



Maryland
Department of
the Environment

MARYLAND SOLID WASTE MANAGEMENT and DIVERSION REPORT – 2019 –

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Resource Management Program

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Senate Education, Health, and Environmental Affairs Committee

House Environment and Transportation Committee

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Overview

Introduction

The Maryland Department of the Environment (MDE) respectfully submits to the Governor, General Assembly, House Environment and Transportation Committee, and Senate Education, Health and Environmental Affairs Committee MDE's Annual Report describing how solid waste was managed in Maryland **during calendar year (CY) 2018**. 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 MDE 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 MDE 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 MDE 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 CY18**, and an overview of the State's technical assistance activities **during fiscal year 2019 (*i.e.*, July 2018 through June 2019)**. Data contained in Part II comes from annual reports submitted to MDE 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 MDE information on their collection programs, institutional recycling programs, public education efforts, source reduction activities, and disposal facilities.

Executive Summary

In 2018, Maryland counties and Baltimore City generated 14,310,933 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. This total is an increase of 4.27% from the 13,724,276 tons generated in 2017. 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 3,117,964 tons of MRA

recyclables + 4,246,365 tons of MRA waste disposed (without recycled MSW ash and backend scrap metal) for a total of 7,364,329 tons of MRA waste generated in Maryland.

A total of 9,293,146 tons of waste was accepted at Maryland permitted solid waste acceptance facilities. Of the 9,293,146 tons of solid waste accepted, a total of 8,782,484 tons was managed by Maryland permitted solid waste acceptance facilities during CY18 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	451,538
Anne Arundel	1,606,503
Baltimore City	1,803,292
Baltimore County	1,835,101
Calvert	193,748
Carroll	511,003
Cecil	213,853
Charles	714,915
Dorchester	82,375
Frederick	419,948
Garrett	67,181
Harford	365,805
Howard	744,835
Mid-Shore *	445,749
Montgomery	1,503,659
Prince George's	2,025,893
Somerset	37,725
St. Mary's	180,596
Washington	187,568
Wicomico	298,665
Worcester	223,715
State Highways	397,266
MARYLAND TOTAL ^	14,310,933

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

^ Due to rounding the Maryland Total differs from the actual value of 14,310,932.57. County total is 13,913,666.57.

Maryland achieved a 47.93% MRA waste diversion rate. This was comprised of a 43.59% MRA recycling rate (3,117,964 tons of MRA recycling, plus 92,288 tons resource recovery facility credit) plus a 4.34% (333,987 tons reduced) source reduction credit. An additional 4,744,896 tons of materials (e.g., scrap metal, asphalt, soils, etc.) that do not count toward the MRA recycling rate

were also recycled for a grand total of 7,955,148 tons recycled in Maryland, including the resource recovery facility credit. (See Tables 17 and 18, including footnotes, for details.)

Other highlights for CY18:

- * 2,802,798 tons (32%) of the waste managed by Maryland permitted solid waste acceptance facilities was landfilled in Maryland;
- * 1,245,320 tons (14%) were recycled/reused in Maryland;
- * 1,320,262 tons (15%) were incinerated in Maryland; and
- * 2,840,284 tons (33%) 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 2,840,284 tons of waste was exported from Maryland, while only 311,661 tons of waste was imported to Maryland. (See Tables 14 and 15, including footnotes, for details.)
- * Maryland MSW landfills reported a total available capacity of 55,135,114 tons in 2018. (See Appendix C, including footnotes, for details.)

Part I – Waste Management by Permitted Solid Waste Acceptance Facilities

Introduction

This part of the report 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 MDE 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);
 - Landclearing Debris (LCD);
 - Industrial Waste;
 - Incinerator Ash;
 - Natural Wood Waste (NWW); and
 - Any other solid waste identified by MDE.
- * 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, MDE has reviewed and compiled the data reported in the Annual Tonnage Reports submitted by permitted solid waste acceptance facilities that accepted solid waste in CY18. 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 MDE 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 CY18, MDE 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.

Solid Waste Management by Solid Waste Acceptance Facilities in 2018

In CY18, 9,293,946 million tons of solid waste was accepted by Maryland permitted solid waste acceptance facilities and NWW recycling facilities. The 9,293,946 million tons includes waste stored on site and waste sent from one facility to another. Of the 9,293,946 million tons accepted, over 8,782,484 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)	14,310,933
B	Total Maryland Waste Recycled (see Table 17, including “*” footer)	7,862,860
C	Total Maryland Waste Disposed (A – B)	6,448,073
D	Total Maryland waste recycled that was not managed through a Maryland permitted SWAF (7,862,860 (Table 17) – 1,505,099 (Table 3))	6,357,761
E	Total waste disposed by Maryland counties but not captured by a Maryland permitted solid waste acceptance facility ^	105,014
F	Natural Wood Waste Adjustment (see Table 12) ^^	107,862
G *	Recycled Ash, Back-End Scrap Metal, and By-Pass Adjustment ^^^	206,011
H	Total waste imported into Maryland (see Table 14)	311,661
I **	Disposed Ash, Back-End Scrap Metal, and By-Pass ^^^	308,792
Total Waste Managed by Maryland permitted solid waste acceptance facilities (A-D-E+F+G+H+I) (see Table 3)		8,782,484

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 (105,014 tons) and included in the 14,310,933 waste generated tons.
- ^^ 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. 179,255 tons of ash recycled + 26,756.44 tons of back-end scrap metal and bypass recycled = 206,011.44 tons. 308,791.76 tons of disposed ash, back-end scrap metal, & by-pass.

The amount of out-of-State waste that was managed in Maryland in 2018 decreased to 311,661 tons, compared to 327,100 tons in 2017. The quantity of solid waste accepted, processed, and disposed at the permitted refuse disposal systems in Maryland is similar to previous years. 2,802,798 million tons of waste was landfilled and over 1,320,262 million tons was incinerated in Maryland. 1,245,320 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 2018. There was an increase, to 2,840,284 tons, in the amount of waste exported compared to 2017 (2,806,355 tons).

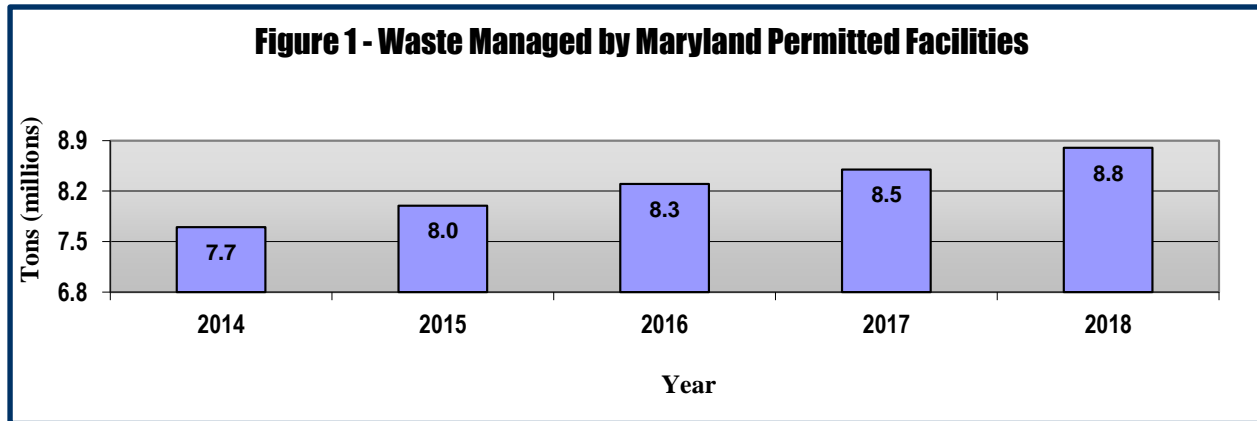


Table 3 details the total amount of solid waste that Maryland permitted solid waste acceptance facilities stored on site or managed via export, disposal (*i.e.*, landfilling and incineration), and recycling/reuse. Permitted solid waste acceptance facilities do not report the types of MSW collected, only total MSW. According to the Maryland’s *2016 Maryland Statewide Waste Characterization Study*, MSW disposed in Maryland is comprised of approximately 25.6% paper and paperboard, 17.9% food scraps, 6.1% yard trimmings, 14% plastics, 3.9% metals, 2.3% glass, 15.3% C&D, 0.4% household hazardous waste (HHW), 0.5% electronics, 5.7% textiles, and 8.2% other (*e.g.*, diapers, bulky items, tires).

Table 3 – Waste Managed in 2018 by Maryland Permitted Solid Waste Acceptance Facilities

Solid Waste Category	Tons Accepted ¹	Tons Recycled/ Reused ²	Tons Disposed	Tons Stored	Tons Managed ³
Municipal Solid Waste	5,651,784	302,785	4,316,308	16,733	4,635,826
Construction & Demolition Debris	2,757,946	608,492	1,938,594	521,330	3,068,416
Natural Wood Waste	432,767	403,825	0	35,475	439,300
Industrial Waste	45,548	22	44,264	0	44,286
Land Clearing Debris	13,687	10,720	3,444	282	14,446
Other Wastes ⁴	93,647	0	92,164	0	92,164
Total Waste Received	8,995,379	1,325,844	6,394,774	573,820	8,294,438
Tons of Incinerator Ash	297,767	179,255	308,791	0	488,046
TOTAL REPORTED	9,293,146	1,505,099	6,703,565	573,820	8,782,484

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 2018, 23 Refuse Disposal Permits for municipal landfills were in effect. Of the 23 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 Montgomery County Site 2 Municipal Landfill as a back-up facility to handle the County’s waste capacity in the future, is 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 2018. 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

Jurisdiction	Facility Name (Landfill)	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
Allegany	Mountainview Municipal	Private	72,830	72,830	0
Anne Arundel	Millersville Resource Recovery Facility	County	179,211	130,958	26,278
Baltimore City	Quarantine Road	City	439,059	249,952	356
Baltimore	Eastern Sanitary	County	350,668	302,118	1,895
Calvert	Appeal Sanitary	County	7,545	297	5,685
Caroline	Midshore II	County	144,205	133,340	349
Carroll	Northern Municipal	County	34,052	33,691	360
Cecil	Cecil County Central-Horizontal Expansion	County	125,156	96,727	4,174
Charles	Charles County Municipal	County	136,688	110,587	1,482
Dorchester	Beulah Municipal	County	64,996	51,598	165
Frederick	Fort Detrick Area B	Federal	4,070	907	0
	Reichs Ford/Site B	County	31,862	13,366	1,153
Garrett	Garrett County Solid Waste Disposal & Recycling Facility	County	32,893	32,554	105
Harford	Harford Waste Disposal Center (Expansion)	County	15,641	12,860	2,781
Howard	Alpha Ridge Municipal	County	61,955	9,205	4,656
Montgomery	Montgomery County Site 2	County	0	0	0

Jurisdiction	Facility Name (Landfill)	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
Prince George's	Brown Station Road	County	302,441	301,160	1,281
St. Mary's	St. Andrew's Municipal	County	13,373	0	13,373
Somerset	Somerset County	County	25,229	24,914	315
Talbot	Midshore Regional Solid Waste Facility	County	0	0	0
Washington	Forty West Municipal	County	118,451	115,425	690
Wicomico	Newland Park Municipal	County	132,241	132,241	0
Worcester	Central Sanitary	County	59,998	52,338	1,954
TOTAL			2,352,564	1,877,068	67,052

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2018, but not managed until 2019.

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 10% 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 1% 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. Industrial wastes may also be disposed in permitted MSW landfills. Details of industrial waste landfill waste management practices are presented in Table 6.

Landclearing 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.

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	41,621	32,630	749
Baltimore County	Days Cove Rubble Landfill Lateral Expansion	Private	157,124	156,531	593
	Honeygo Run Reclamation Center	Private	240,602	281,416	16
Prince George's	Ritchie Land Reclamation	Private	373,729	302,233	17,975
Queen Anne's	Baker Rubble	Private	19,072	16,212	286
Washington	Washington County Rubble	County	0	0	0
TOTAL			832,148	789,022	19,619

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2018, but not managed until 2019

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	109,420	109,420	0
	Hawkins Pt. Plant	Private	18	18	0
	W. R. Grace and Co. – Davison Chemical Division	Private	27,300	27,270	0
Frederick	Eastalco Aluminum Company	Private	0	0	0
	Essroc Cement Corporation	Private	0	0	0
TOTAL			136,738	136,708	0

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2018, but not managed until 2019.

