounds conversion doesn't exactly = x 2,000.

\* The totals for special events in the City of College Park were included in Prince George's County's special events total.

\*\* Totals from the City of Annapolis's permanent eCycling drop-off were included in Anne Arundel County's permanent total. Totals from the City of Takoma Park's permanent eCycling program were included in Montgomery County's permanent total. Totals from the City of Laurel's and College Park's permanent eCycling program were included in Prince George's County's permanent total. Totals from the Ocean City's permanent eCycling drop-off were included in Worcester County's permanent total.



## Mercury Recycling

Sections 9-905.4 to 905.6 of the Environment Article, Annotated Code of Maryland, (Mercury Switch Removal from Vehicles) require motor vehicle manufacturers to develop a mercury minimization plan that includes information on mercury switch removal from motor vehicles. The law also requires a vehicle recycler to remove mercury switches from its end-of-life vehicle inventory and vehicles processed into the vehicle recycler's inventory. The law sunsets on December 31, 2017. In addition to being free to vehicle recyclers and scrap processing facilities, the National Vehicle Mercury Switch Removal Program (NVMSRP) pays vehicle recyclers and scrap processing facilities \$4 per mercury switch and \$6 per antilock braking system switch that is returned for recycling. On July 1, 2016, all departmental activities relating to the NVMSRP ended due to the forthcoming sunset of the law. Therefore, during the period covered by this report, the Department did not perform any inspections or outreach activities related to the program. However, during this same period, mercury switches continued to be removed and collected from end-of life vehicles by recyclers and scrap processing



facilities As of December 31, 2016, 150 vehicle recyclers had enrolled in the program and the total amount of mercury containing switches recovered was 78,375 (172.51 pounds of mercury) since the beginning of the program in 2007.

Complete details on Maryland's mercury switch collection efforts is available in the annual "Collection of Mercury Switches and Mercury Switch Assemblies from Vehicles," report available in the Publications section of the Department's web page.

Mercury legislation enacted in 2001, Environment Article Section 6-905.1, prohibits the sale of mercury-containing thermometers, except those sold in hospitals or other places where medical services are provided by medical service professionals, beginning in 2002. Additional legislation enacted in 2006, Environment Article Section 6-905.2, prohibits the sale of mercury-containing thermostats by October 1, 2007.

### **Household Hazardous Waste (HHW)**

Environment Article Section 9-1801 Annotated Code of Maryland, defines Household Hazardous Waste (HHW) is any waste material, including garbage or trash, derived from a household that would be listed as hazardous waste under the Resource Conservation and Recovery Act but for the fact that the waste is derived from a household. Household hazardous waste may include: gardening chemicals, cleaning agents and solvents, motor oils, paint, pesticides, and preservatives.

Maryland does not regulate HHW as hazardous waste and federal law allows for the disposal of HHW in household trash. However, due to the potential of HHW to cause physical injury, contaminate septic tanks or wastewater treatment systems, and present hazards to children and pets, the Department recommends the proper recycling/disposal of HHW materials at local HHW collection programs. Information on HHW programs in Maryland is available at [www.mde.maryland.gov/hhw](http://www.mde.maryland.gov/hhw)

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## **Business Resources**

The Department provides assistance to businesses that are interested in participating in Maryland's recycling program by guiding them through the State regulatory framework, consulting on recycling program implementation, and providing information on the markets for recyclable materials. The following provides a more detailed description of these activities.

### **Market Locator**

The success of Maryland's recycling programs is linked to finding markets for the materials collected. The State's material recovery facilities (MRFs) are strategically located to ensure materials reach their market economically.

Businesses can access the Recycling Market Directory directly at [www.mdrecycles.org](http://www.mdrecycles.org) to find a market for recyclable materials. The web site is designed to promote commercial recycling in Maryland and is searchable by commodity. Additional links to other companies are available on the Department's recycling web pages for the specific commodity in question. For companies without access to the Internet, the Department can mail or fax a list of markets by material.

Automobile Tires – The Scrap Tire Recycling Act established a mechanism for the cleanup of scrap tire stockpiles and for the collection, transportation, and recycling or processing of all scrap tires that are generated annually in Maryland. The Act established the State Used Tire Cleanup and Recycling Fund (Fund) as the funding support for the Scrap Tire Program.

The Department uses the Fund for administration of the program, licensing activities, stockpile cleanups, enforcement/compliance, remedial actions, and for the development and distribution of public information concerning scrap tire issues.

Under the Department's authorization, the Maryland Environmental Service (MES) may use portions of the Fund to implement and oversee programs established as part of a Scrap Tire Recycling System and other projects that reduce, recover, and/or recycle scrap tires.

A detailed report on scrap tires in Maryland is available in the *Maryland Scrap Tire Program's Annual Report* available on the Department's web page at <http://mde.maryland.gov/programs/LAND/Pages/LandPublications.aspx>.

Batteries – The metals and plastics contained in batteries can be recycled and used to make other products (including new batteries). In addition, the recycling of batteries allows the collection of hazardous metals so that they can be more easily managed. Most counties accept all types of batteries from residents as part of county Household Hazardous Waste (HHW) programs. Specific HHW information is available through each county. County contact information is available on the Department's household hazardous waste web page at [www.mde.maryland.gov/hhw](http://www.mde.maryland.gov/hhw). Old automobile batteries can be returned to a retail establishment where a replacement battery is purchased and rechargeable battery collection locations can be obtained by calling 1-800-8BATTERY (822-8837). Additional battery recycling resources for residents and businesses are available by accessing the Recycling Market Directory at [www.mdrecycles.org](http://www.mdrecycles.org).

White Goods – White goods are defined as large household appliances such as refrigerators, stoves, air conditioners, and washing machines. Once collected, environmentally detrimental materials (e.g., chlorofluorocarbons, etc.) are removed for proper disposal, and the remaining materials (usually metal) from white goods are sold for scrap and made into new products. Every county and Baltimore City accepts white goods from residents for recycling. Contact each jurisdiction for details and any questions concerning the proper collection procedures. Contact

information is also available in the “State, County, and City Contact Info” section on the Department’s web page at <http://mde.maryland.gov/programs/Land/RecyclingandOperationsprogram/Pages/default.aspx>. Additionally, resources for residents and businesses are available under “Metals” in the “Recycling Market Directory” available on the Department’s recycling web page.

### **Permitting Guidance**

The Department provides and regularly updates documents to assist recycling and composting businesses in understanding environmental permitting procedures and requirements.

*MDE Guide to Environmental Permits and Approvals* – This Guide to Permits and Approvals is available on the Department’s web page at <http://www.mde.state.md.us/programs/Permits/Pages/busguide.aspx>. It contains important information about the different types of permits, licenses, and approvals issued by the Department. These permits affect businesses and individuals ranging from well drillers, dry cleaners, and gas stations, to power plants and other large industrial facilities. The Department developed this guide as part of its continued commitment to provide excellent service to its permitting customers. The information in this guide can help businesses determine their permitting needs.

*Composting Facilities Permitting Guidance* Specific information on composting in Maryland and required permits and approvals is available on the Department’s composting web page at [www.mde.maryland.gov/composting](http://www.mde.maryland.gov/composting).

### **Waste Diversion Guide**

*Commercial Waste Diversion Implementation Guide* – This document assists local recycling coordinators working with businesses to promote recycling and source reduction. Case studies detailing successful commercial waste diversion efforts are provided. The guide is available on the Department’s web page at <http://mde.maryland.gov/programs/Land/Documents/www.mde.state.md.us/assets/document/recycling/commercialwasteguide.pdf>.

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## **Public Resources**

As waste diversion programs continue to mature, it is important for the Department to keep the public informed of waste diversion programs in the State. From July 2016 through June 2017, the Department provided assistance and public education through efforts such as America Recycles Day, web resources, and county solid waste and recycling managers meetings.

### **America Recycles Day (ARD)**

America Recycles Day (ARD) is a national event that promotes recycling, source reduction, and buying products made from recycled materials as objectives for a more sustainable society. The Department held the 15<sup>th</sup> Annual "Rethink

Recycling" Sculpture Contest on November 18, 2016 at the Department's headquarters.

The "Rethink Recycling" Sculpture Contest featured over 70 entries from 30 different high schools across Maryland. The Sculpture Contest challenged students to innovatively and artistically use recycled or reused materials as a solution to waste reduction. With instruction to create a sculpture that promotes America Recycles Day, students created artworks from items such as plastic bottles, cans, scrap metal, compact discs, and other materials. Participants were judged based on creativity, use of materials, and workmanship. In addition, a "People's Choice" award was given to the sculpture that received the most votes from attendees of the contest.

Contest details are available on the "Education and Outreach" section of the Department's waste diversion web page at <http://mde.maryland.gov/programs/Land/RecyclingandOperationsprogram/Pages/EducationandOutreach.aspx>.

### **The Department's Website**

Information on Maryland's waste diversion (*i.e.*, recycling and source reduction) activities is on the Department's waste diversion web page at <http://www.mde.maryland.gov/recycling>. The web page includes information on: State and County recycling programs; source reduction; special projects (*e.g.*, electronics and mercury recycling, composting, and household hazardous waste, etc.); setting up recycling programs at work and school; All StAR recycling; educational resources; and links to other sites. New information is added as it becomes available. The Department's website also offers Maryland's citizens and businesses the opportunity to email the Department with questions or comments on recycling.

