Larry Hogan
Governor

Boyd Rutherford
Lieutenant Governor

Ben Grumbles
Secretary

May 7, 2015

The Honorable Mike V. Miller, Jr., President
Senate of Maryland
State House, H-107
Annapolis MD 21401-1991

The Honorable Michael E. Busch, Speaker
House of Delegates
State House, H-101
Annapolis MD 21401-1991

The Honorable Joan Carter Conway, Chair
Senate Education, Health and
Environmental Affairs Committee
Miller Senate Office Building
2 West Wing
11 Bladen Street
Annapolis MD 21401-1991

The Honorable Kumar P. Barve, Chair
Environmental Matters Committee
House of Delegates
House Office Building, Room 251
6 Bladen Street
Annapolis MD 21401-1991

Dear President Miller, Speaker Busch, Chairs Conway and Barve:

As required in Section 9-204(n) of the Environment Article, Annotated Code of Maryland, I am enclosing a copy of the Calendar Year 2014 report on the Maryland Solid Waste Management and Diversion Report.

If we can provide you with any additional information, please contact me or Hilary Miller, Acting Director of the Land Management Administration, at 410-537-3304 or via email at hilary.miller@maryland.gov.

Sincerely,

Mary Beth Tung, Ph.D., Esq.
Deputy Secretary

Enclosures

cc: Hilary Miller, Acting Director, Land Management Administration

MARYLAND

Department of the Environment

MARYLAND SOLID WASTE MANAGEMENT and DIVERSION REPORT
– 2014 –
(Calendar Year 2013 Data)

Prepared by:

Waste Diversion and Utilization Program
Land Management Administration

Prepared for:

Senate Education, Health, and Environmental Affairs Committee

House Environment and Transportation Committee

Lawrence J. Hogan, Jr., Governor
State of Maryland

Boyd K. Rutherford, Lt. Governor
State of Maryland

Thomas V. Mike Miller, Jr., Senate President
Maryland General Assembly

Michael E. Busch, House Speaker
Maryland General Assembly

April 2015

MDE

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Overview

Introduction

The Maryland Department of the Environment ("MDE" or "the Department") respectfully submits to the Governor, General Assembly, House Environment and Transportation Committee, and the Senate Education, Health and Environmental Affairs Committee the Department's Annual Report describing how solid waste was managed in Maryland during calendar year (CY) 2013. Beginning in 2009, the Maryland Waste Diversion Activities Report and Solid Waste Managed in Maryland Report were combined into one report and submitted in accordance with the requirements of the Environment Article, Annotated Code of Maryland, § 9-204(n), which requires the Department to prepare an annual report identifying the amount of solid waste, by weight or volume, disposed in the State during the previous year and § 9-1702(e), which requires the Department to prepare an annual report detailing recycling in Maryland.

Part I of the report addresses solid waste managed by Maryland permitted solid waste acceptance facilities and provides information regarding the management of solid waste, by weight or volume, which was captured by permitted solid waste acceptance facilities in the State during the previous calendar year. All permitted solid waste acceptance facilities, including: municipal landfills; rubble (construction and demolition (C&D)) landfills; industrial waste landfills; land clearing debris 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; and natural wood waste recycling facilities, must provide MDE with the information needed to prepare this report on an annual basis. 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 statistical local jurisdiction recycling and source reduction (SR) data for CY 2013, and an overview of the State's technical assistance activities from July 2013 through June 2014. 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 St**ate **A**gencies **R**ecycle) 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 2013, Maryland counties and Baltimore City generated 11,680,355 tons of solid waste (see Table 1 – Maryland Waste Generation Totals, including footnotes, for details). The total represents solid waste managed by all sources, not just Maryland permitted solid waste acceptance facilities. As businesses in Maryland are not required to report the waste they generate, this total represents the best available solid waste generation data. This total is a decrease of 5.38 percent from the 12,344,735 tons generated in 2012. Maryland Recycling Act

(MRA) waste (MRA waste is equal to Municipal Solid Waste (MSW) plus industrial waste from non-private, industrial waste landfills) comprises 6,508,075 tons (2,797,905 tons of MRA recyclables + 3,710,170 tons of MRA waste disposed (without recycled MSW ash and backend scrap metal)) of the total waste generated in Maryland.

A total of 8,089,158 tons of waste was accepted <u>at Maryland permitted solid waste acceptance facilities</u>. Of the 8,089,158 tons of solid waste accepted, a total of 7,350,221 tons was managed by Maryland permitted solid waste acceptance facilities during calendar year 2013 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	685,695
Anne Arundel	1,067,040
Baltimore City	1,132,624
Baltimore County	1,514,214
Calvert	137,146
Carroll	977,687
Cecil	150,289
Charles	609,065
Dorchester	63,433
Frederick	426,767
Garrett	55,355
Harford	287,738
Howard	626,234
Mid-Shore *	344,956
Montgomery	1,471,620
Prince George's	1,442,151
Somerset	33,740
St. Mary's	125,609
Washington	179,132
Wicomico	185,057
Worcester	154,803
State Highways	10,000
MARYLAND TOTAL ^	**11,680,355**

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

^   Due to rounding the Maryland Total differs from the actual value of 11,680,351.81.

Maryland achieved a 48.14 percent MRA waste diversion rate. This was comprised of a 44.48 percent (2,797,905 tons of MRA recycling, plus 96,841 tons resource recovery facility credit) MRA recycling rate plus a 3.66 percent (247,126 tons reduced) source reduction credit. An additional 3,483,121 tons of materials (*e.g.*, scrap metal, asphalt, soils, etc.) that do not count

towards the MRA recycling rate were also recycled for a grand total of 6,377,867 tons recycled in Maryland, including the resource recovery facility credit. (See Tables 20 and 21, including footnotes, for details.)

Other highlights for CY 2013:

- Nearly 2,288,941 tons (31.1 percent) of the waste managed by Maryland permitted solid waste acceptance facilities was land filled in Maryland, 1,062,369 tons (14.5 percent) was recycled/reused in Maryland, 1,420,859 tons (19.3 percent) was incinerated in Maryland, and 2,217,459 tons (30.2 percent) was exported to out-of-State facilities. (See Table 15.)
- Maryland remains a significant exporter of solid waste and exports more waste than it imports. A total of 2,217,459 tons of waste was exported from Maryland, while only 256,070 tons of waste was imported to Maryland. (See Tables 13 and 14.)
- Maryland landfills reported a total available capacity of 78,080,512 tons in 2013. (See Tables 16, 17, 18, and 19.)

Part I – Permitted Solid Waste Acceptance Facility Waste Management

Introduction

This part of the report **ONLY addresses <u>waste managed</u> by Maryland permitted solid waste acceptance facilities**. In accordance with § 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 and Demolition Debris (C&D);
  - Land Clearing Debris (LCD);
  - Industrial Waste;
  - Incinerator Ash;
  - Natural Wood Waste (NWW); and
  - Any other solid waste identified by the Department.
- The amount of solid waste managed in the State that is generated outside the State.
- The jurisdictions where the solid waste originated.
- The amount of solid waste generated in the State that is transported outside the State for disposal.
- An estimate of the amount of solid waste managed or disposed by:
  - Recycling;
  - Composting;
  - Landfilling; and

- Incineration.

In addition to the reported information, permitted solid waste acceptance facilities may submit optional information related to the economic benefits provided by those permit holders 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.
‣ 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 § 9-204(n) of the Environment Article, the Department has reviewed and compiled the data reported in the Annual Tonnage Reports submitted by permitted solid waste acceptance facilities that accepted solid waste in CY 2013. A solid waste acceptance facility is any landfill, incinerator, transfer station, or processing facility whose primary purpose is to dispose of, treat, or process solid waste. The reports are required as a condition of each facility's Refuse Disposal Permit and describe each facility's solid waste management activities for the preceding year. Appendix A provides a summary of the information that the Department received from the facilities that voluntarily chose to report economic benefits in the Annual Tonnage Report.

Recycling Data

To compile the required data summarizing recycling activities during the 2013 calendar year, the Department reviewed and analyzed the information contained in the Annual Tonnage Reports from permitted solid waste acceptance facilities. The **recycling data** reported in **Part I** of this report represents **only** the recycling activities **conducted by the permitted solid waste acceptance facilities**. Statewide recycling information is available in Part II, "Waste Diversion," of this report.

Solid Waste Management by Solid Waste Acceptance Facilities in 2013

In 2013, over 8 million tons of solid waste was accepted by Maryland permitted solid waste acceptance facilities. The 8 million tons includes waste stored on site and waste sent from one facility to another. Of the 8 million tons accepted, over 7.3 million tons were actually managed by storing, recycling and disposal in Maryland, or transportation out of State. Table 2 details the difference between the amounts of waste generated in Maryland, highlighted in green, and the waste managed by Maryland permitted solid waste acceptance facilities, highlighted in blue and yellow. Table 3 details the waste managed by Maryland permitted solid waste acceptance facilities.

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

	Waste Detail	Tons
A	Total Waste Generated in Maryland (see Table 1, including "^" footer)	11,634,963
B	Total Maryland Waste Recycled (see Table 20, including "*" footer)	6,281,025
C	Total Maryland Waste Disposed (A – B)	5,353,938
D	Recycling total adjusted for amount managed through Maryland permitted solid waste acceptance facilities (6,281,025 (Table 20) – 1,283,537(Table 3))	4,997,488
E	Total waste disposed by Maryland counties but not captured by a Maryland permitted solid waste acceptance facility ^	84,909
F	Natural Wood Waste Disposed or Stored (see Table 12)	88,594
G *	Recycled Ash, Back-End Scrap Metal, and By-Pass Adjustment ^^	179,800
H	Total waste imported into Maryland (see Table 13)	256,070
I **	Disposed Ash, Back-End Scrap Metal, and By-Pass ^^	273,191
Total Waste Managed by Maryland permitted solid waste acceptance facilities **(A-D-E+F+G+H+I)** (see Table 3)		**7,350,221**

Waste generated in Maryland	Waste generated vs. managed adjustments	Waste managed by Maryland Permitted Solid Waste Acceptance Facilities

* To avoid double-counting and accurately report the amount of waste generated in Maryland, the amount of <u>recycled</u> 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, <u>disposed</u> 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 and included in the 11,680,352 waste generated tons.

^^ Reported by permitted solid waste acceptance facilities via the Solid Waste Tonnage Report. 159,009 tons of ash recycled + 20,791 tons of back-end scrap metal recycled = 179,800 tons. 263,935 tons of disposed MSW-ash, back-end scrap metal, & by-pass + 9,256 tons of disposed Non-MSW ash & bypass = 273,191 tons.

There was a noticeable decrease, to 256,070 tons, in the amount of out-of-State waste that was managed in Maryland in 2013, as compared to 2012 (303,630 tons). The volume of solid waste accepted, processed, and disposed at the permitted refuse disposal systems in Maryland is similar to previous years. Nearly 2.3 million tons of waste was landfilled and over 1.4 million tons was incinerated in Maryland. Over 1 million tons of reclaimed recyclables were collected, sorted, and transferred to recycling facilities.

The use of out-of-State facilities for the disposal of Maryland generated waste was consistent in 2013. However, there was a decrease, to 2,217,459 tons, in the amount of waste exported compared to 2012 (2,547,458 tons). Very large out-of-State commercial landfills may be operated more efficiently than smaller local landfills, and the cost savings are currently being passed along to customers, and consequently, counties. Several local governments are using the cost differential to save money by transferring waste out-of-State while conserving their available landfill space. The cost of motor fuel may make long-haul disposal less attractive, and increase interest in other disposal and recycling options, however.

Figure 1 details the total amount of Maryland permitted solid waste acceptance facility solid waste that is 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 EPA's Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2012 report, MSW is comprised of approximately 27.4% paper and paperboard, 14.5% food scraps, 13.5% yard trimmings, 12.7% plastics, 8.9% metals, 6.3% wood, 8.7% rubber, leather and textiles, 4.6% glass, and 3.4% other (*i.e.*, electrolytes in batteries, fluff pulp, feces, and urine in diapers). See Figure 2 for a graphical representation of the composition of MSW.

Table 3 – Waste Managed in 2013 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 [4]	5,058,397	388,253	3,906,288	18,579	**4,313,120**
Construction & Demolition Debris	2,091,573	341,341	1,319,555	249,912	**1,910,808**
Natural Wood Waste	467,782	366,082	13,106	88,594	**467,782**
Industrial Waste	82,526	0	82,124	8	**82,132**
Land Clearing Debris	21,943	28,852	10,316	3,500	**42,668**
Other Wastes [5]	102,464	0	101,697	0	**101,697**
Total Waste Received	**7,824,685**	**1,124,528**	**5,433,086**	**360,593**	**6,918,207**
Tons of Incinerator Ash	264,473	159,009	273,005	0	**432,014**
TOTAL REPORTED	**8,089,158**	**1,283,537**	**5,706,091**	**360,593**	**7,350,221**

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 Permitted solid waste acceptance facilities in Maryland do not report on the types of MSW collected. However, per the EPA's Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2012 report, MSW is comprised of approximately 27.4% paper and paperboard, 14.5% food scraps, 13.5% yard trimmings, 12.7% plastics, 8.9% metals, 6.3% wood, 8.7% rubber, leather & textiles, 4.6% glass, and 3.4% other (*i.e.*, electrolytes in batteries, fluff pulp, feces, and urine in diapers).

5 "Other Wastes" includes special medical waste, asbestos, and sewage sludge.