Table 7 – Permitted Landclearing Debris Landfills

Jurisdiction	Facility Name (Landfill)	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
Calvert	Hance Landclearing Debris	Private	0	0	0
	Howlin Landclearing Debris	Private	0	0	0
St. Mary's	Knott Landclearing Debris	Private	0	0	0
TOTAL			0	0	0

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 8 – Permitted Solid Waste Transfer Stations

Jurisdiction	Facility Name (Transfer Station)	Ownership	Waste Accepted *	Waste Handled	
				Waste Stored	Waste Transported
Baltimore City	Northwest	Municipal	33,731	0	33,731
Baltimore County	Eastern	County	212,411	0	212,643
	Western Acceptance	County	208,578	0	208,578
Calvert	Appeal	Private	119,559	0	119,559
Cecil	Stemmers Run	County	573	0	573
	Woodlawn	County	1,379	0	1,379
Howard	Citron Hygiene	Private	40	0	40
Talbot	Midshore Regional Solid Waste Facility	Maryland Environmental Service/State	40,524	0	40,524
Washington	Agape Pet Services	Private	12	0	12
Wicomico	Foskey Lane	Private	0	0	0
	Curtis Bay	Private	228	0	228
Worcester	Ocean City	Municipal	33,227	0	33,227
TOTAL			650,262	0	650,494

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2018, but not managed until 2019.

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 Processing Facility	Private	49,147	0	49,147
Baltimore County	Recovermat Mid-Atlantic	Private	0	0	0
Calvert	Southern Maryland Processing	Private	18,026	0	18,026
Montgomery	C&D Recovery Processing	Private	55,293	0	55,293
Prince George's	Dower House Recycling and Processing	Private	0	0	0
	Sun Services Processing & Recycling Center	Private	132,843	0	132,843
Wicomico	Peninsula Regional Medical Center**	Private	84	0	84
	Bennett Processing		17,485	0	17,485
TOTAL			272,878	0	272,878

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2018, but not managed until 2019.

** 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	45,624	0	45,624
Anne Arundel	Annapolis Junction Recycling and Transfer Station	Private	637,153	0	637,153
	Biomedical Waste Services Inc.	Private	918	0	918
	Curtis Creek Processing Facility and Transfer Station	Private	247,730	0	247,730
Baltimore City	BFI Baltimore Processing and Transfer Center	Private	0	0	0
	Stericycle, Inc.	Private	21,505	0	21,505

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Stored	Waste Transported
	Baltimore Recycling Center, LLC	Private	203,008	0	203,008
	Daniels Sharpsmart	Private	1,529	0	1,529
Baltimore County	Baltimore County Central Acceptance Facility	County	315,397	3,627	314,780
Carroll	Northern Municipal Landfill	County	84,632	0	84,632
	Roll-Off Express	Private	132,116	0	132,116
Frederick	Reichs Ford Landfill	County	217,078	0	217,078
Harford	Auston Processing and Transfer Facility	Private	2,855	275	2,782
Howard	Alpha Ridge Municipal Processing & Transfer Facility	County	45,625	0	45,625
	Ameriwaste Processing and Transfer Station	Private	156,376	0	156,376
Montgomery	Montgomery County Solid Waste Transfer Station	County	784,084	0	784,084
Prince George's	Recycle One Processing & Transfer Station	Private	254,736	0	254,736
	Sheriff Road Processing Transfer Facility	Private	139,462	0	139,462
St. Mary's	St. Andrew's Waste Processing and Transfer Station	County	0	0	0
Wicomico	CES-Connelly Road Processing & Transfer Station	Private	2,252	0	2,252
TOTAL			3,292,080	3,902	3,291,390

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2018, but not managed until 2019.

Municipal Solid Waste Incinerator/Waste-to-Energy Facility

A 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.

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	694,935	693,146	202,804
	Curtis Bay Energy	Private	24,193	24,193	11,024
Charles	Naval Support Facility Indian Head Incinerator	Federal	143	0	150
Frederick	Fort Detrick – Area B and Main Post	Federal	449	449	42
Montgomery	Montgomery County Resource Recovery Facility	County / Northeast MD Waste Disposal Authority	603,850	602,387	191,523
Somerset	Smith Island Incinerator	County	139	87	84
TOTAL			1,323,709	1,320,262	405,627

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2018, but not managed until 2019.

Natural Wood Waste Recycling Facility

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

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.	14	11	0
Anne Arundel	A-A Recycle & Sand, Inc.	A-A Recycle & Sand, Inc.	22,636	19,320	16,140
	Bronson Contracting, Inc.	Bronson Contracting, Inc.	0	0	0
	L and W Recycling	L & W Recycling, Inc.	11,627	43,750	15,617

Jurisdiction	Facility Name	Permittee	Waste Accepted	Waste Handled	
				Waste Recycled*	Waste Marketed*
Baltimore County	Edrich Lumber, Inc.	Edrich Lumber, Inc.	22,860	22,860	31,714
	Hollins Organic Products, Inc.	Hollins Organic Products, Inc.	17,503	17,503	15,328
	Hollins Organic Products, Inc. 2	Hollins Organic Products, Inc	0	0	0
	King Mulch and Pallet	Albert J. Bierman	5,320	5,320	4,312
	Northwest Recycling, LLC.	Northwest Recycling LLC.	8,490	8,291	9,899
	Wirtz & Daughters, Inc.	Wirtz And Daughters, Inc.	17,448	17,448	72,488
Calvert	A & L Natural Wood Waste Facility	A.H Hatcher Inc.	17,829	7,033	6,560
	231 Materials & Recycling Products, LLC.	231 Materials & Recycling Products, LLC.	0	0	0
Caroline	Cahall Construction, LLC	Cahall Construction, LLC	608	0	0
Carroll	C. J. Miller, LLC.	C. J. Miller, LLC.	392	392	3,234
	Harvest RGI, LLC	Harvest RGI, LLC	18,034	21,841	21,840
	Hidey's Landscape Supply Yard	Hidey's Lawn Services LLC.	2,374	2,150	2,244
Cecil	Chesapeake Wood Recycling	Chesapeake Investment, Inc.	890	850	0
	Mountain Mulch Elkton, LLC	Mountain Mulch Elkton, LLC	0	0	0
Charles	Beuchert Excavating, Inc.	Beuchert Excavating, Inc.	929	7,550	2,060
	Calvert Wood Recycling	Calvert Wood Recycling LLC	2,147	2,147	3,350
	Chesapeake Environmental Materials	Chesapeake Environmental Materials	0	0	0
	Mona Recycling	Michael Mona Jr.	1,402	1,813	1,523
Frederick	Butler Wood Recycling	William Lee Butler	1,094	734	1,153
	Comus Stone-Woodsboro Operation	Comus Materials, LLC	0	0	0
	Grant County Mulch	Grant County Mulch, Inc.	18,378	20,615	44,866
	Bussard Brothers Landscape	R. W. Bussard & Sons, Inc.	6,966	6,429	6,350
Harford	Brian Baker, Inc.	Brian Baker, Inc.	8,752	6,536	5,998
	Comer Construction, Inc	Comer Construction, Inc.	9,003	5,733	5,398
	Crouse Construction Company, Inc.	Crouse Construction Co., Inc.	0	0	0

Jurisdiction	Facility Name	Permittee	Waste Accepted	Waste Handled	
				Waste Recycled*	Waste Marketed*
	Harford Industrial Minerals, Inc.	Harford Industrial Minerals, Inc.	0	0	0
	Heston's Mulch	Arthur D. Heston	505	543	589
Howard	Level Land Lisbon Mulch Yard	Level Land, Inc.	6,861	11,250	11,317
	Oak Ridge Farm	Oak Ridge Farm, LLC	4,480	5,071	5,331
	RLO Contractors, Inc.	RLO Contractors, Inc.	45,801	0	0
Kent	Sharp Lawn & Tree, Inc.	Sharp Lawn & Tree, Inc.	458	388	287
Montgomery	Allentuck Landscaping, Inc.	Allentuck Landscaping, Inc.	0	0	0
	Acme Biomass Reduction, Inc.	Acme Biomass Reduction, Inc.	37,693	32,039	14,262
	Country Nursery	Country Nursery	0	0	0
	Grant County Mulch Ground Covers	Grant County Mulch, Inc.	20,290	12,128	5,681
Prince George's	Cedarville Holdings LLC	Cedarville Holdings LLC	0	0	0
	Grant County Mulch Facility	Grant County Mulch, Inc.	100,799	103,374	109,481
Queen Anne's	Baker Rubble Landfill	R.B. Baker & Sons, Inc.	3,513	3,513	2,280
	Grange Hall Yard	Cole Ventures, Inc.	2,347	2,347	1,252
	Pardoe's Lawn and Tree Service, Inc.	Pardoe's Lawn and Tree Service, Inc.	504	504	509
St. Mary's	Charlotte Hall Lumber Yard	Bay Works Wood Processing, LLC	9,738	9,640	9,544
Talbot	Dependable Sand and Gravel Company, Inc.	Dependable Sand and Gravel Company, Inc.	4,016	3,636	3,680
Washington	Hess Road Recycling Center	Universal Contractor Inc.	0	0	0
Wicomico	Dunn's Tractor Service, Inc.	Dunn's Tractor Service Inc.	1,066	1,066	1,066
	Harvest Consumer Products	Harvest Consumer Products, LLC.	0	0	0
TOTAL			432,767	403,825	435,353

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2018, but not managed until 2019.

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 MDE’s *Organics Diversion and Composting* web page at mde.maryland.gov/composting.

Composting facility waste management practices are presented in Table 13.

Table 13 – Permitted Composting Facilities

Jurisdiction	Facility Name	Permittee	Facility Tier*	Feedstocks	
				Accepted	Composted
Anne Arundel	Millersville Landfill & Resource Recovery Composting Facility	Anne Arundel County DPW	Tier 1	1,740	2,884
	Tolson & Associates, LLC.	Tolson & Associates, LLC.	Tier 1	0	0
	Veteran Compost Facility	Garrity Renewables, LLC	Tier 2	0	0
Baltimore County	Eastern Sanitary Landfill	Baltimore County DPW	Tier 1	24,338	5,564
Caroline	Twin Maple Compost Facility	Mid-Atlantic Organic Resource Company, LLC	Tier 2	14,796	9,630
Carroll	Harvest RGI	Harvest RGI, LLC	Tier 1	43,220	22,428
Cecil	Cecil County Central Landfill	Cecil County DPW	Tier 1	10,004	10,004
	West Coast Mushrooms Facility	West Coast Mushrooms Inc.	Tier 2	16,170	20,700
Charles	Calvert Wood Recycling Facility	Calvert Wood Recycling, LLC	Tier 1	3,274	3,959
Frederick	Comus Materials Facility	Comus Materials, LLC	Tier 1	0	0
	Reichs Ford Site B Landfill	Frederick County DPW	Tier 1	13,147	13,147
Harford	Harford Mulch and Compost Facility	Maryland Environmental Service	Tier 1	32,093	9,628
	Veteran Compost Facility	Garrity Renewables, LLC	Tier 2	5,208	1,500
Howard	Composting Facility at Alpha Ridge Landfill	Howard County DPW	Tier 2	6,127	1,855
	Level Land Lisbon Mulch Yard	Level Land, Inc.	Tier 1	2,450	2,450
Montgomery	Montgomery County Yard Trim Composting Facility	Maryland Environmental Service	Tier 1	64,532	44,070
	ACME Biomass Reduction Facility	ACME Biomass Reduction, Inc.	Tier 1	37,693	32,039
	Aspen Nursery	Aspen Landscape Contractors, Inc.	Tier 1	1,351	130

Jurisdiction	Facility Name	Permittee	Facility Tier*	Feedstocks	
				Accepted	Composted
Prince George's County	City of College Park Composting Facility	City of College Park DPW	Tier 1	3,663	1,424
	Cedarville Holdings Composting Facility	Cedarville Holdings, LLC	Tier 1	0	0
	Prince George's County Organics Composting Facility	Maryland Environmental Service	Tier 2	55,217	22,391
Washington	Forty West Landfill	Washington County DPW	Tier 1	4,079	4,079
Wicomico	Harvest Consumer Products, LLC.	Harvest Consumer Products, LLC	Tier 1	0	0
TOTAL				339,102	207,882