### **County Recycling & Solid Waste Managers Meetings**

The Department organizes regular joint County Solid Waste and Recycling Managers meetings in Maryland throughout the year. These meetings offer managers the opportunity to network, share ideas, and gain insight to promote efficient solid waste management and recycling programs. The Department reports on the latest recycling activities, trends, and legislative and regulatory changes. Speakers from industry and government are invited to educate local governments on issues including public outreach, new technologies, and initiatives such as composting. In an effort to keep these forums focused and relevant, county managers are periodically surveyed regarding the meeting format and their technical support needs.

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## Partnerships

The Department recognizes the value of being an active partner with local and regional groups that focus on waste management issues. The following is a description of the Department's partnerships.

The Association of State and Territorial Solid Waste Management Officials, Inc. (ASTSWMO) – ASTSWMO ([www.astswmo.org](http://www.astswmo.org)) works to enhance and promote effective programs and affect policies for waste and materials management, environmentally sustainable practices, and environmental restoration.

Electronics Recycling Coordination Clearinghouse (ERCC) – ERCC ([www.ecycleclearinghouse.org](http://www.ecycleclearinghouse.org)) was launched in 2010 by two leading non-profit organizations advancing recycling efforts across the country - the National Center for Electronics Recycling (NCER) and the Northeast Recycling Council (NERC). The ERCC is a forum for coordination and information exchange among the state/local agencies that are implementing electronics recycling laws and all impacted stakeholders.

Maryland Environmental Service (MES) – MES ([www.menv.com](http://www.menv.com)) recognizes that recycling is an element of effective waste management. MES assists the Department-led All StAR program and local governments by offering program planning and implementation, facility management and operation, and marketing of recyclable materials. MES administers the Maryland Used Oil Recycling Program on behalf of the Department. Additional information is available at 1-800-4RECYCLE.

Maryland Recycling Network (MRN) – The MRN is a non-profit, volunteer organization ([www.marylandrecyclingnetwork.org](http://www.marylandrecyclingnetwork.org)) committed to promoting waste reduction, recycling and the conservation of natural resources. MRN is dedicated to promoting partnerships and cooperation between private and public sectors. The Department supports the mission of the MRN through staff participation, funding, and projects. The Department attends MRN meetings and reports the Department's activities and accomplishments to MRN Board members and attendees.

Northeast Maryland Waste Disposal Authority (NMWDA) – The NMWDA ([www.nmwda.org](http://www.nmwda.org)) provides solid waste and biosolids management to its members – Anne Arundel, Baltimore, Carroll, Frederick, Harford, Howard, and Montgomery Counties, and Baltimore City. The Authority manages three waste-to-energy facilities and a facility that converts sewage sludge into compost.

Northeast Recycling Council (NERC) – The NERC (<https://nerc.org/>) is a multi-state non-profit organization promoting sustainable materials management by focusing on waste prevention, toxics reduction, reuse, recycling and organics recovery.

## County Waste Diversion Programs

County waste diversion programs are the key to the success of waste diversion in Maryland. The Department works cooperatively with each county to ensure that valuable market and program information is shared, analyzed, and discussed. Table 27 illustrates the elements of Maryland counties' individual recycling programs. Unless otherwise noted in Table 26, all counties collect "core" recyclables that include mixed paper (*i.e.*, all paper types, envelopes, books, cardboard, magazines, newspaper, and telephone books), containers (*i.e.*, glass, metal, and plastic), white goods (*i.e.*, appliances), and organics (*i.e.*, yard trimmings and Christmas trees). Additionally, the Department's waste diversion web page contains detailed information on the county recycling programs and source reduction activities. Highlights of county programs in 2016 include:

- \* Seventeen (17) counties achieved waste diversion rates greater than the 2005 40 percent waste diversion goal.
- \* Two (2) counties (Montgomery, and Prince George's) achieved a recycling rate greater than the 2020 55 percent recycling goal.
- \* Thirteen (13) counties earned SR credits. Seven (7) of these counties, Baltimore, Carroll, Frederick, Harford, Howard, Montgomery, and Prince George's earned the maximum 5 percent SR credit.
- \* Eighteen (18) counties accept fluorescent lights for recycling.
- \* Ten (10) Counties accept expired medication for proper disposal.
- \* Twenty (20) Counties had permanent electronic drop-off locations.
- \* Eighteen (18) eCycling collection events were held in 10 counties.
- \* Fourteen (14) counties operated textile collection programs.
- \* Sixteen (16) counties maintained mercury thermometer drop-off locations.
- \* Thirteen (13) counties collected paint for recycling.
- \* Eighteen (18) counties operated HHW programs.

Waste diversion programs are constantly changing. Appendix F includes contact information for Maryland's recycling coordinators, who can provide the most current information about waste diversion in their jurisdictions. For additional information, log onto the Department's waste diversion web page at [www.mde.maryland.gov/recycling](http://www.mde.maryland.gov/recycling) and click on "State, County, and City Contact Info."

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**Table 26 -- County Residential Recyclables by Commodity**

County	Fluorescent Lights	Medicine	Lead-Acid Batteries	Oil/Antifreeze	Established Electronic Drop-offs	Paints	Textiles	Hg°	HHW~	Comments/Additional Materials^
Allegany <sup>p</sup>	✓	✓	✓	✓/✓	✓					eCycle event; batteries, hard cover books, tires, propane tanks
Anne Arundel <sup>cs</sup>	✓		✓	✓/✓	✓	✓			✓	cooking oil, wood pallets, tires, propane tanks, shrink wrap, oyster/clam shells, empty fuel containers
Baltimore City <sup>cs</sup>	✓		✓	✓/✓	✓	✓			✓	polystyrene, bagged leaves and Christmas trees only
Baltimore County <sup>cs</sup>	✓	✓	✓	✓/✓	✓	✓		✓	✓	cooking oil, propane tanks, usable building material
Calvert <sup>s</sup>	✓	✓	✓	✓/✓	✓	✓	✓	✓	✓	cooking oil, printer cartridges, oil filters, auto tires, propane tanks, Freon units
Caroline	✓	✓	✓	✓/✓		✓	✓	✓	✓	eCycle event; Mid-shore program
Carroll			✓	✓/✓	✓		✓	✓	✓	scrap metal, vinyl siding, plastic bags, grease/oil, usable building material, polystyrene
Cecil <sup>cs</sup>	✓	✓	✓	✓/✓	✓	✓	✓	✓	✓	batteries, corks, latex paint, oil filters, propane tanks, refrigerant units, tires, wood pallets, vegetable oil
Charles <sup>cps</sup>	✓	✓	✓	✓/✓	✓	✓	✓		✓	cooking oil, household batteries, oil filters, propane tanks, tires
Dorchester	✓		✓	✓/✓				✓		No books
Frederick <sup>cs</sup>	✓	✓	✓	✓/✓	✓				✓	eCycle event; pesticide bottles, wood pallets, tires
Garrett	✓			✓/✓	✓					#1 & 2 plastic only, inkjet & toner cartridges, oil filters
Harford <sup>cps</sup>	✓		✓	✓/✓	✓	✓	✓	✓		eCycle event; gasoline, pesticide containers, oil filters, propane tanks, inkjet cartridges
Howard <sup>cs</sup>	✓		✓	✓/✓	✓	✓	✓	✓	✓	propane tanks, asphalt roof shingles, reusable building materials, carpet, vegetable oil, polystyrene, mattresses
Kent		✓	✓	✓/✓	✓		✓	✓	✓	eCycle event; pesticide containers, boat shrink-wrap; Mid-shore program
Montgomery <sup>c</sup>	✓		✓	✓/✓	✓	✓	✓	✓	✓	bicycles, cooking oil, propane tanks, tires, reusable building materials, bulky plastic
Prince George's <sup>cs</sup>	✓	✓	✓	✓/✓	✓	✓		✓	✓	eCycle event; cooking oil, mattress foam
Queen Anne's	✓	✓	✓	✓/✓	✓	✓	✓	✓	✓	eCycle event; boat shrink-wrap, passenger tires; Mid-shore program
St. Mary's <sup>s</sup>	✓		✓	✓/✓	✓	✓	✓		✓	oil filters, ink jet cartridges, cooking oil, rechargeable batteries, propane cylinders, tires, scrap metal
Somerset <sup>s</sup>	✓		✓	✓/✓				✓		pesticide containers, oil filters, tires
Talbot			✓	✓/✓			✓		✓	eCycle event; pesticides, boat shrink-wrap; Mid-shore program
Washington			✓	✓/✓	✓			✓		eCycle event; propane tanks, cooking oil, tires, yard waste, polystyrene, rechargeable batteries
Wicomico <sup>c</sup>				✓/✓	✓		✓	✓	✓	pesticides, wood pallets
Worcester			✓	✓/✓	✓		✓	✓	✓	eCycle event

<sup>c</sup> Curbside recycling collection (in Wicomico Co., only in Salisbury); <sup>p</sup> Pay-As-You-Throw Program (in Harford Co., only in Aberdeen); <sup>s</sup> Single-stream Recycling (in Calvert Co. only some individual towns offer single-stream); <sup>°</sup> Have established Mercury Thermometer Drop-offs; <sup>~</sup> Household Hazardous Waste Collection Day. Contact the County for details including materials accepted. <sup>^</sup> In this section, eCycle = electronics recycling

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# **APPENDIX A**

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## Economic Benefits of Permitted Solid Waste Acceptance Facilities

This table provides information that was voluntarily reported by permitted solid waste acceptance facilities in 15 political jurisdictions describing the economic benefits of the facilities to the host communities. While the economic benefits identified in the table are significant, the information does not fully represent the total economic benefits to Maryland's communities that are provided by all permitted solid waste acceptance facilities. **The facilities that updated their information in 2016 are highlighted by (\*)**.