Figure 1 - Waste Managed by Maryland Permitted Facilities

Year	Tons (millions)
2009	7.5
2010	7.8
2011	8.9
2012	8.1
2013	7.3

Figure 2 – MSW Materials Breakdown
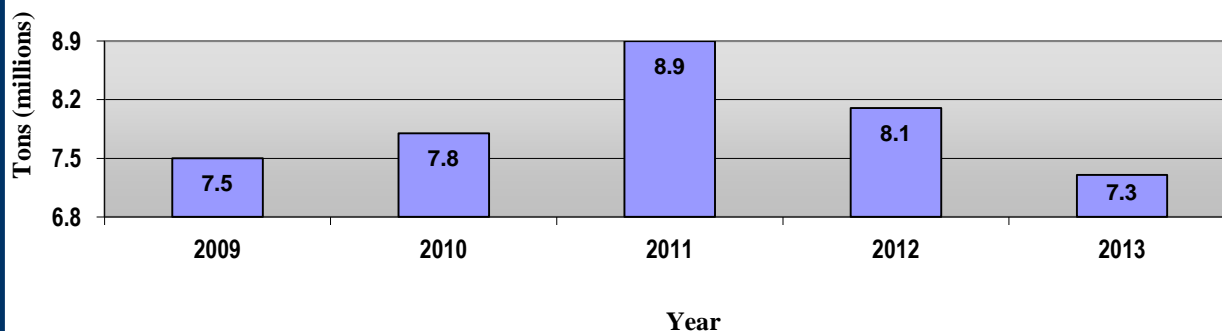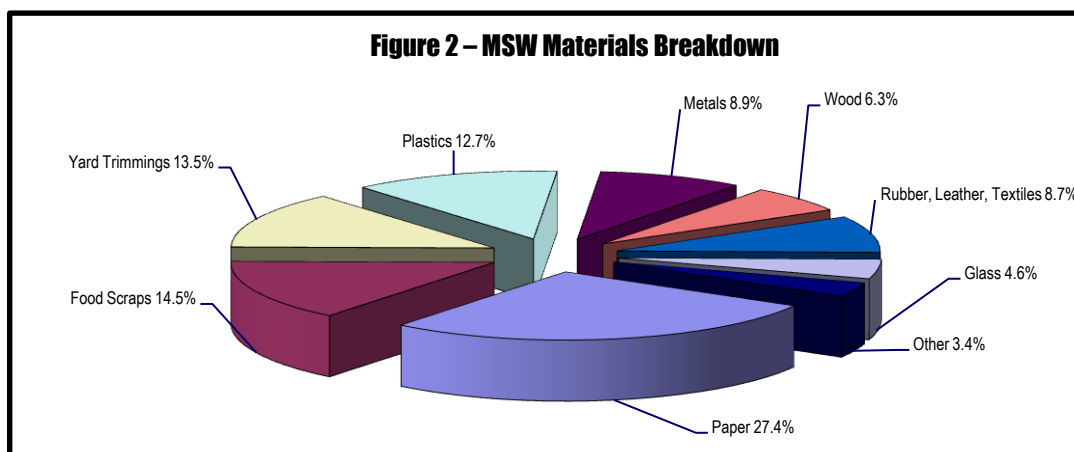
Refuse Disposal Systems

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. The regulated activities that are part of this System are as follows:

Municipal Landfill

A municipal landfill, which is also known as a municipal solid waste landfill (MSW), 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 2013, 24 valid municipal landfill permits were in effect. Of the 24 effective permits, 23 facilities have been developed to accept waste. Of the 23 developed facilities, 22 facilities accepted waste, managed/disposed waste, and/or transferred recyclables to the market place. Montgomery County Site 2 Municipal Landfill, the County's proposed back-up facility to handle the County's waste capacity in the future, is currently on hold for construction. Mid-Shore Regional Solid Waste Municipal Landfill in Talbot County ceased its landfill operations and did not accept any waste in 2013. Over 1.6 million tons of solid waste were disposed at the permitted facilities in 2013. The two facilities that disposed the most waste were Quarantine Road Landfill (334,343 tons) in Baltimore City and Brown Station Road Landfill (307,081 tons) in Upper Marlboro, Prince George's County. Details 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 Sanitary	Private	84,736	84,736	0
Anne Arundel	Millersville Resource Recovery Facility	County	101,977	66,064	12,818
Baltimore City	Quarantine Road	City	334,463	334,343	120
Baltimore	Eastern Sanitary	County	135,471	81,923	2,930

Jurisdiction	Facility Name(Landfill)	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
Calvert	Appeal Sanitary	County	5,327	298	3,366
Caroline	Midshore II	County	108,861	101,927	18
Carroll	Northern Municipal	County	14,427	14,147	280
Cecil	Cecil County Central	County	115,007	96,233	6,114
Charles	Charles County Municipal	County	96,686	74,000	949
Dorchester	Beulah Municipal	County	45,982	43,721	216
Frederick	Fort Detrick Area B	Federal	4,360	4,360	0
	Reichs Ford/Site B	County	52,938	23,108	11,119
Garrett	Garrett County Solid Waste Disposal & Recycling Facility	County	26,397	26,064	128
Harford	Harford Waste Disposal Center	County	767	767	0
Harford	Harford Waste Disposal Center (Expansion)	County	160,417	97,196	18,889
Howard	Alpha Ridge Municipal	County	34,551	0	14,913
Montgomery	Montgomery County Site 2	County	0	0	0
Prince George's	Brown Station Road	County	308,193	307,081	1,112
St. Mary's	St. Andrew's Municipal	County	11,845	0	5,939
Somerset	Somerset County	County	23,897	23,802	0
Talbot	Midshore Regional Solid Waste Facility	County	0	0	0
Washington	Forty West Municipal	County	80,648	76,106	1,986
Wicomico	Newland Park Municipal	County	95,084	95,084	0
Worcester	Central Sanitary	County	60,907	55,365	2,070
TOTAL			**1,902,941**	**1,606,325**	**82,967**

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2013, but not managed until 2014.

Construction and Demolition (C&D) Landfill

A rubble (C&D) landfill is a solid waste acceptance facility that is restricted to accepting waste derived from building construction, demolition, or remodeling, such as: wood, metal, bricks (excluding refractory type) and masonry, cement and concrete, glass, shingles and roofing material, plaster and plasterboard, carpets, floor and wall tile, asphalt, insulation material, pipes, wires, and appliances; and debris derived from land clearing operations such as: tree stumps, root mats, brush and limbs, logs, topsoil, vegetation, and rock. Paper or cardboard packaging or building materials are accepted, provided that they do not exceed ten percent by volume of the waste. Empty paint containers and empty caulk or glaze containers are accepted, provided any remaining residual material is dried before being accepted and these items do not exceed one percent by volume of the waste accepted at the rubble landfill. During 2013, of five permitted rubble landfills, four landfills disposed of 510,354 tons of waste. The two that disposed of the most waste by weight were Ritchie Land Reclamation (Phase I & Phase II) – Marlboro Road (267,607 tons) in Upper Marlboro, Prince

George's County, and Days Cove Rubble Landfill (123,717 tons) in White Marsh, Baltimore County. Details are presented in Table 5.

Table 5 – Permitted C&D Landfills

Jurisdiction	Facility Name (Landfill)	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
Baltimore County	Days Cove Rubble Landfill Lateral Expansion	Private	160,765	123,717	607
	Honeygo Run Reclamation Center	Private	265,844	103,541	657
Prince George's	Ritchie Reclamation Phase I & II	Private	310,049	267,607	3,454
Queen Anne's	Baker Rubble	Private	17,459	15,489	170
Washington	Washington County Rubble	County	0	0	0
TOTAL			**754,117**	**510,354**	**4,888**

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2013, but not managed until 2014.

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. The definition is generally applied to materials that are not generated from homes or offices, and may include materials such as dusts, powders or sludges from pollution control devices, residuals from filters or cleaning of items or areas, and residual materials from a variety of processes (*e.g.*, sandblasting grit, paint sludge, oil/water separator grit, etc). These materials must be characterized prior to disposal to ensure that they are not hazardous wastes. Industrial wastes may also be disposed in permitted MSW landfills. In 2013, a newly permitted Industrial Landfill "Fort Armistead Road – Lot 15" was constructed and begun its operations in Baltimore City. Essroc Cement's Industrial Landfill (permitted in 2012) is still being constructed.   In 2013, all permitted and constructed industrial waste landfills accepted and disposed waste. Hawkins Pt. Plant facility in Baltimore City disposed the most industrial waste (73,804 tons). Details are presented in Table 6.

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	17,071	17,071	0
	Hawkins Pt. Plant	Private	73,804	73,804	0
	W. R. Grace and Co. – Davison Chemical Division	Private	14,104	14,104	0
Frederick	Eastalco Aluminum Company	Private	62,636	62,636	0
	Essroc Cement Corporation	Private	0	0	0
TOTAL			167,615	167,615	0

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2013, but not managed until 2014.

Landclearing Debris (LCD) Landfill

A landclearing debris (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. During 2013, four of the five permitted facilities accepted 7,257 tons of waste, with the majority of the disposal occurring at the M.T. Parran Landclearing Debris landfill (2,700 tons). Details are presented in Table 7.

Table 7 – Permitted Landclearing Debris Landfills

Jurisdiction	Facility Name (Landfill)	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
Calvert	Hance Landclearing Debris	Private	2,610	0	0
	Hill Landclearing Debris	Private	0	0	0
	M. T. Parran Landclearing Debris	Private	2,700	2,700	0
	Howlin Landclearing Debris	Private	1,935	1,935	0
St. Mary's	Knott Landclearing Debris	Private	12	12	0
TOTAL			7,257	4,647	0

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2013, but not managed until 2014.

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. During 2013, there were nine permitted transfer stations in operation that accepted a total of 601,259 tons of solid

waste. The two busiest transfer stations in Maryland during 2013 were the Western Acceptance Facility (283,601 tons accepted) and the Eastern Transfer Station (109,071 tons accepted) in Baltimore County. Details 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	55,314	0	55,314
Baltimore County	Eastern	County	109,071	0	109,071
	Western Acceptance	County	283,601	93	283,741
Calvert	Appeal	Private	83,706	0	83,706
Cecil	Stemmers Run	County	534	0	534
	Woodlawn	County	1,617	0	1,617
Howard	Workplace Essentials	Private	151	0	151
Talbot	Midshore Regional Solid Waste Facility	Maryland Environmental Service/State	33,869	0	33,869
Worcester	Ocean City	Municipal	33,396	0	33,396
TOTAL			**601,259**	**93**	**601,399**

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2013, but not managed until 2014.

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. During 2013, ten valid processing facility permits were in effect. Out of ten valid permits, eight facilities accepted a total of 374,629 tons of waste. The largest of these facilities were Lawrence Street C&D Processing Facility in Prince George's County, which accepted 135,016 tons of solid waste, and Roll-off Express, Inc. in Carroll County accepted 97,647 tons. Details are presented in Table 9.

Table 9 – Permitted Solid and Medical Waste Processing Facilities

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Stored	Waste Transported
Baltimore City	L & J Waste Recycling, LLC	Private	29,374	0	29,374

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Stored	Waste Transported
Baltimore County	Recovermat Mid-Atlantic	Private	0	0	0
Calvert	Southern Maryland Processing	Private	12,855	0	12,855
Carroll	Roll-Off Express, Inc.	Private	97,647	0	97,647
Montgomery	C&D Recovery Processing	Private	73,117	1,358	71,965
Prince George's	Lawrence Street C&D	Private	135,016	261	135,144
	Dower House Recycling and Processing	Private	0	0	0
	Sun Services Processing & Recycling Center	Private	13,254	1,070	12,184
Wicomico	Peninsula Regional Medical Center	Private	3	0	3
	Bennett Processing	Private	13,363	3	13,376
TOTAL			374,629	2,692	372,548

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2013, but not managed until 2014.

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. During 2013, a total of 16 permitted facilities were in operation. Of the 16 facilities, 14 accepted 2,392,798 tons of waste in 2013. The two facilities that accepted the most waste in 2013 were Montgomery County Solid Waste Transfer Station in Montgomery County (695,417 tons) and Annapolis Junction Recycling and Transfer Station in Anne Arundel County (570,546 tons). The details 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	0	0	0
Anne Arundel	Curtis Creek Recovery Systems	Private	187,132	0	187,132
	Annapolis Junction Recycling and Transfer Station	Private	570,546	0	570,546
Baltimore City	BFI Baltimore Processing and Transfer Center	Private	19,615	0	19,615
	Stericycle, Inc.	Private	23,867	0	23,867

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Stored	Waste Transported
	Baltimore Recycling Center, LLC	Private	69,307	0	69,307
	Daniels Sharpsmart	Private	1,916	0	1,916
Baltimore County	Baltimore County Central Acceptance Facility	County	264,832	1,915	263,467
Carroll	Northern Municipal Landfill	County	80,617	0	80,617
Frederick	Reichs Ford Landfill	County	162,748	0	162,748
Harford	Auston Processing and Transfer Facility	Private	2,172	94	2,140
Howard	Alpha Ridge Municipal Processing & Transfer Facility	County	34,708	0	34,708
	Ameriwaste Processing and Transfer Station	Private	205,882	0	205,882
Montgomery	Montgomery County Solid Waste Transfer Station	County	695,417	0	695,417
Prince George's	Sheriff Road Processing Transfer Facility	Private	74,039	0	74,039
St. Mary's	St. Andrew's Waste Processing and Transfer Station	County	0	0	0
TOTAL			**2,392,798**	**2,009**	**2,391,401**

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2013, but not managed until 2014.

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. During 2013, the eight permitted facilities in operation accepted 1,420,760 tons of solid waste. Wheelabrator Baltimore, LP. in Baltimore City and the Montgomery County Resource Recovery Facility incinerated the bulk of the material in this category, accounting for 714,133 tons and 558,184 tons, respectively. Details 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	714,133	714,133	222,962

| Jurisdiction | Facility Name | Ownership | Waste Accepted * | Waste Handled | |
				Waste Incinerated	Waste Transported
	Curtis Bay Energy	Private	25,369	25,369	8,532
	University of Maryland – Baltimore	State	118	0	118
Charles	Naval Support Facility Indian Head Incinerator	Federal	63	0	180
Frederick	Fort Detrick – Area B and Main Post	Federal	2,419	2,413	544
Harford	Harford County Resource Recovery Facility	County	120,382	120,668	51,797
Montgomery	Montgomery County Resource Recovery Facility	County / Northeast MD Waste Disposal Authority	558,184	558,184	168,996
Somerset	Smith Island Incinerator	County	92	92	14
TOTAL			**1,420,760**	**1,420,859**	**453,143**

*   Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2013, but not managed until 2014.