* 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

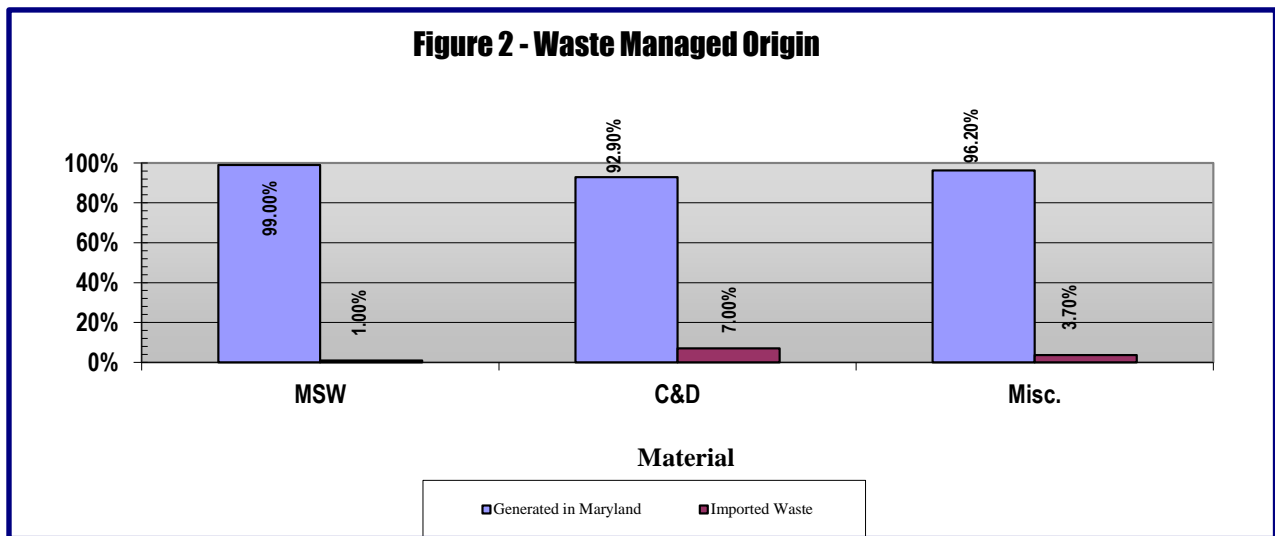
Table 14 compares the tonnage of solid waste, by category, which was imported into the State to the total amount of solid waste managed at permitted solid waste acceptance facilities in Maryland. Figure 2 illustrates the amount of imported versus Maryland-generated solid waste managed at permitted solid waste acceptance facilities. In CY18, Maryland's permitted solid waste acceptance facilities accepted waste from Canada, Connecticut, Delaware, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, Texas, Virginia, Washington D.C., West Virginia, and Wisconsin. Highlights include:

- * There was a decrease of approximately 4.7% in the amount of solid waste imported (311,661 tons) into Maryland in 2018 compared to calendar year 2017 (327,100 tons).
- * The solid waste imported into Maryland comprises 3.5% of the 8.78 million tons of solid waste managed at permitted Maryland solid waste acceptance and Natural Wood Waste Recycling facilities.
- * Mountainview Sanitary Landfill in Allegany County and Curtis Bay Energy Limited Partnership (Curtis Bay) received the bulk of MSW and of special medical waste imported to Maryland, respectively.
- * C&D 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. Richie Land Reclamation Limited Partnership Landfill in Prince George's County received the majority 156,503 tons of C&D waste imported to Maryland.

Table 14 – Maryland Imported Waste

Solid Waste Category	Tons of Solid Waste Imported Into Maryland	Jurisdictions Where the Solid Waste Originated	Total Tons Managed
MSW	48,100	DE, NC, NJ, NY, OH, PA, VA, WASHINGTON DC, WV	4,635,826
C&D	222,658	DE, PA, VA, WASHINGTON DC, WV	3,068,416
Miscellaneous *	40,903	CANADA, CT, DE, KY, LA, MA, MI, MN, MT, NH, NJ, NC, NY, OH, PA, RI, TX, VA, WASHINGTON DC, WV, WI	1,078,242
TOTAL	311,661		8,782,484

* 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 (19) and Baltimore City transport some of their solid waste out of State for recycling or disposal. There was a slight increase in the amount of solid waste exported in 2018 (2,840,284 tons) compared to the amount of waste exported in 2017 (2,806,355 tons). Forty-one (41) of the 81 permitted and developed solid waste acceptance facilities that accepted waste in 2018 exported waste to 14 states and the District of Columbia. One facility exported waste to Canada and another facility exported waste to Germany.

Virginia was the most prevalent export destination for Maryland waste and accepted approximately 72% (2,054,004 tons) of the total exported waste. 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.

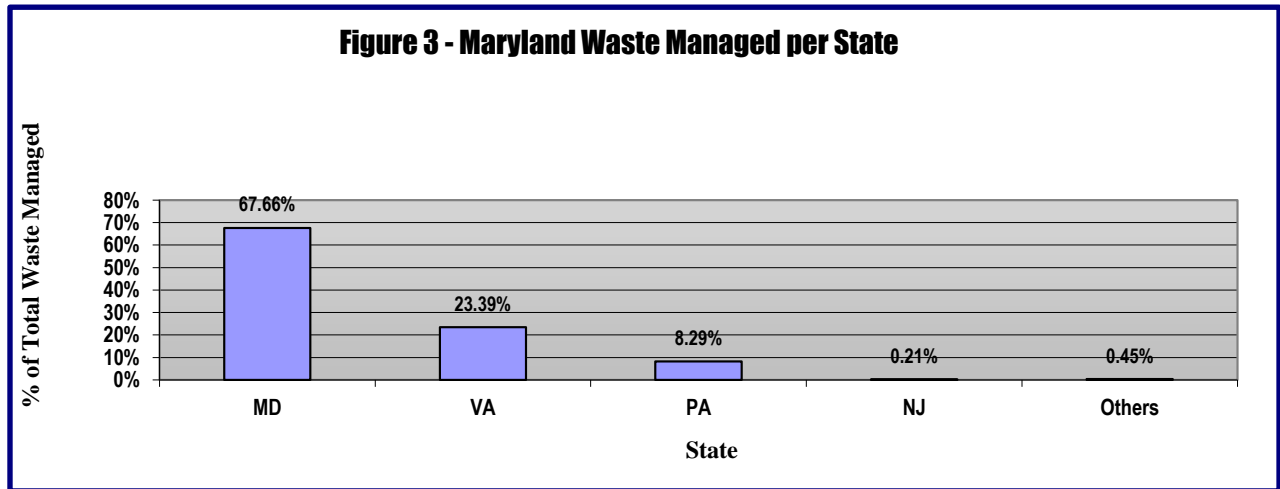


Table 15 – Maryland Exported Material Tonnage by State Destination

Solid Waste Category	Virginia	Pennsylvania	New Jersey	Other	Total (Tons)
MSW	1,405,556	514,791	18,796	35,831	1,974,974
C&D	636,763	183,651	0	2,577	822,991
Miscellaneous *	11,685	29,551	0	1,083	42,319
TOTAL (Tons)	2,054,004	727,993	18,796	39,491	2,840,284

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

Solid Waste Management Practices

In CY18, 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

Solid Waste Management Method	Tons	Percentage of Total Solid Waste Managed
Landfilled in Maryland	2,802,798	31.9%
Exported and Disposed	2,580,505	29.4%
Exported and Recycled	259,779	3.0%
Recycled/Reused in Maryland	1,245,320	14.2%
Incinerated in Maryland	1,320,262	15.0%
Stored in Maryland Facilities	573,820	6.5%
TOTAL	8,782,484	100%

Part II – Waste Diversion

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 disposal facilities, saves natural resources, and reduces the amount of waste disposed at solid waste acceptance facilities (*e.g.*, incinerators, landfills, etc.). MDE promotes and encourages waste diversion throughout Maryland by partnering with Maryland's jurisdictions, and the public and private sectors. MDE collaborates with other state agencies to increase the volume of materials diverted from landfills.

In this part, the quantities of waste disposed are gathered from two sources: (1) the Maryland Recycling Act (MRA) Tonnage Reporting Surveys, submitted by the counties and Baltimore City that contain information about solid waste known to the counties or Baltimore City to be exported directly out of state without passing through a Maryland permitted facility; and (2) the Solid Waste Tonnage Reports, submitted by Maryland permitted facilities.

Maryland's Legislative Mandate

In 1988, the Maryland Recycling Act (MRA) (Chapter 536) mandated that Maryland reduce the overall amount of solid waste disposal in the state through improved management, education, and regulation. Each county, including Baltimore City, is required to develop and periodically update a recycling plan addressing certain topics. The plan must be reviewed and approved by MDE. The MRA has been amended since its original passage. Currently, a county with a population greater than 150,000 is required to recycle 35% or more of its waste, and a county with a population of less than 150,000 is required to recycle 20% or more of its waste. 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.

Sustainable Materials Management

On June 27, 2017, Governor Hogan signed Executive Order 01.01.2017.13, *Waste Reduction and Resource Recovery Plan for Maryland*. The order reaffirms Maryland's commitment to waste reduction and recycling by emphasizing collaboration across state and local agencies, the private recycling sector, and citizens in order to establish and make meaningful progress toward waste diversion goals. The executive order establishes a sustainable materials management policy for the state as follows:

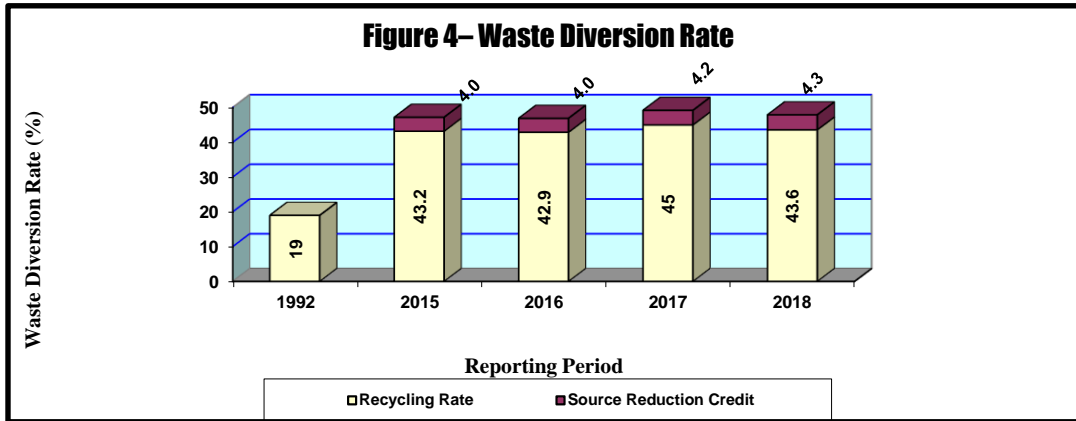
It is the policy of the State that solid waste and recycling planning should, to the extent practicable, seek to:

- 1) Minimize the environmental impacts of materials management over their entire life cycles, including from product design to production, consumption, and end-of-life management;
- 2) Conserve and extend existing in-State disposal capacity through source reduction, reuse, and recycling;
- 3) Capture and make optimal use of recovered resources, including raw materials, water, energy, and nutrients; and
- 4) Work toward a system of materials management that is both environmentally and economically sustainable in the long term.

The order directed MDE to initiate a stakeholder consultation process to establish ambitious but achievable goals and to ensure tracking of complete materials management data. These goals were developed and published in April, 2019 and are discussed further in this Part. More information about the executive order and sustainable materials management is available at mde.maryland.gov/programs/Land/RecyclingandOperationsprogram/Pages/Waste-Reduction-and-Resource-Recovery-Executive-Order.aspx.

Maryland's 47.9% 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 State-wide waste diversion rate of 47.9% in calendar year (CY) 2018. The 47.9% waste diversion rate was composed of a 43.6% MRA recycling rate and a 4.3% SR credit. Figure 4 provides a historical breakdown of Maryland's waste diversion rate.



Maryland’s 43.6% Recycling Rate

In CY18, Maryland residents and businesses recycled 43.6% 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% recycling credit applies to each county that “achieves a reduction of at least 5% in the volume of its waste through the utilization of one or more resource recovery facilities in operation as of January 1, 1988.” Five jurisdictions did not meet the mandatory county recycling rate of 20 or 35%, 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 a breakdown of the total MRA recycled by material in CY18. 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.