**Table A1 – Economic Benefits**

<b>Jurisdiction</b>	<b>Site Name</b>	<b>Economic Benefits To Community</b>	<b>Value of Facilities Provided</b>	<b>Direct Employment Benefits (Salaries/No. of Employees)</b>	<b>Other Economic Benefits</b>
Allegany	Mountainview Sanitary Landfill (Privately Owned)	Provides County residents and businesses an environmentally safe disposal site for County solid wastes at reasonable rates.  The facility has eliminated the need for Allegany Co. to fund and operate its own solid waste disposal facility.	Allegany County uses Mountainview Landfill as a collection site for recycling materials, including glass, cardboard, plastic, aluminum cans, newspaper, and magazines. The facility also provides an ash disposal area for citizen use during the winter months.	No information provided.	The Mountainview Landfill had purchases for supplies and materials from Allegany County businesses.  Also has on-site used oil, cardboard, and aluminum recycling programs to boost recycling in Allegany County.
Allegany *	Western Maryland Processing and Transfer Station (Privately Owned)	More jobs for the community and more taxes for the County. Alternative cost effective waste collection option.	Reduced Carbon footprint due to less travel time to the County landfill.	4 full time positions	Estimated cost for the facility -1.5 millions
Anne Arundel	Annapolis Junction Recycling and Transfer Station (Privately Owned)	Facility pays Host Community Fee to County for each ton of solid waste received.  Tip fee charged County is below the area's rates for disposal.	Highway traffic from tractor trailer trucks is reduced due to rail transfer of solid waste. Allows Anne Arundel and Howard Counties to conserve disposal capacity in county landfills.	24 employees.	No information provided.

<b>Jurisdiction</b>	<b>Site Name</b>	<b>Economic Benefits To Community</b>	<b>Value of Facilities Provided</b>	<b>Direct Employment Benefits (Salaries/No. of Employees)</b>	<b>Other Economic Benefits</b>
Baltimore City	BFI Baltimore Processing and Transfer Center (Privately Owned)	Paid local taxes.	Convenient location for C&D haulers to offload.	12 employees mostly operators and a few sorters.	No information provided.
Baltimore City	Wheelabrator Baltimore LP. (Privately Owned)	Extends life of landfills by reducing MSW volume through incineration.	Sponsors several community outreach and partnership programs.	68 employees including professionals and skilled workers.	No information provided.
Baltimore City	L & J Waste Recycling, LLC (Privately Owned)	The facility is located in a rehabilitated location and generates revenue through its solid waste recycling by turning waste into valuables. Also, the facility adds to the local economy through personal and business tax revenue annually.	The Facility diverts 76.6% of its waste accepted at the site for recycling and saves costs of disposal.	\$400,000/18 employees.	The business intends to expand in future and continue to provide solid waste and recycling services for the community.
Baltimore City	Daniels Sharpmart Inc. (Privately Owned)	Local employment, rent and other direct local purchases to support business.	Not provided.	14 employees. Salary and benefit valued at \$500,000.	Goods & services purchased locally for \$393,000. Other operational costs \$5,363.
Baltimore City*	Baltimore Recycling Center, LLC (Privately Owned)	The facility pays in excess of \$62,400 in taxes per year.	The business has invested over five million dollars in the property and equipment to run a C&D recycling facility at no cost to the City. Baltimore City gets recycling credit for these efforts and property builders get LEED credits for our recycling of their waste.	\$2,000,000/60 employees.	Purchased local goods and services for \$1.6 million. Fuel for 301,000. Paid \$35,000 for Tags and permits. Revenues of recycled material is in excess of \$1000,000.
Baltimore City	Northwest Transfer Station (Publically Owned)	Not Provided	Provides the curbside collection of mixed refuse and recycling services.	17 employees.	Not Provided

<b>Jurisdiction</b>	<b>Site Name</b>	<b>Economic Benefits To Community</b>	<b>Value of Facilities Provided</b>	<b>Direct Employment Benefits (Salaries/No. of Employees)</b>	<b>Other Economic Benefits</b>
Calvert	Howlin Land Clearing Debris Landfill (Privately Owned)	Tax incentive.	Assisting county in disposing county solid waste.	3 employees.	No information provided.
Calvert	Southern Maryland Processing Facility (Privately Owned)	Assisting county in handling solid waste & promoting recycling.	Not provided.	4 employees.	\$10,000 annual purchase of goods and services, recycled products.
Calvert*	Appeal Sanitary Landfill/Transfer Station* (County Owned)	The landfill is the sole County operated facility for the final disposition of County and out-of-county waste. The transfer station provides value to Calvert County by allowing the Division of Solid Waste to extend the useful life of the Appeal Municipal Landfill by at least 20 years, providing a tangible economic benefit.	Revenues are collected from users of the landfill via user fees and excise taxes. County residents may use the convenience centers free of charge, and for chargeable items, county residents pay a lower fee at the landfill than commercial haulers for disposal. The transfer station is complementary to the Appeal Municipal Landfill, and is operated in conjunction with ongoing solid waste refuse collection, landfilling and recycling operations.	The landfill operations and convenience centers are supported by a group of 45.5 full time positions with \$1,822,218 in salaries.	The landfill capital and operational projects have utilized various contractors and vendors within Calvert County and surrounding jurisdictions.
Carroll	Roll-Off Express, Inc. (Privately Owned)	\$54,000/year paid in real estate, personal property and sales taxes.	\$2.25 million investment for facilities.	\$275,000/17 employees including equipment operators, drivers, laborers.	\$375,000 annual purchase of goods and services.
Cecil	Cecil County Central Landfill (County Owned)	Amnesty program for recycling materials, household hazardous waste days, and eCycling events. Mulch for minimum fees.	Provides waste disposal and recycling opportunities for Cecil County's population. The facility works in	\$1,250,000/20 Employees.	Estimated value of goods and services purchased from the locality for the facility: \$2,700,000. Estimated value of materials recycled

<b>Jurisdiction</b>	<b>Site Name</b>	<b>Economic Benefits To Community</b>	<b>Value of Facilities Provided</b>	<b>Direct Employment Benefits (Salaries/No. of Employees)</b>	<b>Other Economic Benefits</b>
			conjunction with two transfer stations owned by Cecil County Government to accept MSW originating within the County for no cost.		for the year: \$260,000.
Cecil	Stemmers Run Transfer Station (County Owned)	Residents drop MSW and single stream recyclables for no cost. Christmas trees are accepted seasonally.	Residents drop MSW and single stream recyclables for no cost. Christmas trees are accepted seasonally.	Total Salaries paid \$ 55,000	Estimated value of goods and services purchased from the locality for the facility: \$30,000. Estimated value of materials recycled for the year: \$5,000
Cecil	Woodlawn Transfer Station (County Owned)	Residents drop MSW and single stream recyclables for no cost. Christmas trees are accepted seasonally.	Residents drop MSW and single stream recyclables for no cost. Christmas trees are accepted seasonally.	\$190,000/3 Employees.	Estimated value of goods and services purchased from the locality for the facility: \$30,000. Estimated value of materials recycled for the year: \$15,000.
Frederick	Essroc Industrial Waste Landfill	Land Assessment taxes paid for the industrial complex	Not Applicable	1-2 employee	None
Frederick	Reichs Ford/Site B Municipal Sanitary Landfill/Transfer Station (County Owned)	Free curbside recycling, a recycling drop-off center, HHW collection, free mulch, yard waste grinding & sampling and analysis of 29 off-site residential water wells adjoining landfill property.	Disposal of C&D and MSW.	\$3.2 Million/43 employees.	Spent \$2.8 million on various recycling contracts and programs.

<b>Jurisdiction</b>	<b>Site Name</b>	<b>Economic Benefits To Community</b>	<b>Value of Facilities Provided</b>	<b>Direct Employment Benefits (Salaries/No. of Employees)</b>	<b>Other Economic Benefits</b>
Harford*	Harford Waste Disposal Center (Publicly Owned)	Provide County residents with disposal and recycling services. In addition, the facility acquires goods and services from local vendors. Further, the facility employs external contractors for various routine and non-routine services.	Provides County residents with non-profit disposal methodology and hierarchy. Provides recycling services at "no cost."	\$2.6 Million/30 full time employees.	For FY 2015: \$793,689 spent on local goods, vehicles, maintenance and other services.
Howard	Work Place Essentials Transfer Station (Privately Owned)	Paid taxes and provides waste collection services to locality.	Assists County in providing collection of sanitary waste products originating from commercial restrooms in Baltimore, Howard, Anne Arundel Counties and others.	\$800,000/18 employees.	No information provided.
Howard	AmeriWaste Processing and Transfer Station (Privately Owned)	Payment of real estate, personal property and sales taxes to Howard County.	Facility supplements County facilities for solid waste disposal.	12 employees. Jobs include 53 equipment operators, 2 clerks, and 5 laborers.	\$200,000 in purchase from local vendors, \$19,000 in value of recycled items.
Montgomery*	Montgomery County Solid Waste Transfer Station (Publicly Owned)	Strategically located for easy access to accommodate residential, industrial and commercial use.	No information provided.	18 full time County employees. 63 full time Covanta Montgomery, Inc., 9 full time MES and 10 Temp employees.	Revenue from some materials partially offsets operating costs, allowing fees to remain relatively flat over the past several years.
Prince George's	Lawrence Street C & D Processing Facility	Benefits include taxes that support local infrastructure, jobs, and access to a facility close by for local users.	Strategically located for local customers.	Employs 10 people for estimated budget of \$650,200.	Goods and services purchased is approximately \$1.5 million, \$1.8 Million in recycled products produced.