Natural Wood Waste Recycling Facility

Natural wood wastes (NWW) are trees and other natural vegetative refuse. Owners or operators of facilities that recycle NWW must obtain a permit to operate and are regulated under Code of Maryland Regulations 26.04.09. A natural wood waste recycling (NWWR) facility does not include a collection or processing facility operated by a nonprofit or governmental organization located in the State, or a single individual or business that provides recycling services solely for its employees or for its own recyclable materials generated on its own premises. NWW is considered solid waste until it is recycled and includes trees and other natural vegetative materials including: tree stumps and limbs, brush, root mats, logs, leaves, grass clippings, and unadulterated wood wastes that are generated when land is cleared for construction purposes. NWW does not include pallets, crates, lumber, wood chips, firewood, or other products that may be made from NWW, but have subsequently been processed.

NWWR facilities produce a variety of products that may be sold to consumers. They are valued because they prevent NWW from entering landfills, thereby extending the landfills' useful lives, and they recycle NWW into useful products. Additionally, facilities that only accept processed wood are not required to obtain a NWWR Facility Permit from MDE. During 2013, the 37 permitted operations reported 467,782 tons of NWW accepted and 366,082 tons recycled. The two highest volume facilities, Grant County Mulch in Prince George's County and RLO Contractor, Inc. in Howard County, recycled 116,857 tons and 42,942 tons, respectively. Details on the NWWR facilities are presented in Appendix C. Waste managed details are presented in Table 12.

Additional information on Maryland's NWW program is available at www.mde.state.md.us/programs/Land/SolidWaste/Pages/Programs/LandProgram s/Solid_Waste/index.aspx on MDE's web page, or by contacting MDE's Solid Waste Program at 410-537-3375 or khosseinz@mde.state.md.us

Table 12 – Permitted Natural Wood Waste Recycling Facilities

Jurisdiction	Facility Name	Permittee	Waste Accepted	Waste Handled	
				Waste Recycled*	Waste Marketed*
Allegany	Braddack Construction, LLC.	Braddack Construction, LLC.	22	17	6
Anne Arundel	A-A Recycle & Sand, Inc.	A-A Recycle & Sand, Inc.	18,803	17,800	18,933
	Bronson Contracting, Inc.	Bronson Contracting, Inc.	435	435	142
	L and W Recycling	L & W Recycling, Inc.	28,259	19,783	22,661
Baltimore County	King Mulch and Pallet	Albert J. Bierman	4,551	4,703	1,552
	Edrich Lumber, Inc.	Edrich Lumber, Inc.	21,759	21,957	24,529
	Northwest Recycling, LLC.	Northwest Recycling LLC.	15,735	18,376	16,990
	Wirtz & Daughters, Inc.	Wirtz And Daughters, Inc.	10,312	10,405	36,665
	Hollins Organic Products, Inc.	Hollins Organic Products, Inc.	14,902	10,657	14,902
Calvert	A.H. Hatcher, Inc.	Quality Built Homes, Inc.	22,574	8,147	6,680
	231 Materials & Recycling Products, LLC.	231 Materials & Recycling Products, LLC.	0	0	0
Caroline	Cahall Construction, LLC	Cahall Construction, LLC	68	0	0
Carroll	C. J. Miller, LLC.	C. J. Miller, LLC.	3,204	1,923	5,952
	Recycled Green Industries, LLC	Recycled Green Industries, LLC.	37,131	40,844	40,844
Cecil	Chesapeake Wood Recycling	Chesapeake Investment, Inc.	1,500	1,700	1,700
	Grass Busters Landscaping Company, Inc.	Grass Busters Landscaping Company, Inc.	460	460	460
Charles	Beuchert Excavating, Inc.	Beuchert Excavating, Inc.	424	2,942	898
	James E. Hill	James E. Hill	23,109	2,522	1,570
Frederick	Butler Wood Recycling	William Lee Butler	1,672	1,331	1,612

| Jurisdiction | Facility Name | Permittee | Waste Accepted | Waste Handled | |
				Waste Recycled*	Waste Marketed*
	Grant County Mulch	Grant County Mulch, Inc.	26,353	0	36,131
	Bussard Brothers Landscape	R. W. Bussard & Sons, Inc.	6,392	6,392	5,616
Harford	Arthur D. Heston	Arthur D. Heston	300	300	387
	Crouse Construction Company, Inc.	Crouse Construction Co., Inc.	0	0	0
	Comer Construction, Inc.	Comer Construction, Inc.	10,020	10,147	8,783
Howard	Elkridge Recyclery	RLO Contractors, Inc.	38,256	42,942	43,609
	Level Land Lisbon Mulch Yard	Level Land, Inc.	6,185	2,229	1,353
Kent	Sharp Lawn & Tree, Inc.	Sharp Lawn & Tree, Inc.	438	375	411
Montgomery	Twin Ponds Farm, LLC	Twin Ponds Farm, LLC.	0	0	0
	Acme Biomass Reduction, Inc.	Acme Biomass Reduction, Inc.	21,860	17,497	4,593
	Country Nursery	Country Nursery	1,052	1,052	945
Prince George's	Grant County Mulch Facility	Grant County Mulch, Inc.	133,428	116,857	116,598
Queen Anne's	Baker Rubble Landfill	R.B. Baker & Sons, Inc.	2,093	2,093	861
	Grange Hall Yard	Cole Ventures, Inc.	1,511	0	1,572
	Pardoe's Lawn and Tree Service, Inc.	Pardoe's Lawn and Tree Service, Inc.	12,778	0	8,540
Talbot	Dependable Sand and Gravel Company, Inc.	Dependable Sand and Gravel Company, Inc.	2,165	2,165	1,975
Washington	Hess Road Recycling Center	Universal Contractor Inc.	31	31	0
Wicomico	Dunn's Tractor Service, Inc.	Dunn's Tractor Service Inc.	0	0	0
TOTAL			**467,782**	**366,082**	**427,470**

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2013, but not managed until 2014.

Imported Solid Waste

Table 13 compares the tonnage of solid waste, by category, which was imported into the State for management to the total amount of solid waste managed at permitted solid waste

acceptance facilities in Maryland. Figure 3 illustrates the amount of imported versus Maryland-generated solid waste managed at permitted solid waste acceptance facilities. In CY 2013, Maryland's permitted solid waste acceptance facilities accepted waste from Arizona, California, Canada, Delaware, Georgia, Illinois, Kentucky, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Texas, Virginia, Washington D.C., West Virginia, and Wisconsin. Highlights include:

- ⊙ In 2013 (256,070 tons), there was a decrease of approximately 15.6 percent of the amount of solid waste imported into Maryland compared to calendar year 2012 (303,630 tons).
- ⊙ The solid waste imported into Maryland comprises 3.6 percent of the 7 million tons of solid waste managed at permitted Maryland solid waste acceptance and Natural Wood Waste facilities.
- ⊙ The facilities that received the most imported MSW were the Mountainview Sanitary Landfill in Allegany County, and Annapolis Junction Recycling and Transfer Station in Anne Arundel County.
- ⊙ C&D waste that was imported into Maryland was disposed at privately owned rubble landfills, or was processed into segregated recyclables that were then transferred to Mid-Atlantic recycling facilities. The landfill and processing facilities that received the majority of the imported C&D were Ritchie Reclamation Phase I & II, Lawrence Street C&D, Brandywine Enterprises, and Sun Services Processing and Recycling Center in Prince George's County; and Honeygo Run Reclamation Center in Baltimore County.

Table 13 – Maryland Imported Waste

Solid Waste Category	Tons of Solid Waste Imported Into Maryland	Jurisdictions Where the Solid Waste Originated	Tons Managed in Maryland
MSW	35,188	VA, PA, WV, NJ, DE District of Columbia	4,313,120
C&D	185,711	DE, NJ, PA, VA, WV, District of Columbia	1,910,808
Miscellaneous *	35,171	AZ, CA, DE, NY, PA, VA, WV, NC, WI, IL, GA, TX, NJ, MA, KY, SC, RI, Canada District of Columbia	1,126,293
TOTAL	256,070		7,350,221

* 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.

Figure 3 - Waste Managed Origin

Bar chart showing percentages for MSW, C&D, and Misc. materials, comparing "Generated in Maryland" and "Imported Waste":

- **MSW**: Generated in Maryland 99.18%, Imported Waste 0.82%
- **C&D**: Generated in Maryland 90.28%, Imported Waste 9.72%
- **Misc.**: Generated in Maryland 96.88%, Imported Waste 3.12%

X-axis: Material
Legend: ■ Generated in Maryland ■ Imported Waste
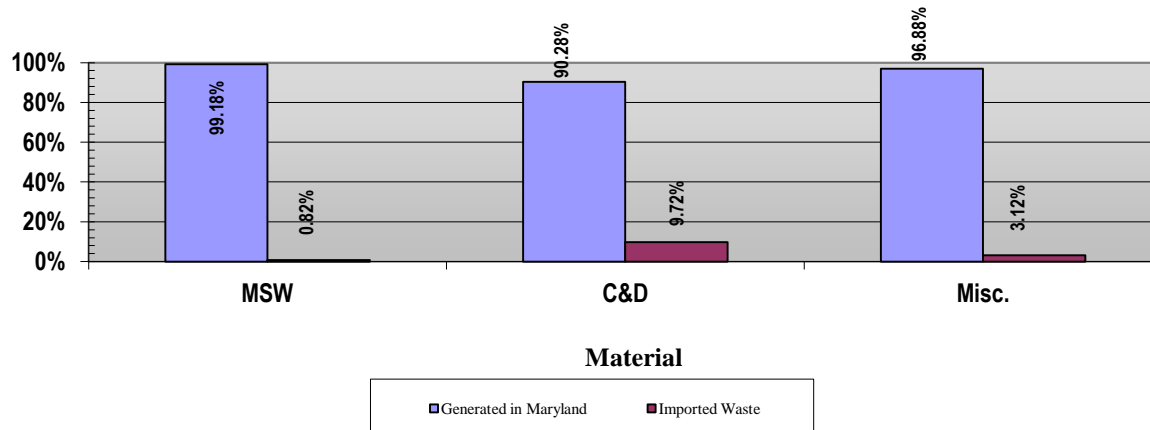
Exported Solid Waste

Due to economic considerations and the desire to conserve disposal capacity in Maryland landfills, all counties and Baltimore City transport some of their solid waste out of State for recycling or disposal. There was a decrease of approximately 15.2 percent in the amount of solid waste exported in 2013 from the amount of waste exported in 2012. Thirty eight (38) of the eighty two (82) permitted solid waste acceptance facilities exported nominal to significant amounts of their waste to 13 states.

Virginia was the most prevalent export destination for Maryland waste and accepted approximately 78.7 percent of the total exported waste. Ash from the Montgomery County Resource Recovery Facility in Dickerson was exported to Old Dominion Landfill in Virginia for recycling. Figure 4 illustrates, by percentage, where solid waste captured by Maryland's permitted solid waste acceptance facilities was managed. Table 14 gives a destination breakdown of solid waste exported by Maryland permitted solid waste acceptance facilities. Highlights include:

Figure 4 - Maryland Waste Managed per State

Bar chart, Y-axis: Percent of Total Waste Managed, X-axis: State

- **MD**: 69.83%
- **VA**: 23.74%
- **PA**: 6.01%
- **DE**: 0.26%
- **Others**: 0.16%
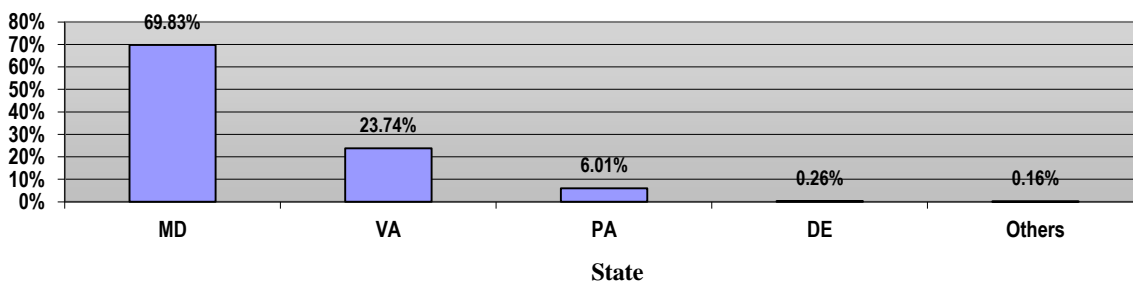
- ❖ Over 2.2 million tons of material (*i.e.*, recyclables and solid waste), consisting of MSW, C&D and miscellaneous wastes (including incinerator ash and recyclables) were transported outside Maryland for management. This represents 30 percent of the total solid waste managed at Maryland facilities.
- ❖ Approximately 167,541 tons of the 2,217,459 tons of Maryland exported material was incinerator ash that was sent to Virginia.
- ❖ A total of 38 facilities exported material for disposal or recycling to out-of-State facilities.
- ❖ The Annapolis Junction Recycling and Transfer Station, which transferred 520,633 tons of material, was the largest State exporter of solid waste.
- ❖ The majority (1,744,549 tons) of material exported went to Virginia.

Table 14 – Maryland Exported Material Tonnage by State Destination

Solid Waste Category	Virginia	Pennsylvania	Delaware	Other	Total (Tons)
MSW	1,041,538	342,834	0	264	**1,384,636**
C&D	516,710	50,791	7,978	0	**575,479**
Recycling	175,758	23,742	11,094	10,574	**221,168**
Miscellaneous *	10,543	24,642	0	991	**36,176**
TOTAL (Tons)	**1,744,549**	**442,009**	**19,072**	**11,829**	**2,217,459**

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

Solid Waste Management Practices

In 2013, 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 15 gives a breakdown of the management practices by the Maryland permitted solid waste acceptance facilities. Figure 5 details how Maryland solid waste was managed.

Table 15 – Maryland Solid Waste Management Practices

Solid Waste Management Method	Tons	Percentage of Total Solid Waste Managed
Landfilled in Maryland	2,288,941	31%
Exported	2,217,459	30%
Recycled/Reused in Maryland *	1,062,369	15%
Incinerated in Maryland	1,420,859	19%
Stored in Maryland Facilities	360,593	5%
TOTAL	**7,350,221**	**100%**

* Calculated by subtracting the total recycled out-of State (Table 14) from Tons Recycled/Reused (Table 3).