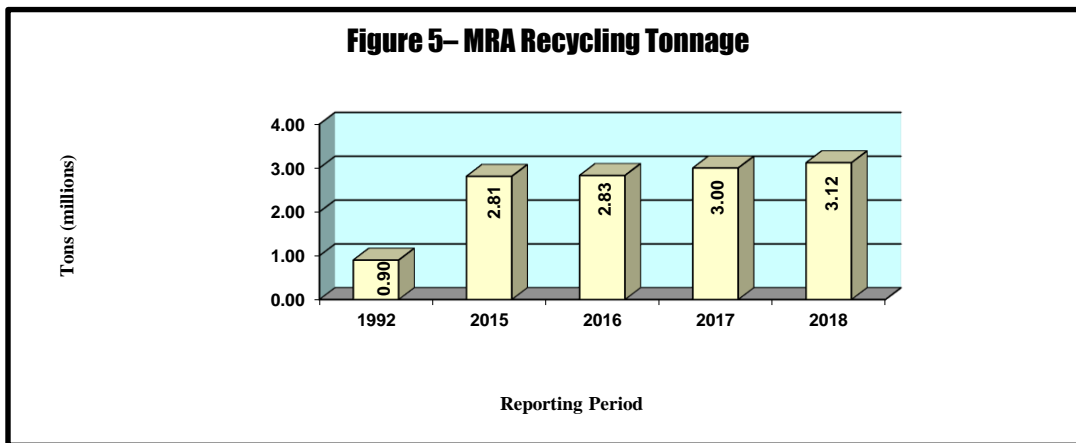


Table 17 – County Recyclables by Commodity in Tons for Calendar Year 2018

Compiled by the Maryland Department of the Environment from Reports Submitted for Calendar Year 2018

County	MRA Rate ² (%)	Mandatory Recycling Rate (%)	Waste Diversion Rate ³ (%)	Maryland Recycling Act (MRA) Materials							Non-MRA Recyclables ⁴	Total Recycling *
				Compostables	Glass	Metals	Paper	Plastic	Misc.	Subtotal		
Allegany	35.11	20.00	39.11	9,627	303	8,883	11,185	1,299	2,855	34,152	340,065	374,217
Anne Arundel	49.18	35.00	54.18	99,148	24,743	16,629	121,439	68,104	9,429	339,492	722,867	1,062,359
Baltimore City	23.60	35.00	27.60	19,783	27,258	14,068	49,825	5,217	22,323	138,474	617,588	756,062
Baltimore Co.	34.83	35.00	39.83	80,633	1,154	96,110	55,157	9,509	85,931	328,494	491,971	820,465
Calvert	24.58	20.00	24.58	2,216	1,158	3,602	7,053	2,111	2,980	19,120	79,966	99,086
Carroll	33.33	35.00	38.33	32,162	9,197	8,860	9,390	6,269	2,016	67,894	277,944	345,838
Cecil	54.85	20.00	59.85	64,095	895	7,650	7,409	2,177	829	83,055	19,578	102,633
Charles	47.77	35.00	51.77	33,920	4,282	10,062	15,504	2,108	1,493	67,369	517,940	585,309
Dorchester	9.48	20.00	10.48	1,042	272	117	1,447	206	386	3,470	13,468	16,938
Frederick	40.52	35.00	45.52	38,761	3,600	4,209	38,712	2,765	11,070	99,117	88,137	187,254
Garrett	43.65	20.00	43.65	8,720	400	3,186	3,025	364	1,710	17,405	16,762	34,167
Harford	43.24	35.00	48.24	47,696	4,684	14,394	34,030	3,333	8,892	113,029	67,127	180,156
Howard	42.82	35.00	47.82	118,779	9,027	9,302	90,584	6,468	2,900	237,060	56,234	293,294
Mid-Shore ¹	47.13	20.00	48.13	26,175	3,706	11,346	25,964	2,490	38,357	108,038	165,871	273,909
Montgomery	56.91	35.00	61.91	194,732	21,049	107,314	117,897	9,202	170,326	620,520	135,165	755,685
Prince George's	57.66	35.00	62.66	125,904	78,460	175,281	237,790	49,158	10,093	676,686	497,433	1,174,119
Somerset	7.55	20.00	7.55	295	49	336	195	47	402	1,324	11,385	12,709
St. Mary's	24.28	20.00	27.28	7,082	1,952	2,234	4,710	1,289	1,911	19,178	79,427	98,605
Washington	35.33	35.00	35.33	2,150	1,006	402	39,399	687	2,340	45,984	25,843	71,827
Wicomico	37.11	20.00	37.11	46,626	1,372	5,629	4,177	1,907	10,466	70,177	91,914	162,091
Worcester	24.93	20.00	24.93	16,473	2,954	2,731	3,236	1,974	555	27,923	30,946	58,869
State Highways of Additional Asphalt and Concrete Recycled											397,266	397,266
TOTAL*	43.59	N/A	47.93	976,019	197,521	502,345	878,128	176,684	387,264	3,117,961	4,744,897	7,862,858

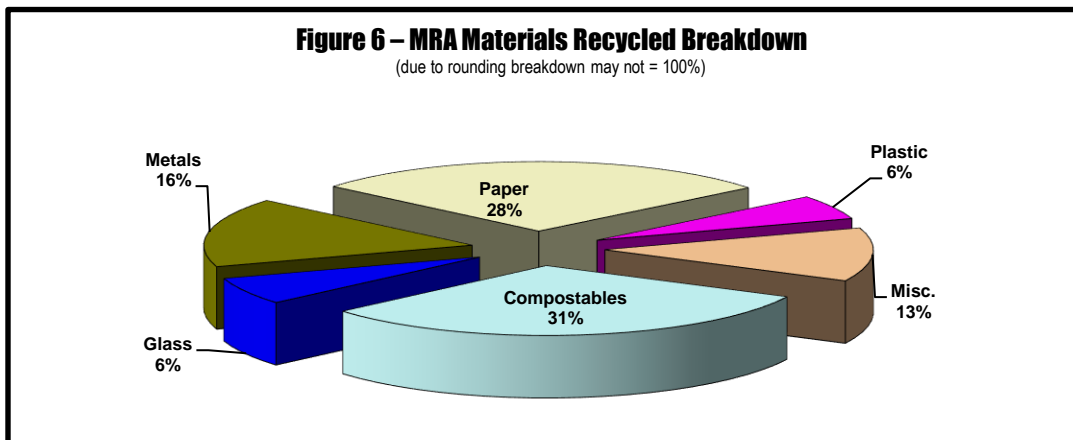
* Due to rounding, tonnage totals in this table may differ slightly from the sum of actual values (i.e., MRA Recyclables = 3,117,964.09, Non-MRA Recyclables = 4,744,895.67 tons, Total 7,862,859.76 tons. The MRA recycling rate includes an additional 92,287.75 tons for the RRF credit that is not included in this table).

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

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

3 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 333,986.56 tons.

4 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 40.3% 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 MDE, adjusting Maryland’s recycling rate to EPA protocol reduces the amount of material allowed to count toward the recycling rate by 249,409 tons to 2,868,556 tons. Maryland’s EPA recycling rate of 40.3% exceeds the overall U.S. recycling rate of 35.2% for 2017 (most recent available as of the writing of this report).

Maryland’s 4.3% Source Reduction Credit

In 2018, 18 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 2018 is available on MDE’s Maryland State, County, and City Recycling web page at mde.maryland.gov/programs/Land/RecyclingandOperationsprogram/Pages/recyclingrates.aspx.

Beyond the Maryland Recycling Act

MDE 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 4.7 million tons of non-MRA materials were reported as recycled in 2018. Table 18 offers a breakdown by category of the non-MRA materials reported as recycled in 2018.

Table 18 – Recycling of Non-MRA Materials in Tons

*Compiled by the Maryland Department of the Environment
from Reports Submitted for Calendar Year 2018*

MATERIAL	TONS RECYCLED
Antifreeze	2,699
Asphalt & Concrete	2,147,851
Coal Ash	274,057
Construction/Demolition Debris	328,273
Landclearing Debris	48,503
Scrap Automobiles	172,541
Scrap Metal	299,007
Sewage Sludge	51,418
Soils	726,404
Waste Oil	219,643
Other Materials	474,500
TOTAL	4,744,896

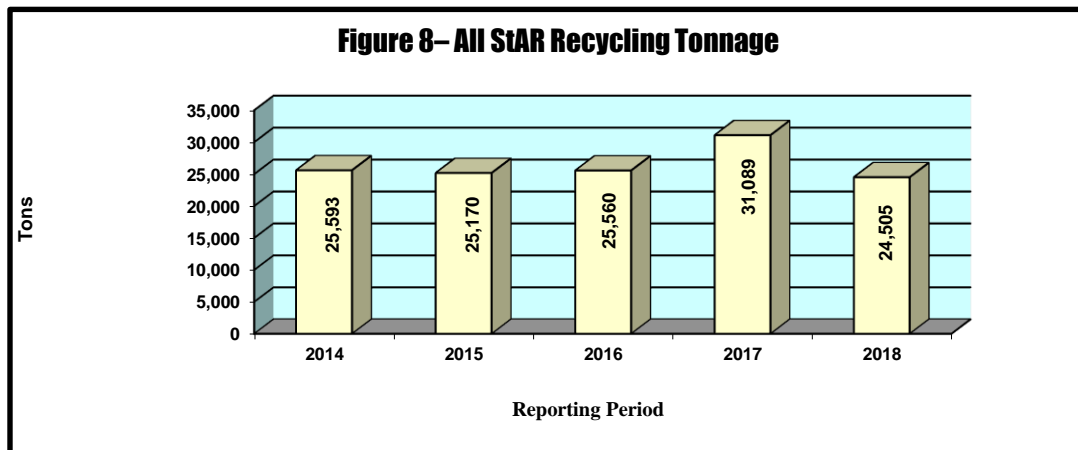
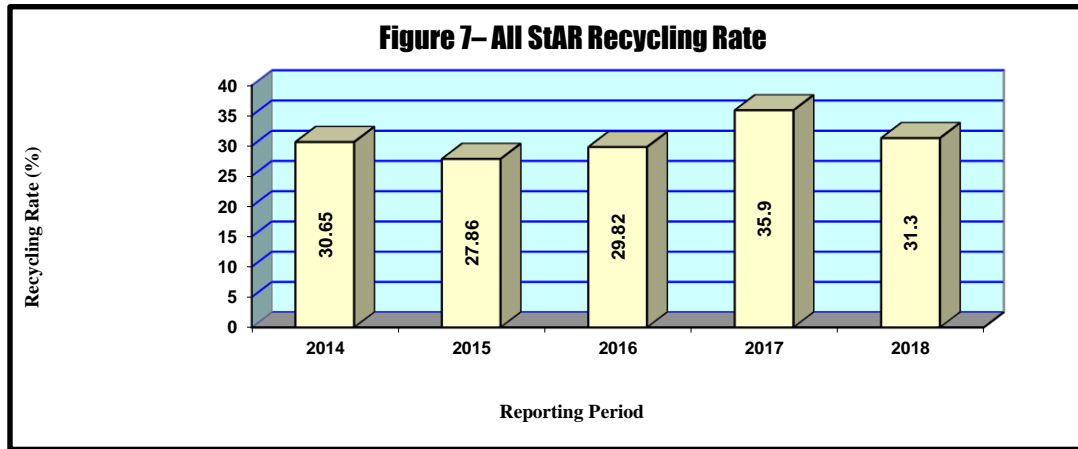
Maryland’s 31.3% All StAR Recycling Rate

The All StAR (All State Agencies Recycle) 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%, or an amount that is determined "practical and economically feasible," but in no case less than 15%. 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 MDE. Individual site recycling plans are maintained by each agency recycling coordinator and at each State facility.

In 2018, State agencies recycled 24,505 tons of MRA materials for an overall MRA recycling rate of 31.3%. 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 127,466 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 2018 All StAR statistics is available under "State Agency Recycling" on MDE's Waste Diversion in Maryland web page at mde.maryland.gov/recycling. MRA tonnages reported by State agencies are included in the 2018 recycling totals reported by the counties (Table 17).

Table 19 – Maryland State Agencies' 2018 Recycling Rates

Compiled by the Maryland Department of the Environment from Reports Submitted for Calendar Year 2018

Agency Name	No. of Sites	No. of Sites Reporting	No. of People	Total MRA Recycling 2018 (tons)	2018 MRA Recycling Rate (%)
Baltimore City Community College	1	0	0	0	0
Comptroller of the Treasury	1	1	800	110.22	79.28
Department of Agriculture	2	2	222	25.05	18.87
Department of Assessments and Taxation	15	0	0	0	0

Agency Name	No. of Sites	No. of Sites Reporting	No. of People	Total MRA Recycling 2018 (tons)	2018 MRA Recycling Rate (%)
Department of Budget and Management	1	0	0	0	0
Department of Education	30	20	1382	88.07	22.33
Department of General Services	24	24	8250	193.24	10.70
Department of Health and Mental Hygiene	18	7	6059	239.99	6.85
Department of Human Resources	33	26	6055	248.06	24.49
Department of Juvenile Services	14	14	1557	545.73	22.61
Department of Labor, Licensing & Regulation	14	9	1331	89.73	16.77
Department of Natural Resources	6	2	558	24.78	23.37
Department of the Environment	5	4	963	47.42	37.16
Department of Transportation	82	82	10589	10478.23	42.40
Department of Veterans Affairs	12	7	78	309.16	46.81
Dept. of Housing and Community Development	3	0	0	0	0
Dept. of Public Safety and Correctional Services	35	5	7970	707.83	9.44
Judiciary of Maryland	2	0	0	0	0
Maryland Automobile Insurance Fund	1	1	205	134.69	39.30
Maryland Department of Disabilities	1	1	33	0.11	1.18
Maryland Department of Planning	1	1	187	5.75	8.98
Maryland Environmental Service	4	3	250	16.96	62.56
Maryland Food Center Authority	1	1	26	423.61	7.14
Maryland General Assembly	1	1	852	151.45	49.38
Maryland Insurance Administration	1	1	242	9.86	40.95
Maryland Military Department	33	27	114	56.12	8.30
Maryland Public Broadcasting Commission	1	1	140	94.05	14.94
Maryland School for the Deaf	2	2	420	129.81	23.16
Maryland Stadium Authority	2	2	2150	849.43	40.07
Maryland State Archives	1	1	71	3.30	33.78
Maryland State Police	30	30	1891	468.32	29.04
Morgan State University	1	1	1741	203.07	15.81
St. Mary's College of Maryland	1	1	498	267.89	28.00
Subsequent Injury Fund	1	1	16	4.18	72.57
University System of Maryland	17	17	36670	8579.05	41.64
TOTAL	397	295	91,320	24,505.16	31.32

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

Bold Type – Satisfied the 30% 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.