<b>Jurisdiction</b>	<b>Site Name</b>	<b>Economic Benefits To Community</b>	<b>Value of Facilities Provided</b>	<b>Direct Employment Benefits (Salaries/No. of Employees)</b>	<b>Other Economic Benefits</b>
St. Mary's	St. Andrew's Municipal Landfill (Publicly Owned)	Tipping fees waived during emergency/storm damage situations and other approved non-profit organization projects. Provides mulch made from yard and wood waste free to county residents.	Processes county's residential yard waste into mulch. Provides location for disposal of appliances and up to five (5) tires per trip, free of charge. Future expansion of area C (36.8 acres) permitted landfill, if required.	\$700,000/21 employees includes a manager, 4 equipment operators, 2 scale house operators, and 14 attendants (full & part time).	\$300,000 - County subsidy of Recycling. \$1.3 million - County subsidy for residential solid waste disposal.
Washington*	Forty West Municipal Landfill (Publicly Owned)	Centrally located in County for easy access to accommodate residential, industrial, and commercial use.	Facility owned and operated by Washington County for the solid waste disposal need of County residents.	\$2,105,090/29 employees. Jobs include: deputy director (1), assistant director (1), recycling coordinator (1), office staff (2), weigh clerk full time (3) and part time (5), equipment operators (6), mechanics (2), residential drop-off attendants (4), part time drop off attendants (2), inmate crew guards (2),	Approx. \$6.3 million annual operating budget spent locally for the purchase of materials, services, equipment, and wages.
Wicomico*	Bennett Construction Inc. (Privately Owned)	Creates a larger tax base to the local community and the only waste collection facility in the area. Provides employment opportunities in the area.	Expanding the value of the facility in the County for other opportunities.	\$ 328,000/15 employees.	Fuel and Maintenance Cost to the local economy - \$238,000/year. Offers lower tipping fees to the customers.
Worcester	Ocean City Transfer Station (Publicly Owned)	Provides for the consolidation of solid waste collected in the Town of Ocean City for transport 26 miles to the County's MSWLF.	No information provided.	No information provided.	No information provided.



# **APPENDIX B**

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# Permitted Solid Waste Acceptance Facilities

## Table B1 – Permitted Solid Waste Acceptance Facilities\*

County	Facility Name	Type	Owner Type	Permit Number	Expiration Date	Fill/Site Acreage	Site Location /Comments
Allegany	Mountainview Sanitary Landfill	WMF	PRI	2016-WMF-0010	5/4/2021	40 / 396	13300 New George's Creek Road, Frostburg MD 21532.
	Western Maryland Processing Facility and Transfer Station	WPT	PRI	2008-WPT-0632	10/30/2019	- /5.85	13810 Hazmat Drive Cumberland, MD 21502 <b>Facility Not Constructed</b>
Anne Arundel	Annapolis Junction Recycling and Transfer Station	WPT	PRI	2016-WPT-0158	3/24/2021	- / 17	8077 Brock Bridge Road, Jessup MD 20794.
	Curtis Creek Processing Facility and Transfer Station	WPT	PRI	2013-WPT-0539	12/19/2018	- / 12.8	23 Stahl Road, Baltimore MD 21226. Accepts C&D Waste.
	Millersville Landfill and Resource Recovery Facility	WMF	CTY	2012-WMF-0240	11/13/2017	330 / 567	389 Burns Crossing Road, Severn MD 21144.
	Tolson & Associates Rubble Landfill	WRF	PRI	2003-WRF-0580	11/23/2019	72/184	1451 Capital Raceway Road, Crofton, MD 21114.
Baltimore City	BFI Baltimore Processing and Transfer Center	WPT	PRI	2013-WPT-0627	2/24/2019	- / 15.6	5800 Chemical Road, Baltimore MD 21226.
	Daniel's Sharpsmart Special Medical Waste Processing Facility	WPT	PRI	2015-WPT-0633	2/9/2020	- / <1	6611 Chandlery Street Baltimore, MD 21224 Accepts only Special Medical Waste.
	Curtis Bay Energy Medical Waste Incinerator	WMI	PRI	2011-WMI-0036	3/8/2017	- / 4.0	3200 Hawkins Point Road, Baltimore MD 21226. Formerly Phoenix Services.
	Fort Armistead Road – Lot 15 Industrial Landfill	WIF	PRI	2011-WIF-0653	9/26/2018	32 / 65	3601 Fort Armistead Road, Baltimore MD 21226.
	Hawkins Pt. Plant Industrial Landfill	WIF	PRI	2015-WIF-0527A	12/3/2020	57 / 95	3901 Fort Armistead Road, Baltimore MD 21226.
	Northwest Transfer Station	WTS	MUN	2015-WTS-0038	1/18/2021	- / 6.6	5030 Reisterstown Road, Baltimore MD 21215.
	Baltimore Recycling Center LLC Processing Facility and Transfer Station	WPT	PRI	2014-WPT-0631	12/28/2019	- / 12.5	1030 Edison Highway, Baltimore MD 21213. Accepts Only C&D Waste.
	Quarantine Road Landfill	WMF	MUN	2014-WMF-0325	11/9/2019	126 / 153	6100 Quarantine Road, Baltimore MD 21226.
	Stericycle Medical Waste Processing Facility and Transfer Station	WPT	PRI	2014-WPT-0591	12/10/2019	- / 2.4	5901 Chemical Road, Baltimore MD 21226.
	Wheelabrator Baltimore, LP Waste-to-Energy Facility	WTE	PRI	2016-WTE-0030	3/2/2022	- / 15	1801 Annapolis Road, Baltimore MD 21230. Formerly BRESKO.
	W.R. Grace and Co. Industrial Landfill	WIF	PRI	2012-WIF-0613	1/30/2017	10.7/157	5500 Chemical Road, Baltimore MD 21226
	L & J Waste Recycling, LLC.	WPF	PRI	2016-WPF-0634	2/16/2022	- / <1	222 N. Calverton Road Baltimore MD 21223
	Baltimore	Baltimore County Central Acceptance Facility	WPT	CTY	2011-WPT-0657	12/6/2017	6.0 / 7.3
Days Cove Rubble Landfill – Lateral Expansion		WRF	PRI	2014-WRF-0592	10/13/2019	35.6 / 99	6425 Days Cove Road, White Marsh MD 21162.
Eastern Sanitary Landfill		WMF	CTY	2015-WMF-0052A	5/24/2022	200 / 367	6259 Days Cove Road, White Marsh MD 21162.
Eastern Sanitary Transfer Station		WTS	CTY	2011-WTS-0508	6/11/2017	- / 3.2	6260 Days Cove Road, White Marsh MD 21162.
Honeygo Run Reclamation Center		WRF	PRI	2008-WRF-0579A	10/13/2019	77/117	10710 Philadelphia Road, Perry Hall MD 21128. Expansion of Existing Landfill.