Figure 5 - Maryland Managed vs. Exported Waste
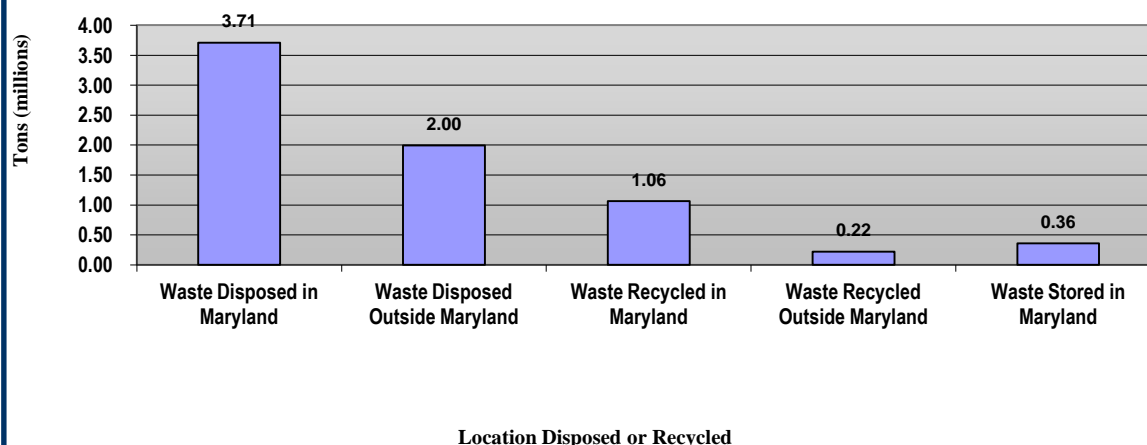
Landfill Capacity

Landfills in Maryland are required to report on their available cubic yard (CY) disposal capacity and the life expectancy of the facilities at the current disposal rates. Using the average compaction factor, based upon historical data, this remaining capacity is converted to tons.

MSW landfills (Table 16) reported a total available capacity of 53,439,306 tons with 1,605,424 tons being disposed in 2013. Thus, at the current disposal rate, there would be over 33 years (53,439,306 tons ÷ 1,605,424 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 16 – 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 2013 (CY)	Landfilled in 2013 (Tons)	Used in 2013 ^
Alpha Ridge Municipal Landfill	13,521,900	5,979,310	3,288,621	7,542,590	4,148,424	2051	1,238	0	0.01%
Appeal Municipal Landfill	2,799,290	613,871	368,322	2,185,419	1,311,252	2033	497	298	0.02%
Beulah Sanitary Landfill	1,910,325	1,561,951	1,504,727	348,374	334,916	2017	74,008	43,721	3.87%
Brown Station Road Landfill	16,505,000	11,593,000	7,888,820	4,912,000	3,342,832	2021	451,000	307,081	2.73%
Cecil County Central Landfill	6,527,539	4,644,683	2,879,703	1,882,856	1,167,371	2026	170,275	96,233	2.61%
Central Sanitary Landfill	4,800,000	2,111,606	1,478,123	2,688,394	1,881,887	2037	79,094	55,365	1.65%
Charles County Municipal Landfill	4,374,700	1,689,840	1,213,046	2,684,860	1,960,354	2034	102,119	74,000	2.33%
Eastern Sanitary Landfill	23,513,000	12,862,000	5,674,000	10,651,000	5,379,000	2051	185,000	81,023	0.79%
Fort Detrick – Area B & Main Post	1,000,900	113,771	90,327	887,129	703,386	2263	4,072	4,360	0.41%
Forty West Municipal Landfill	24,752,000	3,922,724	1,603,688	20,829,276	7,987,712	2119	186,459	76,106	0.75%

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 2013 (CY)	Landfilled in 2013 (Tons)	Used in 2013 ^
Garrett County Solid Waste Disposal & Recycling Facility	2,042,927	1,075,902	632,847	967,025	589,916	2034	48,932	26,064	2.40%
Harford Waste Disposal Center	2,980,000	2,864,795	1,096,578	115,205	103,685	2017	855	767	0.03%
Harford Waste Disposal Center (Expansion)	4,870,330	399,751	169,109	4,470,579	1,952,191	2028	190,400	97,196	3.91%
Midshore Regional Solid Waste Facility	3,924,994	3,684,695	2,032,481	240,299	126,246	2015	0	0	0.00%
Midshore II Regional Solid Waste Facility	7,800,000	693,388	355,341	7,106,612	4,324,659	2053	186,849	101,927	2.40%
Millersville Landfill & Resource Recovery Facility	14,156,000	5,026,935	3,016,161	9,129,065	5,477,439	2043	142,249	66,064	1.00%
Montgomery County Site 2**	0	0	0	0	0	N/A	0	0	0
Mountainview Sanitary Landfill	4,260,000	3,525,108	2,424,204	734,892	375,796	2022	97,235	84,736	2.28%
Newland Park Municipal Landfill	7,200,000	3,017,622	1,629,516	4,182,378	2,258,484	2038	176,081	95,084	2.45%
Northern Municipal Landfill	3,504,187	1,167,576	583,788	2,336,611	1,168,306	2055	28,295	14,147	0.81%
Quarantine Road Landfill	18,320,622	13,324,343	15,589,482	4,996,279	5,845,700	2026	285,763	334,342	1.56%
Reichs Ford/Site B Municipal Sanitary Landfill	7,326,426	3,962,386	2,228,842	3,364,040	1,892,273	2045	41,082	23,108	0.56%
St. Andrews Municipal Landfill*	1,500,000	0	0	1,500,000	750,000	2034	0	0	0
Somerset County Landfill – Fairmount Site	1,610,000	741,163	436,253	868,837	357,477	2026	36,720	23,802	2.28%
Totals	**179,200,140**	**84,576,420**	**56,183,979**	**94,623,720**	**53,439,306**		**2,488,223**	**1,605,424**	**1.39%**

* St. Andrews Municipal Landfill closed in 2001 (Permit No. 2000-WMF-0138). The current permit was issued for a new landfill that was never constructed. St. Mary's County uses permit 2010-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 2013 (CY) ÷ Permitted Capacity (CY)

Construction and Demolition Debris landfills (Table 17) reported a total available capacity of 12,202,688 tons with 510,354 tons disposed in CY 2013. At the current disposal rate, there would be approximately 24 years (12,202,688 tons ÷ 510,354 tons) of available C&D landfill capacity in Maryland.

Table 17 – 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 2013 (CY)	Landfilled in 2013 (Tons)	Used in 2013 ^
Baker Rubble Landfill	820,000	600,950	346,891	219,050	88,109	2020	30,978	15,489	3.78%
Days Cove Rubble Landfill – Lateral Expansion	3,192,000	2,084,560	1,266,180	1,107,440	893,820	2019	208,515	123,717	6.53%
Honeygo Run Reclamation Center	11,723,461	4,330,058	3,003,778	7,393,403	4,163,071	2049	167,002	103,541	1.42%
Ritchie Land Reclamation Partnership Phase I & II	12,655,800	6,615,599	6,615,599	6,040,201	6,040,201	2040	267,607	267,607	2.11%
Washington County Rubble Landfill	2,201,664	166,690	83,345	2,034,974	1,017,487	2061	0	0	0.00%
TOTALS	**30,592,925**	**13,797,857**	**11,315,793**	**16,795,068**	**12,202,688**		**674,102**	**510,354**	**2.20%**

^ Equal to Landfilled in 2013 (CY) ÷ Permitted Capacity (CY)

Industrial landfills (Table 18) reported a total available capacity of 12,293,260 tons. At a current disposal rate of 167,615 tons, there would be approximately 73 years (12,293,260 tons ÷ 167,615 tons) of available industrial landfill capacity in Maryland.

Table 18 – 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 2013 (CY)	Landfilled in 2013 (Tons)	Used in 2013 ^
W.R. Grace and Co. – Davison Chemical Division	495,000	132,807	159,843	362,193	335,157	2038	14,181	14,104	2.86%
Eastalco Aluminum Company	380,000	112,691	134,190	267,309	318,098	2015	33,174	62,636	8.73%
Essroc Cement Corporation	273,000	0	0	273,000	273,000	2020	0	0	0.00%
Millennium Inorganic Chemicals – HPP Landfill	7,293,378	2,404,196	4,270,607	4,889,182	4,590,847	2096	58,889	73,804	3.18%
Fort Armistead Road – Lot 15	6,300,000	139,856	153,842	6,160,144	6,776,158	2037	15,518	17,071	2.46%
TOTALS	**14,741,378**	**2,789,550**	**4,718,482**	**11,951,828**	**12,293,260**		**121,762**	**167,615**	**0.25%**

^ Equal to Landfilled in 2013 (CY) ÷ Permitted Capacity (CY)

Landclearing Debris landfills (Table 19) reported a total available capacity of 145,258 tons with 4,647 tons disposed in CY 2013. At the current disposal rate, there would be approximately 31 years (145,258 tons ÷ 4,647 tons) of available landclearing debris landfill capacity in Maryland.

Table 19 – 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 2013 (CY)	Landfilled in 2013 (Tons)	Used in 2013 ^
Howlin Landclearing Debris Landfill	64,120	47,721	59,651	16,399	20,499	2016	1,548	1,935	2.41%
Knott Landclearing Debris Landfil	94,500	75,753	6,889	18,747	1,111	2018	130	12	0.14%
Hance Landclearing Debris Landfil	267,053	126,973	63,486	140,080	70,040	2044	0	0	0.00%
Hill Landclearing Debris Landfil	25,439	22,600	33,900	2,839	4,258	2015	0	0	0.00%
M.T. Parran Landclearing Debris Landfill	55,180	22,200	32,200	32,980	49,350	2025	1,800	2,700	3.26%
TOTALS	**506,292**	**295,247**	**196,126**	**211,045**	**145,258**		**3,478**	**4,647**	**0.69%**

^ Equal to Landfilled in 2013 (CY) ÷ Permitted Capacity (CY)

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 landfills, 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 across Maryland by partnering with Maryland's jurisdictions and the public and private sectors to develop markets for recyclable materials. MDE also works with other State agencies to increase the volume of materials that are diverted from landfills.

The quantities of solid waste <u>disposed</u> in this Part were gathered from Maryland Recycling Act (MRA) Tonnage Reporting Surveys, filed by Maryland Counties and Baltimore City with MDE, which capture solid waste exported directly out of State without passing through a Maryland permitted facility, and from Maryland permitted Solid Waste Tonnage Reports filed with MDE.

Maryland's Legislative Mandate

In 1988, the **Maryland Recycling Act (MRA)** mandated that MDE reduce the disposal of solid waste in Maryland through management, education, and regulation. Since the original passage, the MRA has been amended to improve recycling in Maryland. The MRA requires:

1. Each jurisdiction to develop and implement recycling programs by January 1, 1994. Jurisdictions with populations greater than 150,000 are currently required to recycle 20 percent or more of their waste and jurisdictions with populations less than 150,000 are currently required to recycle 15 percent or more of their waste. In no case is the recycling rate to be less than 10 percent. (See Number 14 for an update.)
2. Each jurisdiction to select the materials to be recycled and the manner in which they are separated and processed. If a jurisdiction fails to meet the specified reductions, State and local authorities can prohibit the issuance of building permits for all new construction.
3. State Government to reduce by recycling the amount of the solid waste stream generated for disposal by at least 20 percent or to an amount that is determined practical and economically feasible, but in no case may the amount to be recycled be less than 10 percent. Additionally, State Agency recycling plans shall include a system for the recycling of aluminum, glass, paper, and plastic generated for disposal. (See Number 14 for an update.)
4. Telephone directories distributed in the State to have a recycled content, by weight, of 40 percent in 2005 and all subsequent years.
5. Newsprint distributed in the State to have a 3-year rolling average recycled content, by weight, of 40 percent in 2005 and all subsequent years.
6. Counties to address the feasibility of composting mixed solid waste when developing solid waste management plans (1992).
7. Including composting in the calculation of the recycling rate (1992).
8. Banning separately collected yard waste from disposal at solid waste acceptance facilities (1994).
9. A county recycling plan to address the collection, processing, marketing, and disposition of recyclable materials from county public schools; requiring a county to submit a revised recycling plan to MDE by October 1, 2010 (2009).

10. By July 1, 2010, the State Agency Recycling Plan to address the placement of collection bins and the recycling of aluminum, glass, paper, and plastic; each agency and unit of State government must implement the plan by January 1, 2012 (2009).
11. A county recycling plan to address the collection and recycling of fluorescent and compact fluorescent lights that contain mercury; requiring a county to submit a revised recycling plan to MDE by October 1, 2011 (2010).
12. Each property owner or manager of an apartment building or a council of unit owners of a condominium with 10 or more units to provide recycling for the residents of the dwelling units by October 1, 2014 (2012).
13. A covered electronics device (CED) manufacturer to pay an annual registration fee based on the number of covered electronic devices sold in Maryland the previous year. The registration revenue may be used to provide grants to counties and municipalities for CED recycling activities (2012).
14. A county with a population greater than 150,000 to recycle 35 percent and a county with a population less than 150,000 to recycle 20 percent of its waste stream by December 31, 2015. State agencies must implement a recycling plan with a 30 percent recycling rate mandate (2012).
15. A county recycling plan to address, by October, 2015, recycling at certain special events held on publicly owned property (2014).

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

Additional legislative action impacting recycling in Maryland includes:

- Banning scrap tires from disposal in a landfill after January 1, 1994 (1991).
- Requiring permits for private natural wood waste recycling facilities (1992).
- Requiring mercuric oxide battery manufacturers to be responsible for the collection, transportation, and recycling or disposal of these batteries sold or offered for promotional purposes in the State (1994).
- Establishing a program or system for the collection, recycling, or disposal of each cell, rechargeable battery or rechargeable product sold in the State (1994).
- Establishing a voluntary, State-wide waste diversion goal of 40 percent by the year 2005, consisting of a 35 percent MRA recycling rate plus up to 5 percent credit for source reduction activities (2000).
- Reducing the impact of mercury in the environment by requiring that MDE provide outreach assistance to schools, businesses, and the general public relating to the proper management and recycling of mercury-containing products; prohibiting the sale of mercury thermometers beginning in 2002 (2001).
- Prohibiting the sale of mercury containing thermostats by October 2007; requiring MDE to report to the Governor and Legislature detailing the State-

wide collection, reclamation, and recycling of all products containing mercury (2006).