MDE provides technical support and publishes the *All StAR News*, a newsletter devoted to recycling in State government; see Appendix E for an example. Finally, MDE 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 MDE 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.

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). With the exception of the recycling (*i.e.*, composting) of mixed organics, in all cases where either recycling or source reduction is used instead of landfilling, there are reductions in GHG emissions and energy used. Only when combusting a material instead of landfilling it were there increases in GHG emissions or energy used.

Table 20 – Per Ton Greenhouse Gas Emissions

Material	MTCO ₂ E* – Landfilled	MTCO ₂ E* – Source Reduced	MTCO ₂ E* – Recycled	MTCO ₂ E* – Combusted
Glass	0 **	(0.55) **	(0.30) **	0.01 **
Mixed Metals	0 **	(3.67) **	(4.41) **	(1.04) **
Mixed Organics	0 **	N/A **	(0.37) **	(0.36) **
Mixed Paper	0 **	(6.21) **	(3.69) **	(0.63) **
Mixed Plastic	0 **	(1.89) **	(1.05) **	1.24 **

* MTCO₂E = 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 MTCO₂E – 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.

Tables 22 and 23 detail product lifecycle GHG emissions and energy use with and without waste diversion activities in Maryland in CY18. In Table 22, for example, the GHG emissions associated with the lifecycle of glass is 8,511 metric tons of CO₂ equivalent without waste diversion (*i.e.*, recycling and source reduction) activities, and -64,910 metric tons of CO₂ equivalent with Maryland’s waste diversion activities, for a total savings of 73,421 (*i.e.*, 8,187 +

64,910) metric tons of CO₂ equivalent. Additional information on EPA’s WARM is available at epa.gov/warm.

Table 21 – Per Ton Energy Use

Material	BTU [^] (million) – Landfilled	BTU [^] (million) – Source Reduced	BTU [^] (million) – Recycled	BTU [^] (million) – Combusted
Glass	0 **	(7.17) **	(2.40) **	(0.05) **
Mixed Metals	0 **	(51.13) **	(66.82) **	(11.36) **
Mixed Organics	0 **	N/A **	0.50 **	(2.50) **
Mixed Paper	0 **	(29.29) **	(20.41) **	(6.51) **
Mixed Plastic	0 **	(54.72) **	(39.47) **	(13.77) **

[^] 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.

Table 22 – Maryland Waste Diversion and Greenhouse Gas Emissions for Calendar Year 2018

MRA Material	MTCO ₂ E* NWD [^]	MTCO ₂ E* WD ^{^^}	MTCO ₂ E* Savings
Glass	8,511	(64,910)	(73,421)
Mixed Metals	(228,207)	(2,400,043)	(2,171,836)
Mixed Organics	248,723	(62,296)	(311,019)
Mixed Paper	(144,278)	(4,436,710)	(4,292,433)
Mixed Plastic	430,558	65,121	(365,437)
Miscellaneous	97,204	12,148	(85,056)
TOTAL	412,511	(6,886,690)	(7,299,202)

* MTCO₂E = Metric Tons of Carbon Dioxide Equivalent
[^] NWD = No Waste Diversion (baseline = 67.98% landfilled and 32.02% incinerated)
^{^^} WD = Waste Diversion from Maryland CY18 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 2018

(in million BTUs)

MRA Material	BTUs* NWD^	BTUs* WD^^	BTU* Savings
Glass	96,385	(529,977)	(626,362)
Mixed Metals	(2,479,567)	(35,934,642)	(33,455,075)
Mixed Organics	(1,880,558)	(1,363,128)	517,430
Mixed Paper	(5,765,801)	(24,689,725)	(18,923,924)
Mixed Plastic	(4,402,133)	(12,853,139)	(8,451,006)
Miscellaneous	(5,047,720)	(4,088,185)	959,536
TOTAL	(19,479,394)	(79,458,796)	(59,979,401)

- * BTU = British Thermal Unit – the amount of energy needed to heat one pound of water one degree Fahrenheit
 - ^ NWD = No Waste Diversion (baseline = 67.98% landfilled and 32.02% incinerated)
 - ^^ WD = Waste Diversion from Maryland CY18 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.

The 7.3 million metric tons of CO₂ equivalent emissions savings produced by Maryland’s waste diversion activities in 2018 (Table 22) are the equivalent of removing over 1.50 million passenger cars from the roadway each year or conserving over 821 million gallons of gasoline, or over 304 million cylinders of propane used for home barbeques. The 60 trillion british thermal unit (BTU) energy savings reported in Table 23 are the equivalent of the annual energy consumption of over 650,000 households (i.e., 27% of the estimated 2,458,801 households in Maryland in 2018), or the amount of energy contained in over 10.3 million barrels of oil or over 497 million gallons of gasoline. These reductions are important to meeting our climate change goals in Maryland.

Sustainable Materials Management (SMM) Metrics and Goals

As was directed in the *Waste Reduction and Resource Recovery Plan for Maryland* a series of voluntary statewide metrics and goals were established to track the State’s progress in SMM. The goals are to be achieved **by 2035**. Table 24 lays out those goals and the status in achieving them.

Table 24 – SMM Goals & Status

SMM Goals	2035 Target	Current Status
Waste Generation Per Capita	5.5 lbs./person/day	6.68 lbs./person/day
GHG Emissions Reductions	Reduction of 1.2 million MTCO _{2e} compared to 2016	Increase of 1.7 million MTCO _{2e} compared to 2016

SMM Goals	2035 Target	Current Status
Reduction in Energy Use	Reduction of 5.1 trillion BTUs compared to 2016	Increase of 7 trillion BTUs compared to 2016
Material-Specific Recycling Rates	Food Scraps – 60% Glass – 55% Metal – 75% Paper Products – 65% Plastic – 25% Yard Trimmings – 85%	Food Scraps – 18.8% Glass – 66.9% Metal – 75.2% Paper Products – 44.7% Plastic – 22.9% Yard Trimmings – 84.1%
Overall Statewide Recycling and Waste Diversion Rate	Recycling – 55% Waste Diversion – 60%	Recycling – 43.6% Waste Diversion – 47.9%

Special Programs

From July 2018 through June 2019 MDE continued implementing special programs designed to expand recycling and protect public health and the environment.

Newsprint

Maryland law mandates that, on a State-wide basis, newspapers distributed in Maryland shall contain at least 40% recycled content newsprint. To determine compliance with the law, publishers are required to file quarterly and annual reports with MDE. 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% requirement. In the reporting period ending 2018, the newsprint recycled content percentage was 23.13%.

Table 25 contains 36 known publishers that distribute 85 different newspapers in Maryland. MDE continues to seek increased compliance from publishers who did not comply with the reporting requirements.

Table 25 – Maryland Newspaper Publishers

Publisher	Content%	Publisher	Content%
A&C Business News	NR	Greenbelt Cooperative Publishing	NR
Afro-American Newspapers	0.0	Herald-Mail	NR
American Farm Publications	0.0	Independent Newspapers, Inc.	0.0
Asian Fortune	NR	Korea Daily	1.45
Baltimore Business Journal	0.22	Maryland Coast Dispatch	NR
Baltimore Sun Media Group	29.69	Morgan Messenger	0.0
Baltimore Times Publications	NR	New York Daily News	58.61
Bay Weekly	8.31	New York Times Company	3.25
Carroll Publishing Company	NR	News Journal, Wilmington	0.04
Chesapeake Publishing Corporation	15.09	Ogden Newspapers of MD, LLC	0.0
Citizen Communications, Inc.	NR	Randall Family, LLC	52.0

Publisher	Content%	Publisher	Content%
Connection Publishing	NR	Sentinel Newspapers	10.69
Courier	0.0	Southern Maryland Publishing Co.	0.0
Cumberland Times News	11.96	USA Today	0.53
Dow Jones & Company	6.06	Washington Business Journal	NR
Express Publications Company, LLC	20.05	Washington Post	23.52
Flag Communications	25.31	Washington Times	NR
FT Publications, Inc.	NR		
Gannett Company, Inc.	0.03	Statewide	23.13
NR – Did not report		% based upon partial reporting period data	

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%, by weight. If a publisher does not meet 40% recycled content, it is required to pay a fee of \$10 per ton for each ton the publisher falls below the 40% requirement. Publishers of telephone directories must submit to MDE 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 2018, 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 (Thryu) – 0% recycled content;
- * Ogden Directories, Inc. – Distributes less than 50 tons of directory stock, therefore is exempt from reporting requirements; and
- * Ziplocal – Did not report.

In 2018, Dex Media was granted a 1-year exemption from meeting the 40% 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, MDE 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 MDE to award grants to counties and municipalities to conduct CED recycling activities.

One-hundred twenty seven (127) manufacturers registered with MDE and were authorized to sell their products in Maryland in 2018. Fifty-seven (57) manufacturers have MDE-approved free takeback programs. Of these, Acer America Corporation, Dell Marketing LP, Elitelux Technologies, Inc., Funai, Inc., Google, Inc., Hewlett Packard Company, Hisense USA, Hitachi America, Ltd., JVCKENWOOD USA Corp., Kyocera Communications, Inc. LG Electronics, Mattel, Inc., Mitac Digital Corp., Motorola Mobility, LLC, Nintendo of America, Nook Digital LLC, Panasonic Corp of North America, PLR IP Holding LLC, Sony Electronics, Inc., SunBrite TV LLC, TCT Mobile (USA), Inc., Toshiba America Information Systems, Inc., TransCosmos America, Inc., TTE Technology, Inc., Venturer Electronics, Inc., Vizio, Inc., Voxx International Corp., and VTech Electronics North America, LLC., reported recycling 358 tons of electronics through their free recycling programs in 2018. The remaining manufacturers reported 0 tons of Maryland electronic recyclables.

MDE performed 590 inspections at 458 electronics retailers during FY19. The inspections resulted in the issuance of 29 Site Complaints against retailers for selling unregistered manufacturer brands. 97% of the Site Complaints were successfully resolved in FY19. The remaining site complaint was resolved in FY20.

Cumulative highlights of eCycling in Maryland include:

- ★ 118 special collection events (*i.e.*, 1 or 2-day collection events) have been held in 24 jurisdictions since 2011, through CY2018.
- ★ There were 10 special events in 2018, a decrease from the 12 collection events in 2017.
- ★ Permanent collection programs have been established in Allegany, Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Frederick, Garrett, Harford, Howard, Montgomery, Prince George's, St. Mary's, Washington, and Worcester Counties, Baltimore City, and Midshore Region.
- ★ Regularly scheduled eCycling collection events are held in the cities of Greenbelt, Hagerstown, Laurel, and Takoma Park.

Information on Maryland's eCycling program is available on MDE's web page at mde.maryland.gov/ecycling. Table 26 gives a breakdown of the electronics equipment collected in 2018. Figure 9 summarizes the electronics tonnage totals collected since collection began in 2001. An additional 3,040 tons of electronics from commercial businesses were reported by the counties in 2018 as having been recycled. These were not part of residential eCycling programs.