County	Facility Name	Type	Owner Type	Permit Number	Expiration Date	Fill/Site Acreage	Site Location /Comments
	Recovermat Mid-Atlantic	WPF	PRI	2015-WPF-0341	1/6/2021	- / 8.5	2202 Halethorpe Farm Road, Baltimore MD 21227. Approved to accept C&D. Currently, only accepts scrap metal.
	Western Acceptance Facility Transfer Station	WTS	CTY	2015-WTS-0599	5/11/2020	6.0 / 6.0	3310 Transway Road, Halethorpe MD 21227.
Calvert	Appeal Municipal Landfill	WMF	CTY	2012-WMF-0531	11/19/2017	30 / 350	401 Sweetwater Road, Lusby MD 20678.
	Appeal Transfer Station	WTS	PRI	2012-WTS-0519	11/19/2017	- / 1	401 Sweetwater Road, Lusby MD 20678.
	Hance Land Clearing Debris Landfill	WLC	PRI	2015-WLC-0252	11/23/2020	10.2 / 23.6	1/4 mile west of MD Rtes 2 & 506, Prince Frederick MD 20678.
	Howlin Land Clearing Debris Landfill	WLC	PRI	2013-WLC-0577	5/28/2018	3.0 / 32.7	8580 Nursery Road, Lusby MD 20657.
	Southern Maryland Processing Facility	WPF	PRI	2014-WPF-0597	3/19/2020	- / 0.2	7659 Binnacle Lane, Owings MD 20736
Caroline	Midshore II Solid Waste Regional Municipal Landfill	WMF	MES	2013-WMF-0608	2/4/2019	- / 71.3	12236 River Road Ridgely MD 21660.
Carroll	Northern Municipal Landfill	WMF	CTY	2015-WMF-0066	10/12/2020	80 / 220	1400 Baltimore Boulevard, Westminster MD 21157.
	Northern Municipal Landfill	WPT	CTY	2008-WPT-0541	3/9/2019	3 / 220	1400 Baltimore Boulevard, Westminster MD 21157.
	Roll-Off Express, Inc.	WPF	PRI	2012-WPF-0159	6/9/2018	- / 6.8	2900 Dede Road, Finksburg MD 21048.
Cecil	Cecil County Central Landfill	WMF	CTY	2012-WMF-0532	11/13/2017	40 / 418	758 East Old Philadelphia Road, Elkton MD 21921.
	Cecil County Central Landfill – Horizontal Expansion	WMF	CTY	2008-WMF-0629	4/22/2019	40 / 418	758 East Old Philadelphia Road, Elkton MD 21921 <b>Planned Construction</b>
	Stemmer's Run Transfer Station	WTS	CTY	2015-WTS-0072	11/5/2020	- / 9.7	45 Stemmer's Run Road, Earleville MD 21919.
	Woodlawn Transfer Station	WTS	CTY	2015-WTS-0074	11/5/2020	- / 37	Fire Tower & Waibel Roads, Port Deposit MD 21904.
Charles	Charles County Municipal Landfill	WMF	CTY	2014-WMF-0076A	4/30/2019	73 / 114	12305 Billingsley Road, Waldorf MD 20602.
	Naval Support Facility Indian Head Incinerator	WIN	FED	2009-WIN-0529	9/4/2019	- / 1	101 Strauss Avenue, Indian Head MD 20640.
Dorchester	Beulah Municipal Landfill	WMF	CTY	2015-WMF-0628	2/22/2020	27 / 40	6812 East New Market-Ellwood Road, Hurlock MD 21643.
Frederick	Eastalco Aluminum Company Industrial Landfill	WIF	PRI	2014-WIF-0537	11/30/2019	10.2 / 20	5601 Manor Wood Road, Frederick MD 21703.
	Essroc Cement Corporation.	WIF	PRI	2010-WIF-0640	1/22/2017	25/50	4120 Buckeystown Pike, Frederick, MD 21717. Limited to Essroc Waste Only. <b>Planned Construction</b>
	Fort Detrick – Area B & Main Post Municipal Landfill	WMF	FED	2015-WMF-0327	8/26/2020	61 / 297	Area B - Rosemont Avenue & Shookstown Road. Fort Detrick Waste Only.
	Fort Detrick – Area B & Main Post Incinerator	WIN	FED	2015-WIN-0341	3/24/2021	- / 1	Area A - East off Beasley Drive. Limited To Waste Only From Fort Detrick.
	Reichs Ford/Site B Municipal Landfill	WMF	CTY	2013-WMF-0582	6/11/2018	58 / 184	9031 Reichs Ford Road, Frederick MD 21704.
	Reichs Ford/Site B Municipal Sanitary Landfill	WPT	CTY	2016-WPT-0604	5/30/2021	58 / 184	9031 Reichs Ford Road, Frederick MD 21704.
Garrett	Garrett County Solid Waste Disposal & Recycling Facility	WMF	CTY	2011-WMF-0094	4/10/2018	30 / 188	3118 Oakland-Sang Run Road, Oakland MD 21550.
Harford	Auston Process and Transfer Facility	WPT	PRI	2012-WPT-0616	1/14/2018	3.0 / 6.01	1202 Pauls Lane, Joppa MD 21085.
	Harford Waste Disposal Center Expansion	WMF	CTY	2012-WMF-0570	10/3/2017	77.4 / 286	3241 Scarboro Road, Street MD 21154.
	Harford County Resource Recovery Facility	WTE	PRI	2013-WTE-0576	12/12/2018	- / 4	1 Magnolia Road, Joppa MD 21085. Produces Steam for APG Complex.
Howard	Alpha Ridge Municipal Landfill	WMF	CTY	2016-WMF-0110	5/2/2021	195 / 590	2350 Marriottsville Road, Marriottsville MD 21104.

County	Facility Name	Type	Owner Type	Permit Number	Expiration Date	Fill/Site Acreage	Site Location /Comments
	Alpha Ridge Processing and Transfer Station	WPT	CTY	2012-WPT-0578	3/19/2018	195 / 590	2350 Marriottsville Road, Marriottsville MD 21104.
	AmeriWaste Processing Facility and Transfer Station	WPT	PRI	2011-WPT-0572	11/3/2016	- / 12.89	7150 Kit Kat Road, Elkridge MD 21075. Accepts Only C&D Waste.
	Workplace Essentials Transfer Station	WTS	PRI	2015-WTS-0594	6/4/2020	- / 1	7184 Troy Hill Drive, Suites J & K, Elkridge MD 21075. Accepts Diapers & Other Special Sanitary Wastes.
Montgomery	C & D Recovery Processing Facility	WPF	PRI	2014-WPF-0581	5/26/2019	- / 10.8	24120 Frederick Road, Clarksburg MD 20871.
	Montgomery County Resource Recovery Facility	WTE	CTY	2013-WTE-0538	12/26/2018	- / 35	21204 Martinsburg Road, Dickerson MD 20842.
	Montgomery Co. Site 2 Municipal Landfill	WMF	CTY	2014-WMF-0237	5/11/2019	125 / 650	3 miles southwest of Dickerson, MD 20842. <b>Landfill Not Constructed.</b>
	Montgomery County Solid Waste Transfer Station	WPT	CTY	2011-WPT-0617	1/10/2017	- / 43	16101 Frederick Road, Derwood MD 20850.
Prince George's	Brown Station Road Municipal Landfill	WMF	CTY	2015-WMF-0589	11/11/2020	134 / 164	3500 Brown Station Road, Upper Marlboro MD 20772.
	Dower House Recycling and Processing Center	WPF	PRI	2015-WPF-0563	10/26/2020	- / 10	5900 Dower House Road, Upper Marlboro MD 20772. <b>Facility Not Constructed.</b>
	Ritchie Reclamation Rubble Landfill Phase I	WRF	PRI	2015-WRF-0590	12/3/2020	78 / 258	2001 Ritchie Marlboro Road, Upper Marlboro MD 20772.
	Ritchie Reclamation Rubble Landfill Phase II	WRF	PRI	2015-WRF-0126	6/1/2020	78 / 258	2001 Ritchie Marlboro Road, Upper Marlboro MD 20772.
	Sheriff Road Processing & Transfer Facility	WPT	PRI	2012-WPT-0218	2/21/2018	- / 1.5	5800 Sheriff Road, Fairmont Heights MD 20743. Accepts Only C&D Waste.
	Sun Services Processing and Recycling Center	WPF	PRI	2016-WPF-0639	3/30/2021	4.3	11220 Somerset Ave Beltsville, MD 20705
	Recycle One Processing and Transfer Station	WPT	PRI	2010-WPT-0647	9/15/2019	1.8/2.85	4700-A Lawrence Street. Hyattsville MD 20781
Queen Anne's	Baker Rubble Landfill	WRF	PRI	2013-WRF-0622	4/24/2018	15.9 / 18.5	501 4-H Park Road, Queenstown MD 21658. Serves Mid-Shore Counties.
St. Mary's	Knott Land Clearing Debris Landfill	WLC	PRI	2016-WLC-0134	5/11/2021	4.3 / 55	1/4 mile North - Flat Iron Rd 2 & Boothe Road, Great Mills MD 20634.
	St. Andrews Municipal Landfill	WMF	CTY	2015-WMF-0138	11/18/2020	36.8 / 55	44825 St. Andrews Church Road., California MD 20619. <b>Landfill Operating as a Processing &amp; Transfer Station.</b>
	St. Andrews Waste Processing & Transfer Facility	WPT	CTY	2013-WPT-0624	1/23/2019	1 / 55	44861 St. Andrews Church Road, California MD 20619 <b>Facility Not Constructed</b>
Somerset	Somerset County Landfill - Fairmount Site	WMF	CTY	2014-WMF-0268	6/24/2019	33 / 62	8716 James Ring Road, Westover MD 21871.
	Smith Island Incinerator	WIN	CTY	2016-WIN-0140	4/7/2021	0.06	Smith Island Road, Ewell MD 21824.
Talbot	Midshore Regional Solid Waste Facility	WMF	MES	2015-WMF-0144	2/24/2020	67 / 140	7341 Barkers Landing Road, Easton MD 21601. Serves Talbot, QA, Caroline and Kent Counties.
	Midshore Transfer Station	WTS	MES	2015-WTS-0549	5/11/2020	0.5 / 140	7341 Barkers Landing Road, Easton MD 21601. Serves Talbot, QA, Caroline and Kent Counties
Washington	Forty West Municipal Landfill	WMF	CTY	2007-WMF-0266A	10/28/2019	189 / 425	12630 Earth Care Road, Hagerstown MD 21740.
	Washington County Rubble Landfill	WRF	CTY	2009-WRF-0270	10/28/2019	75 / 100	11112 Kemps Mill Road Williamsport MD 21740. Landfill Not Operating.
Wicomico	Bennett Processing Facility	WPF	PRI	2011-WPF-0658	1/5/2017	5 / 14.3	513-515 South Camden Ave., Fruitland MD 21826.
	CES-Connelly Mill Processing and Transfer Station	WPT	PRI	2015-WPT-0675	10/13/2021	- / 14.9	29790 Connelly Mill Road, Delmar MD 21878.