‣ Requiring motor vehicle manufacturers to develop and submit to MDE a mercury minimization plan that includes information on mercury switch removal from motor vehicles (2009).

‣ The voluntary statewide recycling and waste diversion goals increase to 55 percent and 60 percent, respectively for 2020 (2012).

Maryland's 48.2 Percent Waste Diversion Rate

The recycling rate plus the source reduction (SR) credit make up the waste diversion rate. Through the efforts of its citizens, businesses, and government agencies, Maryland achieved a State-wide waste diversion rate of 48.2 percent in calendar year (CY) 2013. The 48.2 percent waste diversion rate was composed of a 44.5 percent MRA recycling rate and a 3.7 percent SR credit. This exceeds the voluntary MRA 40 percent waste diversion goal targeted for 2005 but falls short of the 60 percent waste diversion goal for 2020. Figure 6 provides a historical breakdown of Maryland's waste diversion rate.

Figure 6 – Waste Diversion Rate
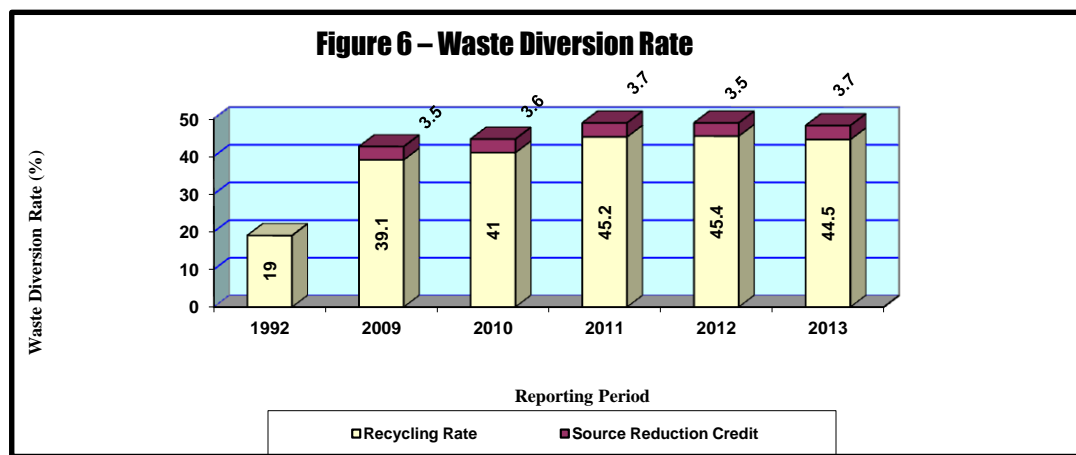
Maryland's 44.5 Percent Recycling Rate

In CY 2013, Maryland residents and businesses recycled 44.5 percent ((MRA recycling tonnage + resource recovery facility credit) ÷ (MRA recycling tonnage + MRA waste disposed)) of the municipal solid waste generated. The resource recovery facility (RRF) credit is provided under the MRA in Environment Article, §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 percent in the volume of its waste through the utilization of one or more resource recovery facilities in operation as of January 1, 1988." The RRF credit is being issued for the first time in over 15 years after a review of Environment Article, §9-1703(d), Annotated Code of Maryland, by MDE's Office of the Attorney General, at the request of the Northeast Maryland Waste Disposal Authority (see Page 46 for more information on the Northeast Maryland Waste Disposal Authority). To encourage more recycling, states across the country are seeking alternative ways (e.g., single stream recycling, Pay-As-You-Throw

Programs, etc.) to ensure that recycling continues to gain in popularity as a waste management option. Many states, including Maryland, are investigating new commodities to bring into the recycling stream, while continuing to promote the benefits of recycling.

Figure 7 summarizes the recycling tonnages since 1992 and Figure 8 categorizes the total MRA tons recycled by material in CY 2013. Compostables and paper materials constituted the largest portion of materials recycled. Table 20 details recycling and waste diversion totals for each of Maryland's jurisdictions.

Figure 7 – MRA Recycling Tonnage

Figure 8 – MRA Materials Recycled Breakdown
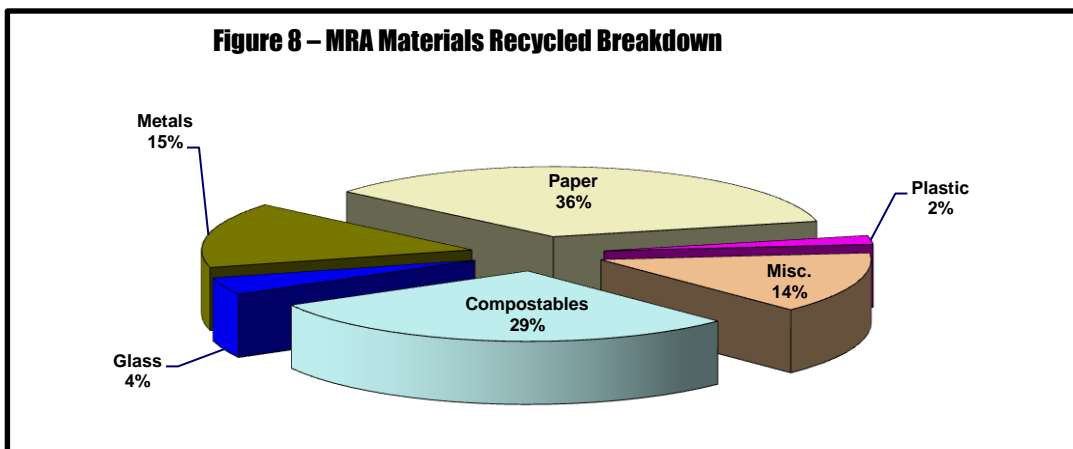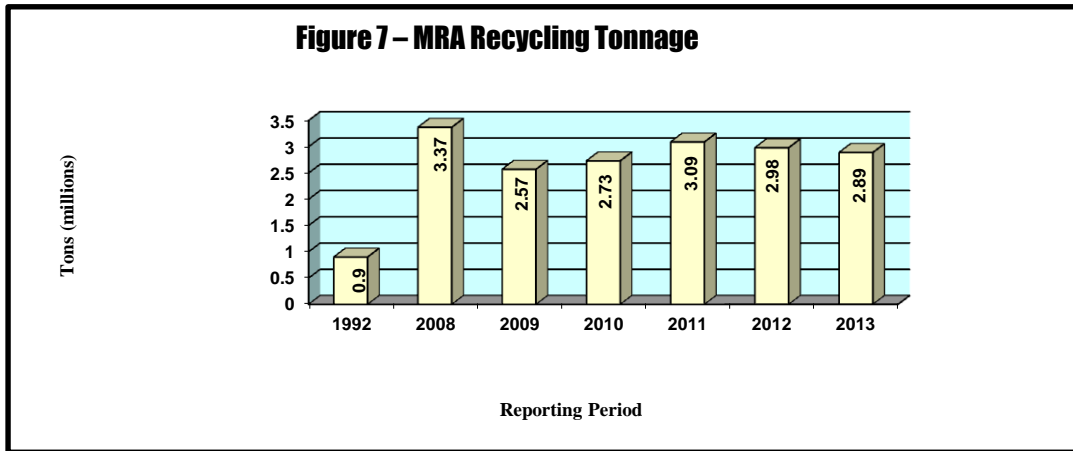
Table 20 – County Recyclables by Commodity in Tons for Calendar Year 2013

Compiled by the Maryland Department of the Environment from Reports Submitted for Calendar Year 2013

County	MRA Rate[2] (%)	Waste Diversion Rate[3] (%)	Maryland Recycling Act (MRA) Materials							Non-MRA Recyclables[4]	Total Recycling*
			Compostables	Glass	Metals	Paper	Plastic	Misc.	Subtotal		
Allegany	34.33	**36.33**	4,615	235	7,255	12,734	1,562	9,050	**35,451**	571,011	606,462
Anne Arundel	41.18	**45.18**	121,599	12,499	26,875	96,052	7,325	11,150	**275,500**	225,836	501,336
Baltimore City	19.41	19.41	9,640	4,853	9,220	48,181	2,953	24,196	**99,043**	323,053	422,096
Baltimore County	36.53	**41.53**	71,890	9,864	77,500	96,653	8,713	27,953	**292,573**	282,277	574,850
Calvert	33.09	33.09	1,544	1,518	1,753	10,030	924	1,884	**17,653**	56,342	73,995
Carroll	38.96	**43.96**	33,587	10,063	8,141	9,442	4,172	1,504	**66,909**	786,242	853,151
Cecil	33.85	**37.85**	10,622	588	7,130	11,051	1,674	964	**32,029**	14,447	46,476
Charles	50.86	**54.86**	23,667	3,742	21,038	27,613	2,721	2,350	**81,131**	411,257	492,388
Dorchester	35.95	35.95	739	299	116	9,882	218	5,024	**16,278**	1,701	17,979
Frederick	49.50	**54.50**	29,842	3,097	6,281	44,756	2,359	47,794	**134,129**	36,161	170,290
Garrett	56.39	**57.39**	20,177	241	850	2,594	80	1,590	**25,532**	3,741	29,273
Harford	53.19	**58.19**	57,512	2,570	1,986	54,590	830	4,929	**122,417**	5,713	128,130
Howard	45.27	**49.27**	97,903	10,730	4,056	100,296	4,381	7,872	**225,238**	26,395	251,633
Mid-Shore[1]	56.94	56.94	27,220	2,972	2,990	29,235	1,445	58,618	**122,480**	100,619	223,099
Montgomery	55.18	**60.18**	185,613	23,763	92,330	139,220	9,103	159,122	**609,151**	88,213	697,364
Prince George's	59.53	**64.53**	73,930	11,946	151,499	184,905	8,392	9,845	**440,517**	424,113	864,630
Somerset	12.57	12.57	12	44	1,234	149	39	931	**2,409**	7,307	9,716
St. Mary's	41.31	**45.31**	9,236	1,112	4,528	7,033	757	1,786	**24,452**	35,782	60,234
Washington	61.89	61.89	2,850	2,507	980	72,849	1,467	1,779	**82,432**	19,958	102,390
Wicomico	41.91	41.91	26,114	1,651	4,225	13,809	3,195	16,297	**65,291**	19,726	85,017
Worcester	29.18	29.18	12,310	1,177	787	2,445	391	10,181	**27,291**	33,227	60,518
State Highways of Additional Asphalt and Concrete Recycled										10,000	10,000
TOTAL*	44.48	48.14	820,622	105,471	430,774	973,519	62,701	404,819	2,797,906	3,483,121	6,281,027

* Due to rounding, tonnage totals in this table may differ slightly from the sum of actual values (*i.e.*, MRA Recyclables = 2,797,904.57, Non-MRA Recyclables= 3,483,120.88 tons, Total 6,281,025.45 tons. The MRA recycling rate includes an additional 96,840.57 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.

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 39.9 percent U.S. Environmental Protection Agency (EPA) Recycling Rate – State recycling laws determine which types of materials count towards a State's recycling rate. The differences in state laws make the comparison of recycling activities between states difficult. In an effort to compare state data and generate a U.S. recycling rate, the EPA has developed recycling criteria that standardizes which materials count toward the recycling rate. This can then be used to compare data amongst 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 483,234 tons to 2,411,511 tons, for an EPA recycling rate of 39.9 percent. EPA's recycling rate goal is 35 percent by 2008.

Maryland's 3.7 Percent Source Reduction Credit

In 2013, 13 of Maryland's jurisdictions were able to add from 1 point to 5 points to their waste diversion rate by emphasizing SR activities as a waste reduction strategy. They accomplished this 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 2013 is available in the "State, County, and City Recycling Rates" section of MDE's web page at www.mde.maryland.gov/recycling.

Non-profit groups are partnering with government (*e.g.*, Baltimore Animal Rescue and Care Shelter, Inc. and Baltimore City) to increase awareness of source reduction and reuse opportunities for materials such as linens, pet supplies, medical equipment, clothing, and computers. The partnering provides businesses with information on how to improve their bottom lines through recycling and SR.

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 money spent on 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. Almost 3.5 million tons of non-MRA materials were reported as recycled in 2013. Table 21 offers a breakdown by category of the non-MRA materials reported as recycled in 2013.

Table 21 – Recycling of Non-MRA Materials in Tons

Compiled by the Maryland Department of the Environment
from Reports Submitted for Calendar Year 2013

MATERIAL	TONS RECYCLED
Antifreeze	2,610
Asphalt & Concrete	778,823
Coal Ash	928,656
Construction/Demolition Debris	176,384
Landclearing Debris	143,080
Scrap Automobiles	153,819
Scrap Metal	727,814
Sewage Sludge	108,588
Soils	268,679
Waste Oil	13,621
Other Materials	181,046
TOTAL	**3,483,120**

Maryland's 31.64 Percent All StAR Recycling Rate

The All StAR (**All St**ate **A**gencies **R**ecycle) 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 recycling is directed by the 1988 MRA (*i.e.*, § 9-1706 of the Environment Article, Annotated Code of Maryland), which mandates that State government achieve an overall waste reduction goal of at least 20 percent, or an amount that is determined "practical and economically feasible," but in no case less than 10 percent. This increases to 30 percent in 2014, with the passage of House Bill 929: Environment – Recycling Rates and Waste Diversion –Statewide Goals, Chapter 692 Acts of 2012. In addition, Executive Order *01.01.2001.02 Sustaining Maryland's Future with Clean Power, Green Buildings and Energy Efficiency (EO)* requires each State agency to annually divert or recycle at least 20 percent of the waste they generate. The MRA also requires State agencies to have a recycling plan, by January 1, 2012, that addresses 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. As part of House Bill 929's implementation process, MDE asked all State agencies to revise their recycling plans to include steps towards reaching the 2014 30 percent goal. The revised plans were due to MDE by December 2012. In an effort to lead by example, MDE is asking each State agency to go a step further and set a recycling goal of at least 40 percent in 2015 in the plan update.