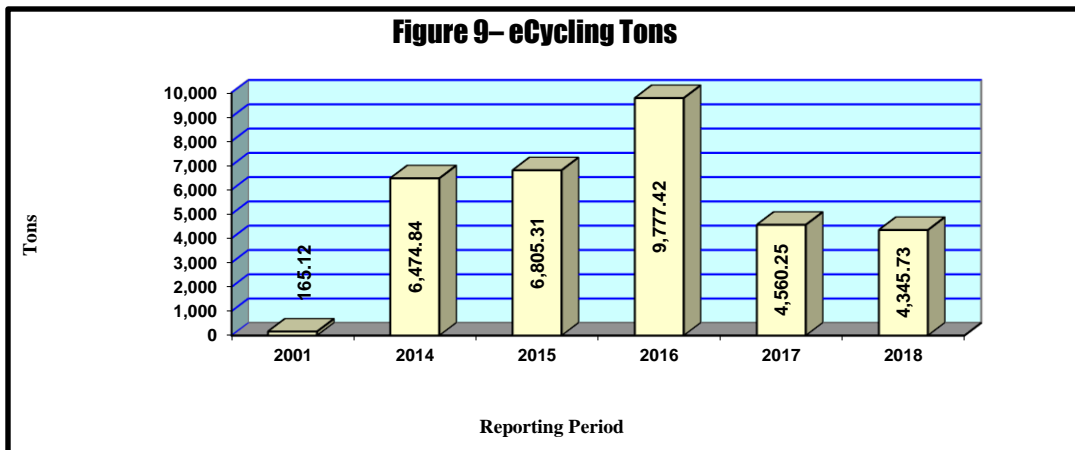
Table 26 – eCycling Collection Programs

County	Population (2018)	Type	Date(s)	No. of participants	Tons collected ^	Pounds collected ^	Pounds/participant
Subtotal Maryland	6,095,910	-	20011-2017	-	55,602.61	111,205,211	-
eCycling Special Events in 2018							
Midshore (2)	139,906	1-day	Apr, Nov	928	18.92	37,840	41
Prince George's * (6)	909,308	1-day	Jan, Apr, Apr, Jul, Oct, Oct	1,573	27.75	55,508	35
Washington (2)	150,926	1-day 2-day	Nov Jan	250	7.80	15,597	62
Subtotal Events	1,200,140	-	2018	2,751	54.47	108,945	40
Permanent eCycling in 2018							
Allegany	70,795	-	2018	-	44.00	88,000	-
Anne Arundel	576,031	-	2018	-	239.37	478,733	-
Baltimore City	602,495	-	2018	-	141.36	282,720	-
Baltimore County	828,431	-	2018	-	295.36	590,720	-
Calvert	92,003	-	2018	-	346.47	692,940	-
Carroll	168,429	-	2018	-	65.16	130,320	-
Cecil	102,826	-	2018	-	18.77	37,540	-
Charles	161,503	-	2018	-	147.65	295,300	-
Frederick	255,648	-	2018	-	369.71	739,420	-
Garrett	29,163	-	2018	-	22.48	44,960	-
Harford	253,956	-	2018	-	126.12	252,240	-
Howard	323,196	-	2018	-	552.73	1,105,460	-
Midshore Region	147,010	-	2018	-	35.76	71,520	-
Montgomery **	1,052,567	-	2018	-	1,323.50	2,646,997	-
Prince George's **	909,308	-	2018	-	253.13	506,257	-
St. Mary's	112,664	-	2018	-	197.11	394,220	-
Washington	150,926	-	2018	-	102.83	205,660	-
Worcester	51,823	-	2018	-	9.75	19,500	-
Subtotal Permanent	5,888,774	-	2018	-	4,291.26	8,582,507	-
TOTALS (2011 – 2018) ^				2,751 (2018)	59,948.34	119,896,663	40 (2018)

^ 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 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

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, MDE recommends the proper recycling/disposal of HHW materials at local HHW collection programs. Information on HHW programs in Maryland is available at mde.maryland.gov/hhw

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. MDE 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.

MDE 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 FY18, 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 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.

Recycling Resources

MDE aids 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.

Recycling Markets

Recycling Market Directory – 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 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 MDE's recycling web pages for the specific commodity in question. For companies without access to the Internet, MDE can mail or fax a list of markets by material.

Automobile Tires – The Scrap Tire Recycling Act authorized the Maryland Environmental Service (“MES”) to establish a scrap tire recycling system, to address scrap tires generated in Maryland, that includes scrap tire collection facilities and scrap tire haulers. MDE maintains a list of approved scrap tire facilities and haulers on MDE’s web page at mde.maryland.gov/programs/LAND/RecyclingandOperationsprogram/Pages/scrap_tire.aspx.

A detailed report on scrap tires in Maryland is available in the *Maryland Scrap Tire Program’s Annual Report* available on MDE’s web page at 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. Specific HHW information is available through each county. County contact information is available on MDE’s household hazardous waste web page at 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 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 MDE’s web page at 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 MDE’s recycling web page.

Permitting Guidance

MDE 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 MDE’s web page at mde.maryland.gov/programs/Permits/Pages/busguide.aspx. It contains important information about the different types of permits, licenses, and approvals issued by

MDE. These permits affect businesses and individuals ranging from well drillers, dry cleaners, and gas stations, to power plants and other large industrial facilities. MDE 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 MDE's composting web page at 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 MDE's web page at mde.maryland.gov/programs/Land/Documents/www.mde.state.md.us/assets/document/recycling/commercialwasteguide.pdf.

Public Resources

As waste diversion programs continue to mature, it is important for MDE to keep the public informed of waste diversion programs in the State. From July 2017 through June 2018, MDE 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. MDE held the 17th Annual "Rethink Recycling" Sculpture Contest on November 30, 2018 at MDE's headquarters.

The "Rethink Recycling" Sculpture Contest featured over 62 entries from 23 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 MDE's waste diversion web page at mde.maryland.gov/programs/Land/RecyclingandOperationsprogram/Pages/EducationandOutreach.aspx.

MDE's Web Site

Information on Maryland's waste diversion (*i.e.*, recycling and source reduction) activities is on MDE's waste diversion web page at 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. MDE's website also offers Maryland's citizens and businesses the opportunity to email MDE with questions or comments on recycling.

County Recycling & Solid Waste Managers Meetings

MDE 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. MDE 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.

Partnerships

MDE 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 MDE's partnerships.

The Association of State and Territorial Solid Waste Management Officials, Inc. (ASTSWMO) – ASTSWMO (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 (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 (menv.com) recognizes that recycling is an element of effective waste management. MES assists MDE-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 MDE. Additional information is available at 1-800-4RECYCLE.

Maryland Recycling Network (MRN) – The MRN is a nonprofit, volunteer organization (marylandrecyclingnetwork.org) committed to promoting waste reduction, recycling and the conservation of natural resources. MRN is dedicated to promoting partnerships and cooperation between the private and public sectors. MDE supports the mission of the MRN through staff participation, funding, and projects. MDE attends MRN meetings and reports MDE’s activities and accomplishments to MRN Board members and attendees.

Northeast Maryland Waste Disposal Authority (NMWDA) – The NMWDA (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 (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. MDE 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 27, 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 yard trimmings (*i.e.*, mixed yard waste and Christmas trees). Additionally, MDE's waste diversion web page contains detailed information on the county recycling programs and source reduction activities. Highlights of county programs in 2018 include:

- * Thirteen (13) counties achieved waste diversion rates greater than the 2005 40% waste diversion goal.
- * Three (3) counties (Cecil, Montgomery, and Prince George’s) achieved a recycling rate greater than 55% recycling.
- * Eighteen (18) counties earned SR credits. Nine (9) of these counties, Anne Arundel, Baltimore, Carroll, Cecil, Frederick, Harford, Howard, Montgomery, and Prince George’s earned the maximum 5% SR credit.
- * Twenty-two (22) counties accept fluorescent lights for recycling.
- * Fourteen (14) Counties accept expired medication for proper disposal.
- * Twenty-one (21) Counties had permanent electronic drop-off locations.
- * Ten (10) eCycling collection events were held in 6 counties.
- * Seventeen (17) counties operated textile collection programs.
- * Nineteen (19) counties maintained mercury thermometer drop-off locations.

- * Fifteen (15) 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 MDE's waste diversion web page at mde.maryland.gov/recycling and click on "State, County, and City Contact Info."

Table 27 – 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 ^p	✓	✓	✓	✓/✓	✓					batteries, hard cover books, tire, propane tanks, oil, antifreeze, plastic bags and stretch wrap, and vinyl siding
Anne Arundel ^{cs}	✓	✓	✓	✓/✓	✓	✓	✓		✓	cooking oil, wood pallets, tires, propane tanks, rubble, vinyl siding, asphalt shingles, scrap metal, oyster/clam shells, empty fuel containers; Police Stations accept medications 24/7
Baltimore City ^{cs}	✓		✓	✓/✓	✓	✓		✓	✓	leaves, Christmas trees, tires, books, oyster shells, rigid plastics, scrap metal, white goods, plastic bag take-back events
Baltimore County ^{cs}	✓	✓	✓	✓/✓	✓	✓		✓	✓	cooking oil, propane tanks, usable building material
Calvert	✓	✓	✓	✓/✓	✓	✓	✓	✓	✓	cooking oil, printer cartridges, oil filters, tires, propane tanks, Freon units, oyster/clam shells, rigid plastic, scrap metal, rechargeable batteries, cell phones
Caroline	✓	✓	✓	✓/✓	✓	✓	✓	✓	✓	Mid-shore program, eCycling event, paint on HHW Day
Carroll ~		✓	✓	✓/✓	✓		✓	✓	✓	scrap metal, vinyl siding, cooking oil, usable building material, #6 Styrofoam, rigid plastic. HHW Events collect Fluorescent bulbs/oil based paint and stains
Cecil ^{cs}	✓	✓	✓	✓/✓	✓	✓	✓	✓		Lead acid & rechargeable batteries, latex paint, oil filters, scrap metal, tires, textiles/ clothing, & fluorescent lamps,
Charles ^{cs}	✓	✓	✓	✓/✓	✓	✓	✓	✓	✓	cooking oil, household batteries, oil filters, propane tanks, tires, Medicine drop off at Sheriff's Office, Latex Only Paint, Hg° and Fluorescent lights accepted at HHW events only,
Dorchester	✓		✓	✓/✓			✓	✓		No books,
Frederick ^{cs}	✓		✓	✓/✓	✓				✓	pesticide containers, scrap metal, tires, flexible foam, yard waste, white goods, wood pallets
Garrett ^m	✓			✓/✓	✓					#1 & 2 plastic only, inkjet & toner cartridges, oil filters
Harford ^{cs}	✓	✓	✓	✓/✓	✓	✓	✓	✓	✓	yard trim, scrap metal, ecycle, mattresses, agricultural plastics, lead acid/rechargeable batteries, tires, fluorescent lamps, gasoline, pesticide containers, oil filters, propane tanks, inkjet cartridges
Howard ^{cs}	✓	✓	✓	✓/✓	✓	✓	✓	✓	✓	propane tanks, scrap metal, reusable building materials, vegetable oil, polystyrene, mattresses, flags, bicycles, food scraps, oyster shells
Kent	✓	✓	✓	✓/✓	✓	✓	✓	✓	✓	Mid-shore program, eCycling event, pesticide containers, boat shrink-wrap; auto tires, cooking oil, Freon units, scrap metal, yard waste Mid-shore program, paint on HHW Day
Montgomery ^c	✓		✓	✓/✓	✓	✓	✓	✓	✓	confidential paper shredding/recycling events; bicycles, books, cooking oil, scrap metal, oil filters, propane tanks, tires, reusable building materials, rubble recycling (concrete, asphalt, brick, block, stone, and soil), yard trim, bulky rigid plastic recycling drop-off
Prince George's ^{cs}	✓	✓	✓	✓/✓	✓	✓		✓	✓	eCycle event; cooking oil, mattress foam, tires, rigid plastics, White Goods.
Queen Anne's	✓	✓	✓	✓/✓	✓	✓	✓	✓	✓	Mid-shore program, eCycle event; boat shrink-wrap, passenger tires; gasoline collection and vegetable oil recycling, paint on HHW Day
St. Mary's ^s	✓		✓	✓/✓	✓	✓	✓		✓	oil filters, ink jet cartridges, cooking oil, rechargeable batteries, propane tanks, tires, scrap metal, oyster shells, yard waste
Somerset ^s	✓		✓	✓/✓			✓	✓		pesticide containers, oil filters, tires
Talbot	✓	✓	✓	✓/✓	✓	✓	✓	✓	✓	Mid-shore program, eCycling event, pesticide containers, paint on HHW Day
Washington			✓	✓/✓	✓			✓		ecycle event; propane tanks, cooking oil, tires, yard waste, polystyrene, rechargeable batteries
Wicomico ^c	✓		✓	✓/✓			✓	✓	✓	Oyster/clam shell, scrap metal, white goods, tires, wood pallets, yard waste, propane tanks, Freon units
Worcester	✓		✓	✓/✓	✓		✓	✓	✓	propane tanks, tires, yard waste, wood pallets, scrap metal, white goods,

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

APPENDIX

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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 2018 are highlighted by (*)**.

Table A1 – Economic Benefits

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
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	Increase of taxes paid to the County
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.

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
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 Processing Facility (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 diverted 78% of its waste accepted at the site for recycling and saves costs of disposal.	\$450,000/18 employees.	The business intends to expand in future and continue to provide solid waste and recycling services for the community.
Baltimore City	Daniels Sharpsmart 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.	Excess of \$2,000,000/66 employees.	Purchased local goods and services for \$1.8 million. Fuel for \$330,000. Paid \$38,000 for Tags and permits. Revenues of recycled material is in excess of \$1.2 million.
Baltimore City	Northwest Transfer Station (Publicly Owned)	Not Provided	Provides curbside collection of mixed refuse and recycling services.	17 employees.	Not Provided

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
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 over \$1.8 million 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)*	The County landfill accepts municipal and commercial waste originating in Cecil County. The facility allows residents to bring in	Provides waste disposal and recycling opportunities for Cecil County's population. The facility works in	The landfill operations are supported by a total of 20 employees with approx. 1.25 million in compensation.	Estimated value of goods and services purchased from the locality for the facility: \$2.7 million. Estimated value of materials recycled

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
		recyclables and MSW.	conjunction with two transfer stations owned by Cecil County Government to accept MSW originating within the County.		for the year: \$190,000.
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 \$ 55,000/1	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 for 79,439 residents, a recycling drop-off center for remaining households, 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/46 employees.	Spent \$3.4 million on various recycling contracts and programs.