County	Facility Name	Type	Owner Type	Permit Number	Expiration Date	Fill/Site Acreage	Site Location /Comments
	Foskey Lane Transfer Station	WTS	PRI	2015-WTS-0673	5/30/2021	- /3.66	29631 Foskey Lane, Delmar MD 21875
	Newland Park Municipal Landfill	WMF	CTY	2015-WMF-0283	7/16/2020	60 / 125	7161 Brick Kiln Road, Salisbury MD 21801.
	Peninsula Regional Medical Center	WPM	PRI	2011-WPM-0505	2/11/2018	- / 23	100 East Carroll Street, Salisbury MD 21801.
Worcester	Central Sanitary Landfill	WMF	CTY	2012-WMF-0663	9/6/2021	230 / 725	7091 Central Site Lane, Newark MD 21841.
	Ocean City Transfer Station	WTS	MUN	2015-WTS-0156	6/7/2020	- /2.2	306 - 65th Street, Ocean City MD 21842. Accepts Only MSW.

\* The status of the facilities is current as of June 30, 2017 – the period of time covered by the report.

**Table B2 – Summary of Permitted Solid Waste Acceptance Facilities**

Type Of Facility	Number of Facilities
WMF: Municipal Solid Waste Landfill	24
WRF: Construction & Demolition Landfill	7
WLC: Land Clearing Debris Landfill	3
WIF: Industrial Landfill	5
WIN: MSW or Special Medical Waste Incinerator	3
WMI: Medical Waste Incinerator	1
WPF: Processing Facility	8
WPM: Special Medical Waste Processing Facility	1
WTS: Transfer Station	10
WPT: Processing Facility & Transfer Station	18
WTE: Waste to Energy/MSW Incinerator	3
<b>TOTAL</b>	<b>83</b>

Type of Ownership	Number of Facilities
CTY: County Government	33
PRI: Private (Commercial)	41
MUN: Municipal Government	3
FED: Federal Government	3
MES: Maryland Environmental Service	3
<b>TOTAL</b>	<b>83</b>

**Table B3 – Permitted Solid Waste Acceptance Facilities NOT in Operation**

Jurisdiction	Site Name	Facility Type	Ownership Type	Status
Frederick	Essroc Cement Corporation	Industrial Landfill	Private	Not Built
Montgomery	Montgomery County Site 2 Municipal Landfill	MSW Landfill	County	Not Built
Prince George's	Dower House Recycling and Processing Facility	Processing Facility	Private	Not Built

<b>Jurisdiction</b>	<b>Site Name</b>	<b>Facility Type</b>	<b>Ownership Type</b>	<b>Status</b>
St. Mary's	St. Andrew's Municipal Landfill	MSW Landfill	County	Inactive
	St. Andrew's Waste Processing and Transfer Station	Processing Facility and Transfer Station	County	Not Built
Talbot	Midshore Regional Solid Waste Facility	MSW Landfill	County	Inactive
Washington	Washington County Rubble Landfill	C&D Landfill	County	Inactive

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# **APPENDIX C**

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## Permitted Landfills' Capacity

Each landfill in Maryland is required to report the cubic yards (CYs) of available disposal capacity and the life expectancy of the facility at the current disposal rate. Using the average compaction factor, based upon historical data, this remaining capacity is converted to tons.

MSW landfills (Table C1) reported a total available capacity of 58,861,737 tons with 1,710,309 tons being disposed in 2016. Thus, at the current disposal rate, there would be over 34 years (58,861,737 tons ÷ 1,710,309 tons) of available MSW landfill capacity in Maryland. However, this calculation does not account for population changes, changes in waste generation or disposal rates, or the closing of older MSW disposal facilities. Nor does it include facilities for which permits may have been issued, but which have not yet been built and are not accepting waste.

### Table C1 – MSW Landfill Capacity

Municipal Landfill Facility Name	Permitted Capacity (CY)	Landfilled to Date (CY)	Landfilled to Date (Tons)	Remaining Capacity (CY)	Remaining Capacity (Tons)	Year Reach Capacity	Landfilled in 2016 (CY)	Landfilled in 2016 (Tons)	Used in 2016 ^
Alpha Ridge Municipal Landfill	13,521,900	5,963,795	3,280,087	7,558,105	4,156,958	2054	4,894	7,336	0.04%
Appeal Municipal Landfill	2,799,290	615,612	369,367	2,183,678	1,310,207	2028	344	207	0.01%
Beulah Sanitary Landfill	1,910,325	1,672,050	1,655,495	238,275	231,906	2018	53,667	53,136	2.81%
Brown Station Road Landfill	16,505,000	12,929,434	8,843,662	3,575,566	2,387,990	2028	423,964	288,509	2.57%
Cecil County Central Landfill	6,527,539	5,122,407	3,175,892	1,405,132	871,182	2026	151,099	85,570	2.31%
Cecil County Central Landfill – Horizontal Expansion **	16,800,000	0	0	16,800,000	10,080,000	2065	0	0	0.00%
Central Sanitary Landfill	4,800,000	2,286,986	1,600,890	2,513,014	1,759,110	2041	99,197	69,438	2.07%
Charles County Municipal Landfill	4,374,700	2,145,025	1,487,331	2,229,675	1,686,069	2037	195,600	96,665	4.47%
Eastern Sanitary Landfill	23,474,559	13,297,904	6,139,174	10,176,655	4,588,699	2052	350,435	173,455	1.49%
Fort Detrick – Area B & Main Post	1,000,900	129,356	106,854	871,544	686,859	2186	4,338	4,442	0.43%
Forty West Municipal Landfill	24,752,000	4,389,175	1,733,043	20,362,825	7,858,357	2085	205,831	90,488	0.83%
Garrett County Solid Waste Disposal & Recycling Facility	2,568,470	1,228,194	717,823	1,340,276	761,189	2041	52,107	29,785	2.03%
Harford Waste Disposal Center	4,870,330	856,219	359,864	4,014,111	1,771,436	2053	107,844	45,030	2.21%
Midshore Regional Solid Waste Facility	3,924,994	3,684,695	2,032,481	240,299	126,266	2020	0	0	0.00%
Midshore II Regional Solid Waste Facility	7,800,000	1,280,684	690,531	6,519,316	3,989,469	2052	207,433	110,199	2.66%
Millersville Landfill & Resource Recovery Facility	14,156,000	5,464,906	3,278,944	8,691,094	5,214,656	2043	275,540	118,222	1.95%
Montgomery County Site 2**	0	0	0	0	0	N/A	0	0	0
Mountainview Sanitary Landfill	4,260,000	3,689,990	2,833,912	570,010	216,300	2022	109,710	84,258	2.58%
Newland Park Municipal Landfill	7,200,000	3,810,939	2,057,907	3,389,061	1,830,093	2032	231,579	125,052	3.22%
Northern Municipal Landfill	3,504,187	687,617	622,451	2,816,570	1,408,285	2093	36,453	15,957	1.04%
Quarantine Road Landfill	18,320,622	14,701,517	16,506,139	3,619,105	4,929,043	2026	363,282	275,388	1.98%
Reichs Ford/Site B Municipal Sanitary Landfill	7,326,426	3,841,838	2,161,049	3,484,588	1,960,066	2045	22,008	12,379	0.30%

Municipal Landfill Facility Name	Permitted Capacity (CY)	Landfilled to Date (CY)	Landfilled to Date (Tons)	Remaining Capacity (CY)	Remaining Capacity (Tons)	Year Reach Capacity	Landfilled in 2016 (CY)	Landfilled in 2016 (Tons)	Used in 2016 ^
St. Andrews Municipal Landfill*	1,500,000	0	0	1,500,000	750,000	2034	0	0	0
Somerset County Landfill – Fairmount Site	1,610,000	870,314	506,193	739,686	287,597	2031	42,429	24,793	2.64%
<b>Totals</b>	<b>193,507,242</b>	<b>88,668,657</b>	<b>60,159,089</b>	<b>104,838,585</b>	<b>58,861,737</b>		<b>2,937,754</b>	<b>1,710,309</b>	<b>1.39%</b>

\* St. Andrews Municipal Landfill closed in 2001. The current permit (2016-WMF-0138) was issued for a new landfill that was never constructed. St. Mary's County uses permit 2015-WMF-0138 to operate the closed St. Andrews Municipal Landfill as a transfer station.

\*\* Montgomery County Site 2 Landfill's construction is on hold until the county needs landfill space in the future.

^ Equal to Landfilled in 2016 (CY) ÷ Permitted Capacity (CY)

Construction and Demolition Debris landfills (Table C2) reported a total available capacity of 13,795,362 tons with 718,514 tons disposed in CY 2016. At the current disposal rate, there would be approximately 19 years (13,795,362 tons ÷ 718,514 tons) of available C&D landfill capacity in Maryland.