In 2013, State agencies recycled approximately 30,182 tons of MRA materials for an overall MRA recycling rate of 31.64 percent. Beginning with calendar year 2012 data, a change was made to the volume-to-weight conversion factors used by some State agencies when estimating the amount of waste disposed. As a result, State agencies using the new conversion factors would show a recycling rate reduction, compared to previous years, even if the amount of material recycled remained constant. The conversion factors were revised in MDE's ongoing effort to provide an accurate representation of waste disposed totals. The new conversion factors are in line with the current volume-to-weight conversion factors published by the U.S. Environmental Protection Agency. A review of volume-to-weight conversion factors is needed as waste disposal technologies change and improve (*e.g.*, waste compactors) and the amount of material used in the manufacture of a product changes (*e.g.*, in 1972 a 12-fluid-ounce aluminum can weighed approximately 0.727 ounces; presently the same type of can weighs approximately 0.46 ounces). Figure 9 provides a historical breakdown of Maryland's All StAR recycling rate and Figure 10 summarizes the recycling tonnages since 2008. Table 22 summarizes the performance of each State agency participating in the All StAR program.

Figure 9 – All StAR Recycling Rate

Reporting Period	Recycling Rate (%)
2009 *	18.24
2010*	19.31
2011*	25.31
2012	28.08
2013	31.64
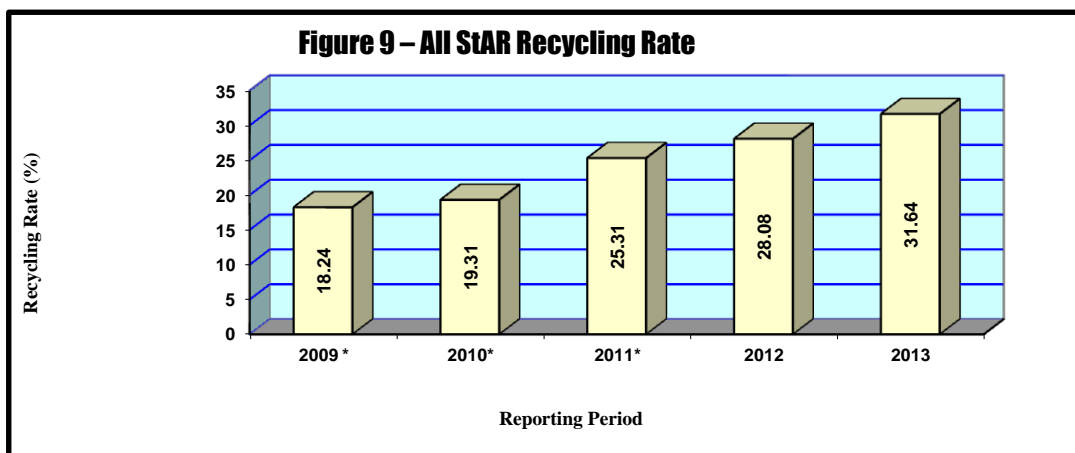
* In order to compare the recycling rate trend, the previous recycling rates wer recalculated using the updated volume-to-weight conversion factors. The recycling rate reported will not agree with the recycling rate previously reported. Please see text in this section for further details.

Figure 10 – All StAR Recycling Tonnage

Reporting Period	Tons
2009	23,413
2010	19,070
2011	30,754
2012	32,998
2013	30,182
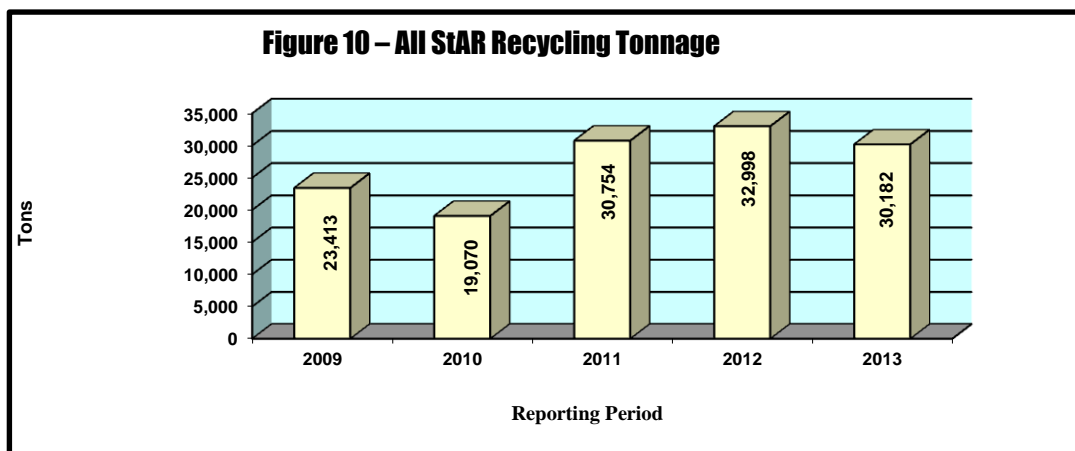
Also, State government recycled 202,626 tons of non-MRA materials, including construction and demolition debris, antifreeze, motor oil, scrap metal, land clearing debris, concrete, and asphalt, that do not count toward the MRA Recycling Rate. A complete breakdown of the 2013 All StAR statistics is available under "State Agency Recycling" on MDE's web page at www.mde.maryland.gov/recycling. MRA tonnages reported by State agencies are included in the 2013 recycling totals reported by the counties (Table 20).

Table 22 – Maryland State Agencies' 2013 Recycling Rates

Compiled by the Maryland Department of the Environment from Reports Submitted for Calendar Year 2013

Agency Name	No. of Sites	No. of Sites Reporting	No. of People	Total MRA Recycling 2013 (tons)	2013 MRA Recycling Rate (%)
Baltimore City Community College	1	1	8,796	35.54	3.98
Comptroller of the Treasury	**1**	**1**	**800**	**131.48**	**82.03**
Department of Agriculture	2	2	216	30.54	12.94
Department of Assessments and Taxation	**15**	**13**	**339**	**21.50**	**32.28**
Department of Budget and Management	**1**	**1**	**185**	**25.50**	**69.67**
Department of Education	**29**	**29**	**1,415**	**110.44**	**26.36**
Department of General Services	**23**	**23**	**7,803**	**860.06**	**31.05**
Department of Health and Mental Hygiene	18	15	4,682	1,474.46	13.68
Department of Human Resources	33	9	1,510	139.74	15.00
Department of Juvenile Services	15	15	2,891	484.90	16.89
Department of Labor, Licensing & Regulation	**13**	**13**	**1,366**	**235.63**	**28.43**
Department of Natural Resources	7	7	517	41.16	15.73
Department of the Environment	**5**	**5**	**973**	**145.82**	**65.51**
Department of Transportation	**88**	**88**	**26,218**	**12,273.89**	**47.39**
Department of Veterans Affairs	**15**	**1**	**800**	**197.73**	**24.46**
Dept. of Housing and Community Development	3	3	431	43.38	10.73
Dept. of Public Safety and Correctional Services	31	19	12,969	2,090.82	19.13
Gov's Office Crime Control Prevention	1	1	800	2.31	10.69
Judiciary of Maryland	1	0	NR	NR	NR
Maryland Automobile Insurance Fund	**1**	**1**	**250**	**85.48**	**48.27**
Maryland Department of Disabilities	**1**	**1**	**24**	**3.96**	**45.83**
Maryland Department of Planning	1	1	40	9.56	7.89
Maryland Energy Administration	1	0	NR	NR	NR
Maryland Environmental Service	**4**	**4**	**253**	**16.70**	**62.38**
Maryland Food Center Authority	1	1	1,325	470.86	8.68
Maryland General Assembly	1	0	NR	NR	NR
Maryland Insurance Administration	**1**	**1**	**1,207**	**26.72**	**52.68**
Maryland Military Department	1	0	NR	NR	NR
Maryland Public Broadcasting Commission	1	1	200	49.95	19.13
Maryland School for the Deaf	**2**	**2**	**669**	**101.18**	**28.49**
Maryland Stadium Authority	**1**	**1**	**1,000**	**599.12**	**24.50**
Maryland State Archives	1	1	86	1.79	7.92

Agency Name	No. of Sites	No. of Sites Reporting	No. of People	Total MRA Recycling 2013 (tons)	2013 MRA Recycling Rate (%)
Maryland State Police	**29**	**29**	**1,683**	301.24	**21.11**
Maryland Emergency Management Agency	1	1	79	0.51	1.21
Morgan State University	1	1	9,241	90.79	14.14
St. Mary's College of Maryland	**1**	**1**	**2,558**	315.40	**22.26**
Subsequent Injury Fund	1	0	NR	NR	NR
University of Maryland System	**17**	**17**	**80,843**	9,764.10	**40.13**
TOTAL	**369**	**309**	**172,169**	**30,182.26**	**31.64**

* State employees comprise approximately 70,394 of the total number of people at State Agency Locations.

^ The 1988 Maryland Recycling Act mandates a State Government recycling rate of at least 20 percent.

Bold Type – Satisfied the 20 percent recycling rate ☐ At the time the report was written, not all offices reported
NR = No Report filed at time of publishing

State agencies achieve cost savings by boosting the amount of waste diverted to recycling and by reducing the total amount of waste generated. Greater savings are realized by reducing the amount of waste generated. Consider the following money-saving scenarios based upon 2013 data with an average Maryland tipping fee of $58:

- $ Maryland State government potentially realized $1,750,556 of avoided disposal costs by recycling 30,182 tons of MRA material.
- $ If each State agency (per the EO) achieves a 20 percent recycling rate <u>by increasing its MRA tonnage</u>, $106,959 in additional avoided disposal costs would be realized for a potential total savings of $1,857,515.
- $ If each State agency (per the EO) achieves a 20 percent recycling rate <u>by decreasing the amount of waste generated</u>, additional savings of $534,799 would be realized for a potential total savings of $2,285,355.

MDE provides technical support, on-site expertise, and publishes the *All StAR News*, a newsletter devoted to recycling in State government; see Appendix D 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 to offer 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. Legislation requiring State offices to recycle will not address this issue. To address this issue, State office leases issued through the Lease Management and Procurement Division of the Department of General Services (DGS) require recycling to be integrated into State office space leases and janitorial contracts. This requirement was phased in beginning in 2013.

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 money to execute a recycling contract, establish material staging areas, and identify proper recycling bin locations.

Climate Change

Atmospheric concentrations of greenhouse gases (GHG) such as carbon dioxide, methane, and nitrous oxide, which trap the sun's energy from radiating back into space, have dramatically increased since the Industrial Revolution of the mid 19th century. Largely as a result of this increase in GHGs, average global temperature and sea level began to increase rapidly during the 20th century. As a result of this change in climate, Maryland can expect to see changes to its: water resources and aquatic environments; farms and forests; coastline; Chesapeake Bay and coastal ecosystems; and human health.

According to the U.S. EPA, energy-related activities account for three-quarters of human-generated GHG emissions in the U.S. More than half of the energy-related emissions come from large stationary sources such as power plants, while about a third comes from transportation. Industrial processes (such as the production of cement, steel, and aluminum), agriculture, forestry, other land use, and waste management are also important sources of greenhouse gas emissions in the United States.

In April 2007, in response to the mounting evidence of the adverse impacts that climate change has on the environment, Governor Martin O'Malley established the Maryland Commission on Climate Change (Commission). The Commission was charged with developing a plan for Maryland that discusses the drivers and consequences of climate change, identifies the necessary preparations for its ensuing impacts on the State, and establishes firm benchmarks and timetables for policy implementation. Additional information on climate change and the Maryland Commission on Climate Change are available on MDE's web page at http://climatechange.maryland.gov/ and the EPA's web page at www.epa.gov/climatechange/index.html.

Using the EPA WARM (**Wa**ste **R**eduction **M**odel), Tables 23 and 24 detail greenhouse gas and energy scenarios over the lifecycle (*i.e.*, from production of a glass bottle → use of a glass bottle → disposal/recycling of glass bottle → production of a new glass bottle) of common recyclable materials when comparing alternative solid waste management methods vs. the landfilling of a product. In all cases where either recycling or source reduction is used instead of landfilling, there were savings in the amount of greenhouse gasses emitted or energy used. Only when combusting a material instead of landfilling it were there increases in the amount of greenhouse gasses emitted or energy used.

Tables 25 and 26 detail product lifecycle GHG emissions and energy use with and without waste diversion activities in Maryland in CY 2013. In Table 25, for example, the GHG emissions associated with the lifecycle of glass is 14,661 metric tons of carbon dioxide (CO_2) equivalent without waste diversion (*i.e.*, recycling and source reduction) activities, and -33,807 metric tons of CO_2 equivalent with Maryland's waste diversion activities, for a total savings of

48,468 (*i.e.*, 14,661 + 33,807) metric tons of CO_2 equivalent. Additional information on EPA's WARM is available at www.epa.gov/climatechange/wycd/waste/calculators/Warm_home.html.

Table 23 – Per Ton Greenhouse Gas Emissions

Material	$MTCO_2E$* – Landfilled	$MTCO_2E$* – Source Reduced	$MTCO_2E$* – Recycled	$MTCO_2E$* – Combusted
Aluminum Cans	0 **	(4.96) **	(9.15) **	0.01 **
PET Plastic Bottles	0 **	(2.25) **	(1.17) **	1.20 **
Newspaper	0 **	(4.08) **	(2.05) **	0.14 **
Glass	0 **	(0.56) **	(0.32) **	0.01 **

* 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 $MTCO_2E$ – Landfilled a value of 0. A negative value (*i.e.*, a value in parentheses) indicates an emission reduction, while a positive value indicates an emission increase compared to the landfilling of a material.