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
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.	The facility is owned by the County and operated by Maryland Environmental Service. Provides County residents with nonprofit disposal methodology and hierarchy. Provides recycling services at "no cost."	\$1.8 Million/37 full time employees.	Estimated value of savings to Harford County: Free Single Stream Recycling - \$61,913, Free recycling for additional materials – \$138,293, Free yard trim recycling – \$962,780.
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	Recycle One Processing & Transfer Station*	Paid \$50,000 taxes to the County. Only facility in the County that provides MSW and C&D waste collection, recycling and disposal services.	Strategically located for local customers.	Employs 18 individuals (15 full time) for estimated budget of \$2.7 million.	Goods and services purchased is approximately \$11 million, \$445,000 in recycled products produced. Invested 2.2 million in capital equipment and improvements.

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
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 needs of County residents.	\$2,000,930/29 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 Municipal 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	2014-WPT-0632	10/30/2019	- /5.85	13810 Hazmat Drive Cumberland, MD 21502
Anne Arundel	Annapolis Junction Processing Facility and Transfer Station	WPT	PRI	2016-WPT-0158	3/24/2021	- / 17	8077 Brock Bridge Road, Jessup, MD 20794.
	Biomedical Waste Services Inc. Processing Facility and Transfer Station	WPT	PRI	2016-WPT-0676	4/17/2022	- / 1.40	7610 Energy Parkway, Curtis Bay, 21226
	Curtis Creek Processing Facility and Transfer Station	WPT	PRI	2018-WPT-0539	01/24/2024	- / 12.8	23 Stahl Road, Baltimore MD 21226. Accepts C&D Waste.
	Millersville Landfill and Resource Recovery Facility	WMF	CTY	2017-WMF-0240	10/5/2022	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	Baltimore Processing and Transfer Center	WPT	PRI	2013-WPT-0627	2/24/2019	- / 15.6	5800 Chemical Road, Baltimore MD 21226.
	Baltimore Recycling Center 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.
	Daniel's SharpSMART Processing Facility and Transfer Station	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	2017-WMI-0036	6/12/2022	- / 4.0	3200 Hawkins Point Road, Baltimore MD 21226. Formerly Phoenix Services.
	Fort Armistead Road – Lot 15 Industrial Landfill	WIF	PRI	2018-WIF-0653	11/01/2023	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.
	L & J Waste Recycling, LLC. Processing Facility	WPF	PRI	2016-WPF-0634	2/16/2022	- / <1	222 N. Calverton Road Baltimore MD 21223
	Northwest Transfer Station	WTS	MUN	2015-WTS-0038	1/18/2021	- / 6.6	5030 Reisterstown Road, Baltimore MD 21215.
	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	2016-WPT-0677	3/25/2024	- / 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 Industrial Landfill	WIF	PRI	2017-WIF-0613	2/15/2022	10.7/157	5500 Chemical Road, Baltimore MD 21226
	Baltimore	Central Acceptance Facility	WPT	CTY	2017-WPT-0657	12/6/2022	6.0 / 7.3
Days Cove Rubble Landfill		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	7/14/2020	200 / 367	6259 Days Cove Road, White Marsh MD 21162.
Eastern Sanitary landfill Transfer Station		WTS	CTY	2013-WTS-0665	4/9/2020	- / 4	6260 Days Cove Road, White Marsh MD 21162.
Honeygo Run Reclamation Center Rubble Landfill		WRF	PRI	2014-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, LLC. Processing Facility	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	2017-WTS-0679	6/30/2022	- / 5.3	3310 Transway Road, Halethorpe MD 21227.
Calvert	Appeal Municipal Landfill	WMF	CTY	2017-WMF-0531	6/12/2022	30 / 350	401 Sweetwater Road, Lusby MD 20678.
	Appeal Transfer Station	WTS	PRI	2017-WTS-0519	12/13/2022	- / 1	401 Sweetwater Road, Lusby MD 20678.
	Hance Landclearing 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 Landclearing Debris Landfill	WLC	PRI	2018-WLC-0577	6/13/2023	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 - / 224	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 Processing Facility and Transfer Station	WPT	CTY	2013-WPT-0541	3/9/2019	3 / 220	1400 Baltimore Boulevard, Westminster MD 21157.
	Roll-Off Express, Inc. Processing Facility and Transfer Station	WPF	PRI	2013-WPT-0664	7/24/2023	- / 6.8	2900 Dede Road, Finksburg MD 21048.
Cecil	Cecil County Central Landfill – Horizontal Expansion	WMF	CTY	2008-WMF-0629	4/22/2019	81.6 / 418	758 East Old Philadelphia Road, Elkton MD 21921
	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	- / 30	Fire Tower & Waibel Roads, Port Deposit MD 21904.
Charles	Charles County Municipal Landfill	WMF	CTY	2014-WMF-0076A	4/30/2019	70 / 114	12305 Billingsley Road, Waldorf MD 20602.
	Naval Support Facility Indian Head Incinerator	WIN	FED	2014-WIN-0529	9/4/2019	- / 2,500	101 Strauss Avenue, Indian Head MD 20640.
Dorchester	Beulah Municipal Landfill	WMF	CTY	2014-WMF-0628A	9/21/2020	27 / 59	6812 East New Market-Ellwood Road, Hurlock MD 21643.
Frederick	Essroc Cement Corporation. Industrial Landfill	WIF	PRI	2016-WIF-0640	10/5/2021	25/50	4120 Buckeystown Pike, Frederick, MD 21717. Limited to Essroc Waste Only. Planned Construction
	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	2018-WMF-0582	6/19/2023	58 / 184	9031 Reichs Ford Road, Frederick MD 21704.
	Reichs Ford/Site B Processing Facility & Transfer Station	WPT	CTY	2016-WPT-0604	5/30/2021	10 / 184	9031 Reichs Ford Road, Frederick MD 21704.
Garrett	Garrett County Solid Waste Disposal & Recycling Facility	WMF	CTY	2018-WMF-0094A	5/01/2023	32 / 188	3118 Oakland-Sang Run Road, Oakland MD 21550.
Harford	Auston Processing Facility & Transfer Station	WPT	PRI	2017-WPT-0616	11/01/2023	3.0 / 6.01	1202 Pauls Lane, Joppa MD 21085.
	Harford Waste Disposal Center Municipal Landfill Expansion	WMF	CTY	2017-WMF-0570	10/9/2022	77.4 / 286	3241 Scarboro Road, Street MD 21154.
Howard	Alpha Ridge Municipal Landfill	WMF	CTY	2016-WMF-0110	5/2/2021	195 / 590	2350 Marriottsville Road, Marriottsville MD 21104.
	Alpha Ridge Processing Facility and Transfer Station	WPT	CTY	2017-WPT-0578	2/11/2023	4 / 590	2350 Marriottsville Road, Marriottsville MD 21104.

County	Facility Name	Type	Owner Type	Permit Number	Expiration Date	Fill/Site Acreage	Site Location /Comments
	Ameriwaaste Processing Facility and Transfer Station	WPT	PRI	2016-WPT-0572	11/13/2021	- / 3.09	7150 Kit Kat Road, Elkridge MD 21075. Accepts Only C&D Waste.
	Citron Hygiene Transfer Station	WTS	PRI	2015-WTS-0594	6/4/2020	- / 0.21	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	2018-WTE-0538	12/26/2023	- / 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. Landfill Not Constructed.
	Shady Grove Processing Facility & Transfer Station	WPT	CTY	2016-WPT-0617	7/5/2022	- / 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. Facility Not Constructed.
	Recycle One Processing Facility and Transfer Station	WPT	PRI	2010-WPT-0647	9/15/2019	1.8/2.85	4700-A Lawrence Street. Hyattsville MD 20781
	Ritchie Reclamation Rubble Landfill	WRF	PRI	2015-WRF-0590A	12/3/2020	78 / 258	2001 Ritchie Marlboro Road, Upper Marlboro MD 20772.
	Sheriff Road Processing Facility & Transfer Facility	WPT	PRI	2018-WPT-0218	2/19/2023	- / 1.5	5800 Sheriff Road, Fairmont Heights MD 20743. Accepts Only C&D Waste.
	Sun Services Processing Facility	WPF	PRI	2016-WPF-0639	3/30/2021	4.3	11220 Somerset Ave Beltsville, MD 20705
Queen Anne's	Baker Rubble Landfill	WRF	PRI	2018-WRF-0622	5/7/2023	15.9 / 18.5	501 4-H Park Road, Queenstown MD 21658. Serves Mid-Shore Counties.
St. Mary's	Knott Landclearing 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. Landfill Operating as a Processing & Transfer Station.
	St. Andrews Processing Facility & Transfer Station	WPT	CTY	2013-WPT-0624	1/23/2019	1 / 55	44861 St. Andrews Church Road, California MD 20619 Facility Not Constructed
Somerset	Somerset County Landfill – Fairmount Site	WMF	CTY	2014-WMF-0268	6/24/2019	26.4 / 33	8716 James Ring Road, Westover MD 21871.
	Smith Island Incinerator	WIN	CTY	2016-WIN-0140	4/7/2021	- / 0.50	Smith Island Road, Ewell MD 21824.
Talbot	Midshore Regional Municipal Landfill	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	Agape Pet Services	WTS	PRI	2015-WTS-0672	5/1/2022	- / 41.16	19712 Shepherdstown Pike, Boonsboro, MD 21713
	Forty West Municipal Landfill	WMF	CTY	2014-WMF-0266A	10/28/2019	189 / 425	12630 Earth Care Road, Hagerstown MD 21740.
	Washington County Rubble Landfill	WRF	CTY	2014-WRF-0270	10/28/2019	75 / 100	11112 Kemps Mill Road Williamsport MD 21740. Landfill Not Operating.
Wicomico	Bennett Processing Facility	WPF	PRI	2016-WPF-0658	9/10/2022	5 / 14.3	513-515 South Camden Ave., Fruitland MD 21826.
	Connelly Mill Processing Facility & Transfer Station	WPT	PRI	2015-WPT-0675	10/13/2021	- / 14.9	29790 Connelly Mill Road, Delmar MD 21878.
	Curtis Bay Medical Waste Services Transfer Station	WTS	PRI	2017-WTS-0678	1/23/2023	- / 10	2434 Goddard Parkway, Salisbury, MD 21801

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 Medical Waste Processing Facility	WPM	PRI	2018-WPM-0505	6/28/2023	- / 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, 2018 – 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	23
WRF: Construction & Demolition Landfill	6
WLC: Landclearing Debris Landfill	3
WIF: Industrial Landfill	4
WIN: MSW or Special Medical Waste Incinerator	3
WMI: Medical Waste Incinerator	1
WPF: Processing Facility	7
WPM: Special Medical Waste Processing Facility	1
WTS: Transfer Station	12
WPT: Processing Facility & Transfer Station	20
WTE: Waste to Energy/MSW Incinerator	2
TOTAL	82

Type of Ownership	Number of Facilities
CTY: County Government	31
PRI: Private (Commercial)	42
MUN: Municipal Government	3
FED: Federal Government	3
MES: Maryland Environmental Service	3
TOTAL	82

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

Jurisdiction	Site Name	Facility Type	Ownership Type	Status
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 (CY) 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 55,135,114 tons with 1,877,068 tons being disposed in 2018. Thus, at the current disposal rate, there would be over 29 years (55,135,114 tons ÷ 1,877,068 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 2018 (CY)	Landfilled in 2018 (Tons)	Used in 2018 ^
Alpha Ridge Municipal Landfill	13,521,900	5,966,079	3,281,343	7,555,821	4,155,702	2056	9,059	9,205	0.07%
Appeal Municipal Landfill	2,799,290	615,267	370,226	2,184,023	1,309,348	2332	668	297	0.02%
Beulah Sanitary Landfill	2,360,325	1,724,164	1,707,093	636,161	629,862	2024	52,114	51,598	2.21%
Brown Station Road Landfill	16,505,000	13,863,535	9,434,185	2,641,465	1,797,467	2026	442,555	301,160	2.68%
Cecil County Central Landfill – Horizontal Expansion **	23,327,539	5,437,332	3,262,399	17,890,207	10,734,124	2066	159,152	96,727	0.68%
Central Sanitary Landfill	4,800,000	2,432,454	1,702,718	2,367,546	1,657,282	2051	72,713	52,338	1.51%
Charles County Municipal Landfill	4,374,700	2,376,065	1,697,189	1,998,635	1,476,211	2032	154,822	110,587	3.54%
Eastern Sanitary Landfill	23,513,000	15,586,011	6,643,737	7,926,989	3,559,050	2033	696,251	302,118	2.96%
Fort Detrick – Area B & Main Post	1,000,900	140,625	114,463	860,275	679,250	2189	5,075	907	0.51%
Forty West Municipal Landfill	24,752,000	4,749,740	1,948,567	20,002,260	7,642,833	2085	305,893	115,425	1.24%
Garrett County Solid Waste Disposal & Recycling Facility	2,568,470	1,318,766	778,429	1,249,704	700,583	2039	45,124	32,554	1.76%
Harford Waste Disposal Center	4,870,330	933,895	381,046	3,936,435	1,750,254	2135	44,040	12,860	0.90%
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	1,705,512	957,932	6,094,488	3,722,068	2052	223,859	133,340	2.87%
Millersville Landfill & Resource Recovery Facility	14,156,000	6,090,013	3,654,008	8,065,987	4,839,592	2048	285,161	130,958	2.01%
Montgomery County Site 2**	0	0	0	0	0	N/A	0	0	0
Mountainview Sanitary Landfill	4,260,000	3,916,014	2,972,255	343,986	261,085	2022	99,959	72,830	2.35%
Newland Park Municipal Landfill	7,200,000	4,302,798	2,323,511	2,897,202	1,564,489	2032	244,891	132,241	3.40%
Northern Municipal Landfill	3,504,187	823,560	1,127,700	2,680,627	1,342,246	2104	71,247	33,691	2.03%
Quarantine Road Landfill	18,320,799	14,843,367	17,177,969	3,477,432	4,257,343	2028	332,351	249,952	1.81%
Reichs Ford/Site B Municipal Sanitary Landfill	7,326,426	3,872,640	2,178,375	3,453,786	1,942,740	2045	23,761	13,366	0.32%
St. Andrews Municipal Landfill*	1,500,000	0	0	1,500,000	750,000	2034	0	0	0