**Table C2 – C&D Landfill Capacity**

Landfill Facility Name	Permitted Capacity (CY)	Landfilled to Date (CY)	Landfilled to Date (Tons)	Remaining Capacity (CY)	Remaining Capacity (Tons)	Year Reach Capacity	Landfilled in 2016 (CY)	Landfilled in 2016 (Tons)	Used in 2016 ^
Baker Rubble Landfill	820,000	695,292	397,091	124,708	37,909	2020	33,560	17,788	4.09%
Days Cove Rubble Landfill – Lateral Expansion	3,192,000	2,878,108	1,749,088	313,892	410,912	2018	321,838	186,566	10.08%
Honeygo Run Reclamation Center	11,723,461	5,148,882	3,471,873	6,574,579	3,694,976	2042	315,279	204,773	2.69%
Ritchie Land Reclamation Partnership Phase I & II	12,655,800	7,696,515	7,349,108	4,959,285	2,975,571	2025	509,724	305,834	4.03%
Tolson & Associates	5,762,060	3553	3553	5,758,507	5,758,507	2042	3553	3553	0.06%
Washington County Rubble Landfill	2,201,664	166,690	83,345	2,034,974	917,487	2061	0	0	0.00%
<b>TOTALS</b>	<b>36,354,985</b>	<b>16,589,040</b>	<b>13,054,058</b>	<b>19,765,945</b>	<b>13,795,362</b>		<b>1,183,954</b>	<b>718,514</b>	<b>3.26%</b>

^ Equal to Landfilled in 2016 (CY) ÷ Permitted Capacity (CY)

Industrial landfills (Table C3) reported a total available capacity of 8,693,496 tons. At a current disposal rate of 203,689 tons, there would be approximately 43 years (8,693,496 tons ÷ 203,689 tons) of available industrial landfill capacity in Maryland.

**Table C3 – Industrial Landfill Capacity**

Landfill Facility Name	Permitted Capacity (CY)	Landfilled to Date (CY)	Landfilled to Date (Tons)	Remaining Capacity (CY)	Remaining Capacity (Tons)	Year Reach Capacity	Landfilled in 2016 (CY)	Landfilled in 2016 (Tons)	Used in 2016 ^
W.R. Grace and Co. – Davison Chemical Division	495,000	181,590	214,486	313,410	280,514	2029	18,936	20,789	3.83%
Eastalco Aluminum Company	380,000	152,365	184,142	227,635	300,008	2017	21,305	17,161	5.61%
Essroc Cement Corporation	273,000	0	0	273,000	273,000	N/A	0	0	0.00%
Hawkins Point Plant	3,228,044	2,288,727	3,661,736	939,317	1,503,134	2077	192	240	0.01%
Fort Armistead Road – Lot 15	6,300,000	539,237	593,160	5,760,763	6,336,840	2053	150,455	165,499	2.39%
<b>TOTALS</b>	<b>10,676,044</b>	<b>3,161,919</b>	<b>4,653,524</b>	<b>7,514,125</b>	<b>8,693,496</b>		<b>190,888</b>	<b>203,689</b>	<b>1.79%</b>

^ Equal to Landfilled in 2016 (CY) ÷ Permitted Capacity (CY)

Land Clearing Debris landfills (Table C4) reported a total available capacity of 89,255 tons. Based on CY 2015 disposal rate of 1,179 tons, there would be approximately 76 years (89,255 tons ÷ 1,179 tons) of available land clearing debris landfill capacity in Maryland.

**Table C4 – Land Clearing Debris Landfill Capacity**

Landfill Facility Name	Permitted Capacity (CY)	Landfilled to Date (CY)	Landfilled to Date (Tons)	Remaining Capacity (CY)	Remaining Capacity (Tons)	Year Reach Capacity	Landfilled in 2016 (CY)	Landfilled in 2016 (Tons)	Used in 2016 ^
Howlin Land Clearing Debris Landfill	64,120	49,633	62,041	14,487	18,109	2020	0	0	0.00%
Knott Land Clearing Debris Landfil	94,500	75,805	6,894	18,695	1,106	2020	0	0	0.00%
Hance Land Clearing Debris Landfill	267,053	126,973	63,486	140,080	70,040	2044	0	0	0.00%
<b>TOTALS</b>	<b>425,673</b>	<b>252,411</b>	<b>132,421</b>	<b>173,262</b>	<b>89,255</b>		<b>0</b>	<b>0</b>	<b>0.22%</b>

^ Equal to Landfilled in 2016 (CY) ÷ Permitted Capacity (CY)

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# **APPENDIX D**

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# Permitted Natural Wood Waste Acceptance Facilities

## Table D1 – Permitted Natural Wood Waste Acceptance Facilities\*

County	Facility & Location	Permit Type	Permit Numbers	Site Acreage	Expiration Date	Phone Number	Fax Number
Allegany	Braddock Construction, LLC. 14000 New Georges Creek, SW Midland, MD 21542	GP	2012-NWWW-GP01	19.71	9/20/2017	(301) 689-5979	(301) 689-8826
Anne Arundel	A-A Recycling, Inc. 8217 Baltimore-Annapolis Blvd., Pasadena, MD 21122	GP	2016-NWWW-GP01	9.90	9/11/2021	(410) 437-7718	(410) 437-7718
	Bronson Contracting, Inc. 1000 Kembo Road Baltimore, MD 21126	GP	2014-NWWW-GP01	8.00	5/6/2019	(410) 360-8587	(410) 360-1243
	L and W Recycling, Inc. 8316 Lokus Road Odenton, MD 21113	GP	2016-NWWW-GP01	12.00	9/11/2021	(410) 670-0860	(410) 670-0863
Baltimore	King Mulch and Pallet 1114 Hengemihle Avenue Essex, MD 21221	GP	2012-NWWW-GP01	5.90	4/24/2017	(410) 682-2992	(410) 574-0123
	Edrich Lumber, Inc. 9700 Old Court Road Baltimore, MD 21244	IP	2015-NWWW-0003	12.00	2/28/2021	(410) 922-5959	(410) 521-2778
	Hollins Organic Products, Inc. 6247 Falls Road Baltimore, MD 21209	GP	2015-NWWW-GP01	2.00	6/14/2020	(410) 828-0210	(410) 823-7645
	Hollins Organic Products, Inc. 10155 Beaver Dam Road Cockeysville, MD 21030	IP	2016-NWWW-0004	4.5	12/11/2021	(410) 771-1499	(410) 771-1911
	Northwest Recycling, LLC 212 Cockeys Mill Road Baltimore, MD 21136	GP	2015-NWWW-GP01	5.00	11/3/2020	(410) 833-9369	(410) 833-3963
	Wirtz & Daughters, Inc. 6275 Days Cove Road White Marsh, MD 21162	IP	2015-NWWW-0552	14.00	5/28/2020	(410) 335-0400	(410) 592-6248
Calvert	A&L Natural Wood Waste Recycling Facility 7185 Sawmill Road Lusby MD 20657	GP	2016-NWWW-GP01	11.25	5/1/2021	(410) 586-3404	(410) 586-2843
	231 Materials & Recycling Products, LLC 171 Skipjack Road Prince Frederick, MD 20678	GP	2016-NWWW-GP01	4.00	6/12/2021	(410) 535-7666	(410) 968-2391
Caroline	Cahall Construction, LLC	GP	2012-NWWW-GP01	24.49	9/27/2017	(410) 479-5384	(301) 479-5387
Carroll	C.J. Miller, LLC 390 Vision Way Westminster, MD 21158	GP	2016-NWWW-GP01	40.00	9/1/2021	(410) 239-8006	(410) 239-4204
	Harvest RGI, LLC 7901 Kabik Court Woodbine, MD 21797	GP	2016-NWWW-GP01	30.00	5/30/2021	(301) 674-6689	(301) 942-6734
	Hidey's Landscape Supply Yard 3112 Ridge Road, Westminster, MD 21157	GP	2016-NWWW-GP01	9.00	9/28/2021	(410) 875-0289	(410) 875-0289
Cecil	Chesapeake Wood Recycling 1726 East Old Philadelphia Road Elkton, MD 21421	GP	2015-NWWW-GP01	25.00	6/2/2020	(410) 392-0770	(410) 392-2317
	Mountain Mulch Elkton, LLC 505 Blue Ball Road, Lot 9 Elkton, MD 21921	GP	2014-NWWW-GP01	4.80	2/6/2019	(610) 652-2485	(610) 652-2485
Charles	Calvert Wood Recycling 6585 Ripley Road Ripley, MD 20646	GP	2016-NWWW-GP01	8.50	4/3/2021	(301) 518-2306	(301) 934-1536
	Beuchert Excavating, Inc. 12340 Crain Highway Newburg MD 20664	GP	2014-NWWW-GP01	12.50	3/27/2019	(301) 399-5088	(301) 274-2454
	Mona Recycling 6970 Our Place Port Tobacco, MD 20677	IP	2014-NWWW-0002	7.00	11/19/2019	(301) 440-1145	(301) 440-1145
Frederick	Butler Wood Recycling 4039 Tuscarora Road Point of Rocks, MD 21777	GP	2014-NWWW-GP01	58.00	5/18/2019	(301) 607-4541	(301) 874-8348
	Bussard Brothers Landscape Supply-5307-B Green Valley Rd Monrovia, MD 21770	GP	2014-NWWW-GP01	2.00	11/19/2019	(301) 865-3925	(301) 865-8496