Table 24 – Per Ton Energy Use

Material	BTU^ (million) – Landfilled	BTU^ (million) – Source Reduced	BTU^ (million) – Recycled	BTU^ (million) – Combusted
Aluminum Cans	0 **	(90.19) **	(153.29) **	0.10 **
PET Plastic Bottles	0 **	(50.91) **	(32.58) **	(10.84) **
Newspaper	0 **	(36.83) **	(16.88) **	(8.06) **
Glass	0 **	(7.40) **	(2.65) **	0.00 **

^ 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 25 – Maryland Waste Diversion and Greenhouse Gas Emissions for Calendar Year 2013

MRA Material	$MTCO_2E$* NWD^	$MTCO_2E$* WD^^	$MTCO_2E$* Savings	MTCE** NWD^	MTCE** WD^^	MTCE** Savings
Compostables	323,328	265,800	(57,528)	88,180	72,491	(15,689)
Glass	14,661	(33,807)	(48,468)	3,998	(9,220)	(13,218)
Metals	(227,891)	(1,904,648)	(1,676,756)	(62,152)	(519,449)	(457,297)
Paper	227,441	(4,231,283)	(4,458,724)	62,029	(1,153,986)	(1,216,016)
Plastic	440,039	252,705	(187,334)	120,011	68,920	(51,091)
Miscellaneous	14,548	(231,122)	(245,670)	3,968	(63,033)	(67,001)
TOTAL	**792,126**	**(5,882,354)**	**(6,674,480)**	**216,034**	**(1,604,277)**	**(1,820,312)**

* $MTCO_2E$ = Metric Tons of Carbon Dioxide Equivalent
** MTCE = Metric Tons of Carbon Equivalent
^ NWD = No Waste Diversion (baseline = 61.7% landfilled and 38.3% incinerated)
^^ WD = Waste Diversion from Maryland CY 2013 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 26 – Maryland Waste Diversion and Energy Use for Calendar Year 2013

(in million BTUs)

MRA Material	BTUs* NWD^	BTUs* WD^^	BTU* Savings
Compostables	(1,433,442)	(697,389)	736,053
Glass	187,653	(251,777)	(439,430)
Metals	(2,465,081)	(28,132,306)	(25,667,225)
Paper	(5,822,408)	(22,914,952)	(17,092,544)
Plastic	(4,476,653)	(8,700,365)	(4,223,712)
Miscellaneous	(1,052,191)	(4,693,886)	(3,641,695)
TOTAL	**(15,062,122)**	**(65,390,675)**	**(50,328,553)**

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

^ NWD = No Waste Diversion (baseline = 61.7% landfilled and 38.3% incinerated)

^^ WD = Waste Diversion from Maryland CY 2013 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 nearly 6.7 million metric tons of CO_2 equivalent emission savings produced by Maryland's waste diversion activities in 2013 (Table 25) are the equivalent of removing over 1.41 million passenger cars from the roadway each year or conserving over 751 million gallons of gasoline, over 278 million cylinders of propane used for home barbeques, or over 35,700 railway cars of coal. The 50.3 trillion british thermal unit (BTU) energy savings reported in Table 26 are the equivalent of the annual energy consumption of over 457,000 households (*i.e.*, 21 percent of the estimated 2,161,680 households in Maryland in 2013), or the amount of energy contained in over 8.7 million barrels of oil or over 405 million gallons of gasoline.

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.

⊙ With information resources provided by MDE, recycled content items and the recycling process is being discussed in county presentations to schoolchildren in grades K-12.

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 a lesser or reduced impact on human health and the environment.
- ❖ MDE works cooperatively with the Maryland Department of General Services (DGS) to promote government purchasing of materials with recycled content.
  - In FY 2013, buying paper products made with recycled content paper was the rule, not the exception, with nearly all of the paper products (*e.g.*, bond paper, computer paper, etc.) purchased made from recycled content paper.
  - Details on State procurement guidelines along with lists of products available with recycled content such as picnic tables, park benches, and re-refined motor oil are available on the DGS web page at www.dgs.maryland.gov/Procurement/index.html. Local jurisdictions in Maryland are able to piggyback on State procurement contracts.
  - Boilerplate language stating, "All products used in packing to cushion and protect during the shipment of commodities are to be made of recycled, recyclable, and/or biodegradable materials" is included in all Maryland Invitation to Bid Solicitations and Purchase Orders.

Special Programs

From July 2012 through June 2013, 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 percent 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 (reporting period is comprised of the current calendar year and the immediately preceding two calendar years) where the recycled content percentage requirement is not met, each newspaper publisher who distributes a newspaper in Maryland shall satisfy the recycled content percentage requirement or pay a fee of $10 per ton for each ton a publisher falls below the 40 percent requirement. In the reporting period ending CY 2013, the newsprint recycled content percentage was 48.5 percent, exceeding the requirements of the MRA.

Table 27 contains 54 known publishers that distribute 145 different newspapers in Maryland. MDE continues to seek increased compliance from publishers who did not fulfill reporting requirements.

Table 27 – Maryland Newspaper Publishers

Publisher	Content %	Publisher	Content %
A&C Business News	25.3	Herald-Mail	37.3
Afro-American Newspapers	49.1	Independent Newspapers, Inc.	48.7
American Farm Publications	45.5	Kimbel Publications	38.1
Ascend Communications	NR	Korea Daily	86.2
Asian Fortune	36.5	Landmark Community Newspapers	39.8
Baltimore Business Journal	NR	Latin American Times	NR
Baltimore Sun Media Group	80.1	Legal Times	NR
Baltimore Times Publications	NR	Maryland Coast Dispatch	NR
Bay Weekly	48.5	Morgan Messenger	20.9
Capital-Gazette Newspapers	47.0	New York Daily News	76.7
Carroll Publishing Company	27.2	New York Times Company	24.5
Catholic Review	30.8	News Journal, Wilmington	6.3
Chatsworth Enterprises	38.8	Post Newsweek Media	45.8
Chesapeake Publishing Corporation	27.7	Prince George's Post	26.8
Citizen Communications, Inc.	NR	Randall Family, LLC	15.2
City Paper	NR	Sentinel Newspapers	NR
Connection Publishing	NR	Sincell Publishing Company	NR
Courier	49.8	Southern Maryland Publishing Co.	NR
Cumberland Times News	20.9	USA Today	1.2
Daily Record	40.7	Washington Business Journal	NR
Dow Jones & Company	10.7	Washington County Pickett	NR
El Tiempo Latino	33.3	Washington Newspaper Company	NR
Express Publications Company, LLC	47.0	Washington Newspaper Publishing Co., LLC	39.5
Flag Communications	43.0	Washington Post	37.0
FT Publications, Inc.	30.0	Washington Times	75.8
Gannett Company, Inc.	4.6	Western Montgomery Bulletin	NR
Gay & Lesbian Community Ctr. Of Baltimore	40.6		
Greenbelt Cooperative Publishing	NR	**Statewide**	48.5
NR – Did not report		% based upon partial reporting period data	

Telephone Directory

The MRA requires telephone directory publishers, who 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, by weight, of at least 40 percent. Publishers of telephone directories must file an annual report with MDE detailing the recycled directory stock content used in their directories.

There are two known publishers of telephone directories distributed in the State of Maryland. In 2013, recycled content for these directories was reported as follows:

   ✖ Dex Media - 40 percent recycled content; and
   ✖ Hibu – 1.4 percent recycled content.

Each telephone directory publisher who distributes a telephone directory in Maryland shall satisfy the recycled content percentage requirement or pay a fee of $10 per ton for each ton a publisher falls below the 40 percent requirement. Per the MRA, any publisher of telephone directories distributed in the State who fails to submit the required report shall be deemed to have failed to meet the percentages established. In 2013, Hibu was granted a 1-year exemption from meeting the 40 percent recycled content requirement due to a 60% reduction in the use of directories and the use of lighter directory stock.

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 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. In 2012, the Maryland General Assembly passed House Bill 879 Environment, Chapter 400 – Statewide Electronics Recycling Program, modifying the SERP. Effective October 1, 2012, the modified SERP now bases the annual registration fee on the number of CEDs sold in Maryland the previous year. Other changes include additional requirements for an approved electronic takeback program, the date the registration is due to MDE, and enforcement provisions. Highlights of the SERP include:

★ Manufacturers who sell or offer for sale a new CED in the State are required to register with, and pay a registration fee to, MDE. A covered electronic device is a computer or video display device with a screen that is greater than 4 inches measured diagonally.

★ The annual registration fee is $10,000 for a manufacturer that sold at least 1,000 CEDs in Maryland in the prior year and $5,000 for a manufacturer that sold at least 100 but not more than 1,000 CEDs in Maryland in the prior year. The subsequent annual renewal registration fee can be reduced to $500 provided the manufacturer has a MDE-approved takeback program.

★ A MDE-approved electronic manufacturer takeback program must be free to Maryland customers; if applicable, include a free shipping container if requested by the customer; a way to contact the manufacturer free of charge; and include educational and instructional materials relating to the destruction and sanitization of data from a CED.

- ★ A retailer is prohibited from selling or offering for sale to any person in the State a new covered electronic device manufactured by a manufacturer that has not registered and paid the required registration fee to MDE.
- ★ Civil and administrative penalties may be assessed against manufacturers and retailers who fail to comply with the SERP.
- ★ Grants to counties and municipalities (as funding is available) to assist with covered electronic device recycling activities may be awarded.
- ★ Counties are required to address methods for the separate collection and recycling of covered electronic devices in their recycling plans in order to be eligible for State grants.

Through June 30, 2014, 98 manufacturers registered with MDE and were authorized to sell their products in Maryland in 2014. No eCycling grants were issued to the counties in Fiscal Year (FY) 2014 (July 1, 2012 through June 30, 2014).

Cumulative highlights of eCycling in Maryland from October 2001 **to December 2013**, include:

- ✓ 258 special collection events (*i.e.*, 1 or 2-day collection events) were held in 24 jurisdictions.
- ✓ There were 9 special events in 2013, a decrease of 2 over the 11 collection events in 2012.
- ✓ Permanent collection programs have been established in Allegany, Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Frederick, Garrett, Harford, Howard, Kent, Montgomery, Prince George's, Queen Anne's, St. Mary's, Somerset, Washington, Wicomico, and Worcester Counties, and Baltimore City.
- ✓ Regularly scheduled eCycling collection events are held in the cities of Annapolis, Laurel, and Salisbury.
- ✓ A one-day event in Baltimore County on April 30, 2005, collected over 89 tons of electronic equipment from 1,600 participants.
- ✓ Over 64,000 tons of electronic equipment has been collected for recycling throughout Maryland since the start of the eCycling program.

Information on Maryland's eCycling program is available on MDE's web page at www.mde.state.md.us/eCycling. Table 28 gives a breakdown of the electronics equipment collected in 2013. Figure 11 summarizes the electronics tonnage totals collected since collection began in 2001. An additional 7,404 tons of electronics from commercial businesses were reported by the counties in 2013 as having been recycled. These were not part of residential eCycling programs.

Table 28 – eCycling Collection Programs

County	Population	Type	Date(s)	No. of participants	Tons collected	Pounds collected	Pounds/ participant
Subtotal Maryland	5,884,868	–	thru 12-31-12	–	54,656.94	109,313,878	–
eCycling Special Events in 2013							
Montgomery (3)	1,004,709	1-day	Apr, Mar, Nov	1,254	46.15	92,300	74
Prince George's (2) *	881,138	4-day, 1-day	Oct, Nov	402	13.65	27,305	68
Midshore Region (2)	139,085	1-day	Apr, Nov	553	17.67	35,348	64
Worcester (2)	51,578	1-day	Apr, Oct	304	22.41	44,820	147
Subtotal Events	2,076,510	–	2013	2,513	99.88	199,773	79
Permanent eCycling in 2013							
Allegany	74,012	–	2013	–	1.88	3,760	–
Anne Arundel **	550,488	–	2013	–	1,435.20	2,870,405	–
Baltimore City	621,342	–	2013	–	710.84	1,421,688	–
Baltimore County	817,455	–	2013	–	1,846.71	3,693,420	–
Calvert	89,628	–	2013	–	517.56	1,035,120	–
Carroll	167,217	–	2013	–	368.68	737,360	–
Cecil	101,696	–	2013	–	266.91	533,820	–
Charles	150,592	–	2013	–	257.26	514,520	–
Frederick	239,582	–	2013	–	538.17	1,076,340	–
Garrett	29,854	–	2013	–	32.04	64,080	–
Harford	248,622	–	2013	–	140.63	281,260	–
Howard	299,430	–	2013	–	694.90	1,389,800	–
Midshore Region	139,085	–	2013	–	21.14	42,280	–
Montgomery	1,004,709	–	2013	–	1,738.72	3,477,440	–
Prince George's **	881,138	–	2013	–	218.73	437,460	–
Somerset	26,253	–	2013	–	19.20	38,400	–
St. Mary's	108,987	–	2013	–	330.61	661,220	–
Washington	149,180	–	2013	–	117.00	234,000	–
Wicomico **	100,647	–	2013	–	154.49	308,980	–
Worcester	51,578	–	2013	–	93.45	186,900	–
Subtotal Permanent	5,851,495	–	2013	–	9,504.12	19,008,253	–
TOTALS (2001 – 2013)				2,513 (2013)	64,261	128,521,904	79 (2013)

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

** Totals from the City of Annapolis's permanent eCycling drop-off were included in Anne Arundel County's permanent total.
Totals from the City of Laurel's eCycling curbside program were included in Prince George's County's permanent total.