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 2018 (CY)	Landfilled in 2018 (Tons)	Used in 2018 ^
Somerset County Landfill – Fairmount Site	1,610,000	949,442	556,471	660,558	237,319	2032	39,810	24,914	2.47%
Totals	193,995,860	95,331,974	64,302,097	98,663,886	55,135,114		3,308,505	1,877,068	1.71%

* 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 2017 (CY) ÷ Permitted Capacity (CY)

Construction and Demolition Debris landfills (Table C2) reported a total available capacity of 13,769,040 tons with 789,022 tons disposed in CY18. At the current disposal rate, there would be over 17 years (13,769,040 tons ÷ 789,022 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 2018 (CY)	Landfilled in 2018 (Tons)	Used in 2018 ^
Baker Rubble Landfill	820,000	758,998	430,871	61,002	4129	2020	30,589	16,212	3.73%
Days Cove Rubble Landfill – Lateral Expansion	3,192,000	2,873,986	2,083,237	318,014	76,763	2019	295,731	156,531	9.26%
Honeygo Run Reclamation Center	11,723,461	5,985,391	3,960,689	5,738,070	3,206,160	2036	441,881	281,416	3.77%
Ritchie Land Reclamation Partnership Phase	9,680,800	3,169,098	1,901,459	6,511,702	3,907,021	2035	503,722	302,233	5.20%
Tolson & Associates	5,762,060	221,490	104,580	5,540,570	5,657,480	2042	69,574	32,630	1.21%
Washington County Rubble Landfill	2,201,664	166,390	83,345	2,035,274	917,487	2061	0	0	0.00%
TOTALS	33,379,985	13,175,353	8,564,181	20,204,632	13,769,040		1,341,497	789,022	4.02%

^ Equal to Landfilled in 2018 (CY) ÷ Permitted Capacity (CY)

Industrial landfills (Table C3) reported a total available capacity of 7,815,758 tons. At a current disposal rate of 136,708 tons, there would be over 57 years (7,815,758 tons ÷ 136,708 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 2017 (CY)	Landfilled in 2017 (Tons)	Used in 2017 ^
W.R. Grace and Co. – Davison Chemical Division	495,000	223,130	261,149	271,870	233,851	2029	25,409	27,270	5.13%
Essroc Cement Corporation	273,000	0	0	273,000	273,000	N/A	0	0	0.00%
Hawkins Point Plant	3,228,044	2,228,955	2,719,325	999,089	1,145,688	2077	14	18	0.00%
Fort Armistead Road – Lot 15	6,300,000	697,074	766,781	5,602,926	6,163,219	2074	99,473	109,420	1.58%
TOTALS	10,296,044	3,149,159	3,747,255	7,146,885	7,815,758		124,896	136,708	1.21%

^ Equal to Landfilled in 2018 (CY) ÷ Permitted Capacity (CY)

Landclearing Debris landfills (Table C4) reported a total available capacity of 89,255 tons. Based on CY15 disposal rate of 1,179 tons, there would be approximately 76 years (89,255 tons ÷ 1,179 tons) of available landclearing debris landfill capacity in Maryland.

Table C4 – Landclearing 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 2017 (CY)	Landfilled in 2017 (Tons)	Used in 2017 ^
Howlin Landclearing Debris Landfill	64,120	49,633	62,041	14,487	18,109	2020	0	0	0.00%
Knott Landclearing Debris Landfill	94,500	75,805	6,894	18,695	1,106	2020	0	0	0.00%
Hance Landclearing Debris Landfill	267,053	126,373	63,486	140,680	70,040	2044	0	0	0.00%
TOTALS	425,673	251,811	132,421	173,862	89,255		0	0	0.00%

[^] Equal to Landfilled in 2018 (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	2017-NWWW-GP01	19.71	9/28/2022	(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	2017-NWWW-GP01	5.90	4/24/2022	(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	2017-NWWW-GP01	24.49	9/19/2022	(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	Beuchert Excavating, Inc. 12340 Crain Highway Newburg MD 20664	GP	2014-NWWW-GP01	12.50	3/24/2019	(301) 399-5088	(301) 274-2454
	Calvert Wood Recycling 6585 Ripley Road Ripley, MD 20646	GP	2016-NWWW-GP01	8.50	4/3/2021	(301) 518-2306	(301) 934-1536
	Chesapeake Environmental Materials, LLC 12110 Forgotten Farm Place St. Charles, MD 20602	GP	2017-NWWW-GP01	11.7	11/15/2022	(443) 968-2381	(443) 968-2381
	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

County	Facility & Location	Permit Type	Permit Numbers	Site Acreage	Expiration Date	Phone Number	Fax Number
	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
	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	2017-NWWW-GP01	3.00	11/1/2022	(301) 732-5194	(301) 732-5195
Harford	Arthur D. Heston 2304 Whiteford Road Whiteford, MD 21169	GP	2017-NWWW-GP01	3.67	10/23/2022	(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	2018-NWWW-GP01	6.00	11/14/2023	(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	2018-NWWW-GP01	5.00	7/9/2023	(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	9/18/2019	(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	2018-NWWW-GP01	11.5	6/6/2023	(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
	Cedarville Holdings, LLC 9120 Cedarville Road Brandywine, MD 20613	GP	2017-NWWW-GP01	8	11/8/2022	(760) 500-8245	(760) 500-8245
Queen Anne's	Baker Rubble Landfill 501 4-H Park Road Queenstown, MD 21658	IP	2016-NWWW-0620	3.00	1/8/2022	(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	2017-NWWW-GP01	4.00	3/29/2022	(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
	Harvest Consumer Products, LLC	GP	2018-NWWW-GP01	60	3/22/2023	(980) 444-2031	(980) 444-2031

County	Facility & Location	Permit Type	Permit Numbers	Site Acreage	Expiration Date	Phone Number	Fax Number
General Permits (GP):							44
Individual Permits (IP):							5
TOTAL							49

* The status of the facilities is current as of June 30, 2018 – the period of time covered by the report.

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APPENDIX E

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All-Star News

All State Agencies Recycle

David Mrgich, Chief
Waste Diversion Division
dave.mrgich@maryland.gov

MD Department of the Environment
Land and Materials Administration
www.mde.maryland.gov/recycling

Christy Bujnovszky
Recycling Unit
christy.bujnovszky@maryland.gov

HOW MUCH RECYCLING IS MARYLAND THROWING AWAY?

In 2016, the Maryland Department of the Environment, in conjunction with the Northeast Maryland Waste Disposal Authority, conducted a statewide waste characterization study. The study sampled landfills and transfer stations from Calvert County, Cecil County, Charles County, Washington County, Garrett County, Carroll County, Somerset County and Baltimore City. Two additional jurisdictions, Prince George’s County and Montgomery County, had previous waste sort data incorporated into this report for the statewide aggregation.

Results of the study showed that, at 52 percent, organics and paper make up over half of the waste disposed in Maryland. It further identified food waste as the most prevalent disposed material in both residential and commercial waste

streams, at nearly 18 percent of the waste stream.

Lastly, the impact of long-term waste management planning was discussed. Currently more than 66 percent of the disposed waste stream in the State could be diverted by using curbside recycling and non-curbside recycling programs, as well as by introducing widespread composting and mulching programs.

A link to the full report on Maryland Department of the Environment’s website can be found here:

<https://mde.maryland.gov/programs/LAND/SolidWaste/Documents/2016%20Maryland%20Statewide%20WCS%20Study.pdf>

Eleven State Agencies Reach 30 Percent Recycling Rate in 2017

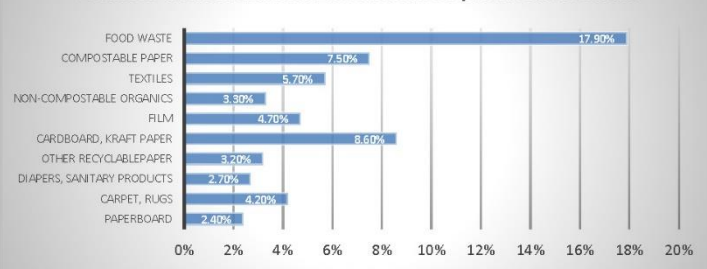
State government, as a whole, is required to recycle 30 percent of its waste. In 2017, eleven State agencies recycled at least 30 percent of their waste and eight agencies recycled more than 40 percent. State government, as a whole, recycled 36.1 percent of the waste it generated.

The following State agencies reached a recycling rate of at least 30 percent in 2017:

- Comptroller of Maryland;
- Dept. Of Environment;
- Dept. of Transportation;
- Judiciary of Maryland;
- Maryland General Assembly;
- Maryland Automobile Insurance Fund;
- Maryland Environmental Service;
- Maryland School for the Deaf;
- Maryland Stadium Authority;
- Subsequent Injury Fund; and
- University System of Maryland.

Results for all State Agencies are available on the Maryland State Agencies 2017 Recycling Rates Table.

10 Most Prevalent Materials in Statewide Disposed Waste Stream



Agency Name	No. of Sites	No. of Sites Reporting	No. of People	Total MRA Recycling 2017 (tons)	2017 MRA Recycling Rate (%)
Baltimore City Community College	1	1	0	0	0
Comptroller of Maryland	1	1	800	112.36	79.60
Department of Agriculture	2	2	222	26.30	19.61
Department of Assessments and Taxation	15	13	1,053	18.54	29.77
Department of Budget and Management	1	0	0	0	0
Department of Education	30	22	1,414	51.53	18.61
Department of General Services	23	23	8,228	159.06	14.21
Department of Health and Mental Hygiene	18	5	6,545	401.69	9.61
Department of Human Resources	33	23	5,514	324.13	22.12
Department of Juvenile Services	15	15	2,954	414.10	16.47
Department of Labor, Licensing & Regulation	14	6	1,338	133.01	9.70
Department of Natural Resources	6	2	537	6.02	5.35
Department of the Environment	5	5	1,009	39.39	30.87
Department of Transportation	83	83	25,988	16782.97	54.56
Department of Veterans Affairs	12	7	866	169.32	20.81
Dept. of Housing and Community Development	3	0	0	0	0
Dept. of Public Safety and Correctional Services	35	5	25,415	1008.55	11.78
Judiciary of Maryland	2	2	407	92.93	34.12
Maryland Automobile Insurance Fund	1	1	520	134.71	39.31
Maryland Department of Disabilities	1	1	27	0.10	1.07
Maryland Department of Planning	1	1	185	7.09	10.86
Maryland Environmental Service	4	4	298	16.25	61.51
Maryland Food Center Authority	1	1	1,327	284.63	4.62
Maryland General Assembly	1	1	852	131.70	42.94
Maryland Insurance Administration	1	1	242	0	0
Maryland Military Department	33	33	502	37.82	5.56
Maryland Public Broadcasting Commission	1	1	211	93.46	14.86
Maryland School for the Deaf	2	2	989	132.10	32.33
Maryland Stadium Authority	2	2	2,500	1020.99	42.90
Maryland State Archives	1	1	84	2.08	18.77
Maryland State Police	28	28	1,959	251.66	21.23
Morgan State University	1	1	1,241	179.69	14.17
St. Mary's College of Maryland	1	0	0	0	0
Subsequent Injury Fund	1	1	17	3.54	61.46
University System of Maryland	17	17	127,125	9053.05	42.79
TOTAL	396	311	220,369	31,088.77	35.92

Bold = meets 30% recycling rate

APPENDIX F

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County Recycling Coordinators

Allegany

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Allegany County Dept. of Public Works
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Anne Arundel

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Baltimore City

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Ms. Erin Hafner
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Baltimore County

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Calvert

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401 Sweetwater Road
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Caroline

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Recycling Coordinator
Department of Public Works
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Carroll

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Cecil

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Frederick

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Garrett

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Kent

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Kent County Environmental Operations
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Queen Anne's

Ms. Connie Toulson
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Somerset

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Talbot

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