County	Facility & Location	Permit Type	Permit Numbers	Site Acreage	Expiration Date	Phone Number	Fax Number
	Comus-Stone Woodsboro Operation	GP	2016-NWWW-GP01	12.00	9/28/2021	(301) 340-0550	(301) 340-0550
	Grant County Mulch Inc. 6720 Manor Road Frederick, MD 21703	GP	2012-NWWW-GP01	3.00	11/1/2017	(301) 732-5194	(301) 732-5195
Harford	Arthur D. Heston 2304 Whiteford Road Whiteford, MD 21169	GP	2012-NWWW-GP01	3.67	10/11/17	(410) 692-2673	(410) 692-2253
	Brian Baker, Inc. 2001 Conowingo Road Bel Air, MD 21014	GP	2014-NWWW-GP01	2.89	9/23/2019	(410) 937-2164	(410) 937-2164
	Comer Construction, Inc 900 Circelli Court Aberdeen, MD 21001	GP	2013-NWWW-GP01	6.00	11/25/2018	(410) 879-6094	(410) 638-0289
	Crouse Construction Co. 1001 Philadelphia Road Aberdeen, MD 21001	GP	2015-NWWW-GP01	25.00	6/8/2020	(410) 879-1822	(410) 893-0045
	Harford Industrial Minerals, Inc. 40 Fort Hoyle Road, Joppa, MD 21085	GP	2016-NWWW-GP01	5.00	12/13/2021	(410) 679-9191	(410) 679-9191
Howard	Level Land Lisbon Mulch Yard 1100-1281 Madison Street Lisbon, MD 21765	GP	2013-NWWW-GP01	5.00	8/8/2018	(410) 489-5206	(410) 489-4316
	Oak Ridge Farm 2700 Woodbine Road Woodbine, MD 21797	GP	2014-NWWW-GP01	4.2	9/18/2019	(410) 287-5758	(410) 287-5758
	R.L.O Contractors Inc. 7531 Cemetery Lane Elkridge, MD 21075	GP	2015-NWWW-GP01	15.00	12/10/2019	(410) 471-4450	(410) 471-4450
Kent	Sharp Lawn & Tree Inc. 10010 Lakeside Lane Chestertown, MD 21620	GP	2016-NWWW-GP01	3	4/7/2021	(410) 778-6302	(410) 778-3509
Montgomery	ACME Biomass Reduction, Inc. 21601 New Hampshire Ave. Brookville, MD 20833	GP	2013-NWWW-GP01	107.50	12/16/2019	(301) 540-2968	(301) 540-9630
	Allentuck Landscaping, Inc. 24320 Frederick Road Clarksburg, MD 20841	GP	2014-NWWW-GP01	1.20	1/16/2019	(301) 516-1900	(301) 516-1900
	Country Nursery 3330 Spencerville Road Burtonsville, MD 20866	GP	2013-NWWW-GP01	11.5	6/16/2018	(301) 421-9593	(301) 421-9593
	Grant County Mulch Inc. 24420 Frederick Road Clarksburg, MD 20841	GP	2014-NWWW-GP01	6.35	4/10/2019	(304) 749-7451	(304) 749-7451
Prince George's	Grant County Mulch Inc. 5402 Van Dusen Road Laurel, MD 20707	GP	2016-NWWW-GP01	25	8/15/2021	(800) 749-7451	(800) 749-7451
Queen Anne's	Baker Rubble Landfill 501 4-H Park Road Queenstown, MD 21658	IP	2011-NWWW-0620	3.00	1/8/2017	(410) 827-8831	(410) 827-8831
	Pardoe's Lawn & Tree Service, Inc. 112 Deep Landing Road Chestertown, MD 21620	GP	2016-NWWW-GP01	15.98	4/7/2021	(410) 778-2016	(410) 778-2022
	Grange Hall Yard 437 Grange Hall Road Centreville, MD 21617	GP	2015-NWWW-GP01	9.06	9/7/2020	(410) 974-0397	(410) 974-0397
St. Mary's	Charlotte Hall Lumber Yard	GP	2015-NWWW-GP01	3.51	8/11/2020	(301) 481-7304	(301) 481-7304
Talbot	Dependable Sand and Gravel Company, Inc. 13155 Ocean Gateway Queen Anne, MD 21657	GP	2015-NWWW-GP01	343	10/8/2020	(410) 822-6363	(410) 820-7789
Washington	Hess Road Recycling Center 6502 Hess Road Hancock, MD 21750	GP	2010-NWWW-GP01	4.00	4/8/2017	(410) 796-7676	(3010) 379-0112
Wicomico	Dunn's Tractor Services, Inc. 9042 Taylor Road Delmar, MD 21875	GP	2014-NWWW-GP01	10.00	8/19/2019	(410) 742-7429	(410) 742-7429
<b>General Permits (GP):</b>							<b>41</b>
<b>Individual Permits (IP):</b>							<b>5</b>
<b>TOTAL</b>							<b>46</b>

\* The status of the facilities is current as of June 30, 2017 – the period of time covered by the report.

# **APPENDIX E**

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Winter 2017

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All State Agencies Recycle

# All STAR News

Winter 2017

All STAR



All State Agencies Recycle

## Maryland Green Purchasing- Buy Recycled Products!

– Christy Bujnovszky  
MDE STAFF

Successful recycling is a full circle, three-step process. Step one is the collecting and separating, and returning the recyclable materials to the marketplace as raw materials. Step two involves manufacturers converting these raw materials into new products. Finally, step three returns the recycled products to the marketplace as a new product ready to be purchased and used again. In the past, there were misconceptions about the quality and performance of recycled products; however, this is no longer an issue. In addition to providing high quality products, the use of recycled products:



- Conserves natural resources by decreasing the need for virgin materials
- Saves energy. For example, recycling 1 ton of aluminum cans saves 153 million British Thermal Units (BTUs)
- Reduces the amount of waste that would be land-filled or incinerated
- Creates new markets by establishing stable markets for recyclable materials
- Are cost competitive compared to the purchase

[See *Buy Recycled*, Page 2]

### RECYCLING CONTACTS

MD Department of the Environment  
Land Management Administration  
[www.mde.maryland.gov/recycling](http://www.mde.maryland.gov/recycling)

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Christy Bujnovszky  
Recycling Unit  
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## Donate Your Used Office Supplies

– Christy Bujnovszky  
MDE STAFF

The Baltimore Teacher Supply Swap gives away classroom supplies to teachers, parents, youth programs, homeschooling families, daycare providers and anyone else who needs them. They are looking for donations of supplies that people no longer need, such as office supplies, arts and crafts materials, etc.

Donations can be delivered to 1224 Wicomico Street, Baltimore, MD 21230 on Thursdays from 3:00 - 5:30 p.m. or Saturdays from 11:00 a.m. - 2:00 p.m., or email [melissa@teachersupplyswap.org](mailto:melissa@teachersupplyswap.org) to schedule a time for the donations to be picked up. Details can be found on the website: [www.teachersupplyswap.org](http://www.teachersupplyswap.org)



1800 Washington Boulevard | Baltimore, MD 21230-1719 | [www.mde.maryland.gov/recycling](http://www.mde.maryland.gov/recycling)  
410-537-3314 | 800-633-6101 x3314 | TTY Users: 800-735-2258

Larry Hogan, *Governor* | Boyd K. Rutherford, *Lt. Governor* | Ben Grumbles, *Secretary*



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of new non-recycled products

- Reduces greenhouse gas emissions. For example, recycling one ton of aluminum cans saves 9.13 MTCO<sub>2</sub>E (Metric tons of carbon dioxide equivalent)

In 2015 in Maryland, nearly 6.1 million MTCO<sub>2</sub>E was avoided by waste diversion activities. This is the equivalent of removing over 1.27 million passenger cars from the roadway each year or conserving over 677 million gallons of gasoline, over 250 million cylinders of propane used for home barbecues, or over 32,294 railway cars of coal. Additionally, nearly 53.6 trillion BTUs were saved. This equates to the annual energy consumption of over 466,000 households or the amount of energy contained in over 9.2 million barrels of oil or over 431 million gallons of gasoline.

The Green Maryland Act of 2010 created the Maryland Green Purchasing Committee. The Committee, chaired by the Department of General Services (DGS), is tasked with providing the State with education and training promoting environmentally preferable purchasing.

In addition, in 2014, additional legislation was put into place to promote green purchasing. The Environmentally Preferable Procurement law requires the Green Purchasing Committee to develop

and publish specifications for adoption by State units and requires State units to adopt certain environmentally preferable purchasing specifications.

DGS promotes purchasing office supplies that are made with recycled materials. Some items include:

- Ink & toner cartridges
- Paper
- Envelopes
- File folders
- Binders

The following companies are listed by DGS as offering recycled office supplies under a Statewide contract:

- [www.cartridgeplusmd.com](http://www.cartridgeplusmd.com)
- [www.ajstationers.com](http://www.ajstationers.com)
- [www.rudolphsupply.com](http://www.rudolphsupply.com)
- <https://rghe.ediversitynetwork.com> (Staples)

For additional information, visit DGS' green purchasing webpage at:

<http://dgs.maryland.gov/Pages/GreenOperations/GreenPurchasing/index.aspx> or email [DGS.BuyGreen@maryland.gov](mailto:DGS.BuyGreen@maryland.gov)

**Buy Recycled!**



## 2016 All Star Reports

– Christy Bujnovszky  
MDE Staff

Calendar Year 2016 All Star reporting is open. As requested, on February 22, 2017 the Department held a refresher course on how to complete the All Star reports using the online reporting system. Key issues discussed at the training were what counts towards the Maryland Recycling Act (MRA) recycling rate and what options are available to best determine the amount of solid waste disposed from your facility.

The 2016 reports are due to the Department by March 17, 2017. Please contact [christy.bujnovszky@maryland.gov](mailto:christy.bujnovszky@maryland.gov) if you need assistance completing your recycling report.



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# **APPENDIX F**

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# County Recycling Coordinators

## Allegany

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## Baltimore County

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## **Frederick**

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