Figure 11 – eCycling Tons
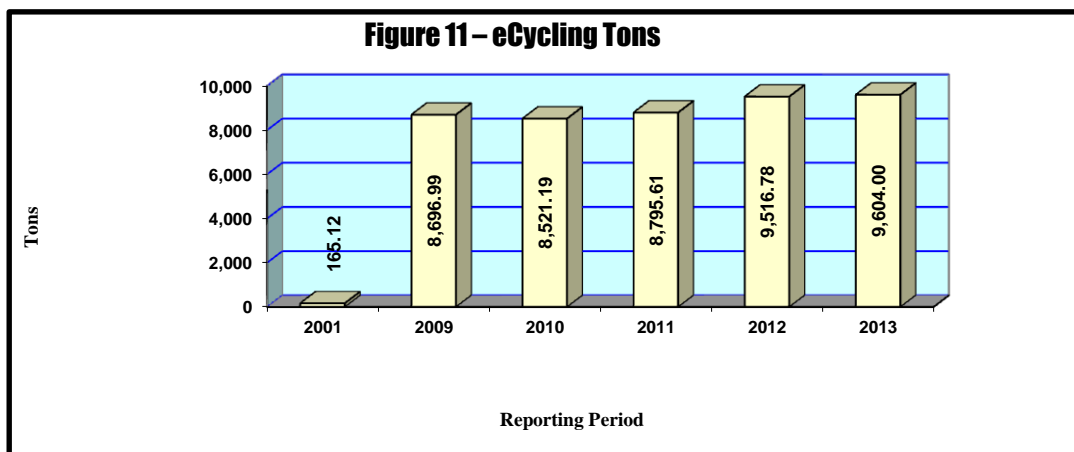
Mercury Recycling

MDE is working to ensure compliance with § 9-905.4 to 905.6 of the Environment Article, Annotated Code of Maryland, (Mercury Switch Removal from Vehicles). The law requires motor vehicle manufacturers to develop a mercury minimization plan that includes information on mercury switch removal from motor vehicles. Also, the law requires a vehicle recycler to remove mercury switches from its end–of–life vehicle inventory and vehicles processed into the vehicle recycler's inventory. In 2008, MDE visited vehicle recyclers and scrap processing facilities in Maryland reminding them of the requirement to remove mercury switches from scrap automobiles and participate in the National Vehicle Mercury Switch Recovery Program (NVMSRP). In addition to being free to vehicle recyclers and scrap processing facilities, the program pays vehicle recyclers and scrap processing facilities $4 per mercury switch and $6 per antilock braking system switch that is returned for recycling. October 2011 marked the start of active inspections and enforcement of vehicle recyclers and scrap processing facilities processing mercury switches under Maryland's Mercury Switch Removal from Vehicles law. Fifty-four (54) inspections were performed in 2013. The 54 inspections resulted in the issuance of 2 Site Complaints, both of which have been satisfied. In 2013, 10,376 mercury containing switches containing 23 pounds of recovered mercury were collected for recycling. As of December 31, 2013, 163 recyclers had enrolled in the program and the total amount of mercury containing switches recovered was 54,584 (120 pounds of mercury) since the beginning of the program in 2007.

The NVMSRP is the result of a two-year collaborative effort involving EPA, vehicle manufacturers, the American Iron and Steel Institute, the Steel Manufacturers Association, the Institute of Scrap Recycling Industries, the Automotive Recyclers Association, Environmental Defense, the Ecology Center (Ann Arbor), and representatives of the Environmental Council of the States. Stakeholders developed a voluntary program to recover mercury switches from scrap automobiles before they are shredded for recycling. Participation in the NVMSRP became mandatory for Maryland vehicle recyclers with the passage of

House Bill 1263, Chapter 713, Acts of 2009 – Mercury Switch Removal from Vehicles (Environment Article Section 6-905.4 to 6-905.6).

MDE was required to report in 2002, 2003, and 2004 to the Governor and Legislature detailing the statewide collection, reclamation, and recycling of all products containing mercury. 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 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 § 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 www.mde.maryland.gov/programs/Land/RecyclingandOperationsprogram/EducationandOutreach/Pages/programs/landprograms/recycling/education/hhw.aspx .

Business Resources

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

Market Locator

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

Businesses can access the Recycling Market Directory on MDE's recycling web page at www.mde.maryland.gov/recycling or directly at www.mdrecycles.org to find a market for recyclable materials. The web site is designed to promote commercial recycling in Maryland and is searchable by

commodity. Businesses can also check the homepage of the Mid-Atlantic Consortium of Recycling and Economic Development Officials (MACREDO) at http://macredo.org/ for facilities in the region. The MACREDO database is searchable by business name, commodity group, facility type, member state, and metropolitan area and/or zip code. 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 established a mechanism for the cleanup of scrap tire stockpiles and for the collection, transportation, and recycling or processing of all scrap tires that are generated annually in Maryland. The Act established the State Used Tire Cleanup and Recycling Fund (Fund) as the funding support for the Scrap Tire Program.

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

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

A detailed report on scrap tires in Maryland is available in the *Maryland Scrap Tire Program's Annual Report* available on MDE's web page at www.mde.maryland.gov/programs/Land/RecyclingandOperationsprogram/Publications/Pages/Programs/LandPrograms/Recycling/publications/index.aspx.

Batteries – The metals and plastics contained in batteries can be recycled and used to make other products (including new batteries). In addition, the recycling of batteries allows the collection of hazardous metals so that they can be more easily managed. Most counties accept all types of batteries from residents as part of county Household Hazardous Waste (HHW) programs. Specific HHW information is available through each county. County contact information is available on MDE's household hazardous waste web page at www.mde.maryland.gov/programs/Land/RecyclingandOperationsprogram/EducationandOutreach/Pages/programs/landprograms/recycling/education/hhw.aspx.
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 on MDE's recycling web page at www.mde.maryland.gov/recycling or directly at www.mdrecycles.org. Table 29 details battery recycling companies listed in the "Recycling Market Directory." Please contact these companies for details.

Table 29 – Battery Recycling Companies

Company Name	Telephone Number
AERC Recycling	321-952-1516
Air Cycle Corporation	800-909-9709
Arundel Recycling	410-761-6595
Battery Solutions, Inc.	810-494-5010
Cambridge Iron & Metal	410-327-7867
Eco-Battery, Inc.	888-768-2004
Envirolight and Disposal	727-526-8870
Everlights, Inc.	773-734-9873
Exide Corporation	610-378-0540
Inmetco	724-758-2800
Maryland Recycle Company	410-780-3060
Rechargeable Battery Recycling Corporation	877-723-1297
Schultz & Sons Salvage	410-479-2110
Southeast Recycling Technologies Inc.	800-592-3970
Waldorf Metal Company	301-932-1220

White Goods – White goods are defined as large household appliances such as refrigerators, stoves, air conditioners, and washing machines. Once collected, white goods have environmentally detrimental materials removed (*e.g.*, chlorofluorocarbons, etc.) for proper disposal, and the remaining materials (usually metal) 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 www.mde.maryland.gov/recycling. Additionally, resources for residents and businesses are available under "Metals" in the "Recycling Market Directory" available on MDE's recycling web page.

Permitting Guidance

Documents are available and regularly updated through MDE to assist recycling and composting businesses in understanding environmental permitting procedures and requirements.

Business Guide to Environmental Permits and Approval – This Business Guide to Permits and Approvals is available on MDE's web page at www.mde.maryland.gov/programs/permits/Pages/index.aspx. It contains important information about the different types of permits, licenses, and approvals issued by the Maryland Department of the Environment (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.

Local Permitting Issues for Recycling and Composting Facilities – This web page lists information that may be required of recycling and composting businesses. It also gives information on local economic development points of contact at the county level for any business considering locating or expanding in a specific jurisdiction. The web page is available on MDE's web page at www.mde.maryland.gov/programs/land/recyclingandoperationsprogram/educatio nandoutreach/pages/programs/landprograms/recycling/education/permits.aspx. Additionally, specific information on composting in Maryland, including a "Composting Operation Permitting Fact Sheet" is available on MDE's composting web page at www.mde.maryland.gov/programs/Land/RecyclingandOperationsprogram/Specia lProjects/Pages/Programs/LandPrograms/Recycling/specialprojects/composting.as [px](px).

Solving the Permit Puzzle in Maryland – This document outlines common State permit procedures and permits that may be required of recycling and composting businesses. It is available on MDE's web page at www.mde.maryland.gov/programs/land/recyclingandoperationsprogram/publicati ons/documents/www.mde.state.md.us/assets/document/recycling/solvingpuz.pdf. Information on permit requirements is available on MDE's web page at www.mde.state.md.us/programs/permits/Pages/index.aspx.

Waste Diversion Guide

Commercial Waste Diversion Implementation Guide – This document assists local recycling coordinators who are working with businesses to promote recycling and source reduction. Case studies detailing successful commercial waste diversion efforts are provided. The guide is available on the MDE web page at www.mde.maryland.gov/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 2013 through June 2014, 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 to a more sustainable society. MDE held the twelfth Annual "Rethink Recycling" Sculpture Contest on November 22, 2013 at MDE headquarters.

The "Rethink Recycling" Sculpture Contest featured over 68 entries from 29 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 disks, 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.

A chicken made entirely from aluminum cans, a scene of an area being destroyed by a tornado, and a peacock made from artificial finger nails were among the winning pieces of artwork. Contest details are available on the "Education and Outreach" section of MDE's waste diversion web page at www.mde.maryland.gov/programs/Land/RecyclingandOperationsprogram/Pages/Programs/LandPrograms/recycling/index.aspx.

MDE Web Site

Information on Maryland's waste diversion (*i.e.*, recycling and source reduction) activities can be found on MDE's waste diversion web page at www.mde.maryland.gov/programs/Land/recyclingandoperationsprogram/pages/programs/landprograms/recycling/index.aspx. 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 e-mail 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 and 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 news media and public education, new technologies, and initiatives such as pharmaceuticals disposal and recycling of compact fluorescent lightbulbs. 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.

Maryland Recycling Network (MRN) – The MRN is a non-profit, volunteer organization (www.marylandrecyclingnetwork.org) committed to promoting waste reduction, recycling and the conservation of natural resources. MRN is dedicated to promoting partnerships and cooperation between private and public sectors. 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.

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

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

Mid-Atlantic Consortium of Recycling and Economic Development Officials (MACREDO) – MDE is a member of MACREDO, a consortium that was established through a grant from the United States Environmental Protection Agency Region III to promote regional market development efforts for recycled materials. Other members include representatives from Delaware, Pennsylvania, Virginia, West Virginia and the District of Columbia. MACREDO offers a forum for information exchange between member jurisdictions, local authorities, the private sector, and nonprofit organizations. Information about ongoing MACREDO projects is available on the MACREDO home page at http://macredo.org/. These projects involve organic material recovery, deconstruction/building material reuse, electronic product recovery, and green building.

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 30 illustrates the elements of Maryland counties' individual recycling programs. Unless otherwise noted in Table 30, all counties collect "core" recyclables that include mixed paper (*i.e.*, all paper types, envelopes, books, cardboard, magazines, newspaper, and telephone books), containers (*i.e.*, glass, metal, and plastic), white goods (*i.e.*, appliances), and organics (*i.e.*, yard trimmings and Christmas tree recycling). Additionally, MDE's waste diversion web page contains detailed information on the county recycling programs and source reduction activities. Highlights of county programs in 2013 include:

- Twelve (12) counties achieved waste diversion rates greater than the 2005 40 percent waste diversion goal.
- Five (5) counties achieved a recycling rate greater than the 2020 55 percent recycling goal.
- Thirteen (13) counties earned SR credits. Six (6) of these counties, Baltimore, Carroll, Frederick, Harford, Montgomery, and Prince George's earned the maximum 5 percent SR credit.
- Eighteen (18) counties accept fluorescent lights for recycling.
- Ten (10) Counties accept expired medication for proper disposal.
- Twenty-one (21) Counties had permanent electronic drop-off locations.
- Nine (9) eCycling collection events were held in 4 counties.
- Fourteen (14) counties operated textile collection programs.
- Sixteen (16) counties maintained mercury thermometer drop-off locations.
- Thirteen (13) counties collected paint for recycling.
- Eighteen (18) counties operated Household Hazardous Waste Programs.

Waste diversion programs are constantly changing. Appendix E 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 www.mde.state.md.us/was/recycling and click on "State, County, and City Contact Info."

Table 30 -- 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 events, propane tanks
Anne Arundel cs	✔		✔	✔|✔	✔	✔			✔	cooking oil, wood pallets, tires, propane tanks, shrink wrap, oyster/clam shells, empty fuel containers
Baltimore City cs	✔		✔	✔|✔	✔	✔			✔	polystyrene, bagged leaves and Christmas tree only
Baltimore County cs	✔	✔	✔	✔|✔	✔	✔		✔	✔	cooking oil, propane tanks, usable building material
Calvert s	✔	✔	✔	✔|✔	✔	✔	✔	✔	✔	cooking oil, printer cartridges, oil filters, auto tires, propane tanks, Freon units
Caroline	✔	✔	✔	✔|✔		✔	✔	✔	✔	Mid-shore program
Carroll			✔	✔|✔	✔		✔	✔	✔	scrap metal, vinyl siding, plastic bags, grease/oil, usable building material, polystyrene
Cecil cs	✔	✔	✔	✔|✔	✔	✔	✔	✔	✔	batteries, corks, latex paint, oil filters, propane tanks, refrigerant units, tires, wood pallets, vegetable oil
Charles cps	✔	✔	✔	✔|✔	✔	✔	✔		✔	cooking oil, household batteries, oil filters, propane tanks, tires
Dorchester	✔		✔	✔|✔				✔		**No** books
Frederick cs	✔	✔	✔	✔|✔	✔				✔	pesticide bottles, wood pallets, tires
Garrett	✔			✔|✔	✔					#1 & 2 plastic only, inkjet & toner cartridges, oil filters
Harford cps	✔		✔	✔|✔	✔	✔	✔	✔		gasoline, pesticide containers, oil filters, propane tanks, inkjet cartridges
Howard cs	✔		✔	✔|✔	✔	✔	✔	✔	✔	propane tanks, asphalt roof shingles, scrap metal, reusable building materials, carpet, vegetable oil, polystyrene, mattresses
Kent		✔	✔	✔|✔	✔		✔	✔	✔	pesticide containers, boat shrink-wrap; Mid-shore program
Montgomery c	✔		✔	✔|✔	✔	✔	✔	✔	✔	eCycle event; bicycles, cooking oil, propane tanks, tires, reusable building materials, bulky plastic
Prince George's cs	✔	✔	✔	✔|✔	✔	✔		✔	✔	eCycle event; cooking oil, mattress foam
Queen Anne's	✔	✔	✔	✔|✔	✔	✔	✔	✔	✔	eCycle event; boat shrink-wrap, passenger tires; Mid-shore program
St. Mary's s	✔		✔	✔|✔	✔	✔	✔		✔	oil filters, ink jet cartridges, cooking oil, rechargeable batteries, propane cylinders, scrap tires, scrap metal
Somerset s	✔		✔	✔|✔	✔			✔		pesticide containers, oil filters, tires
Talbot			✔	✔|✔			✔		✔	pesticides, boat shrink-wrap; Mid-shore program
Washington			✔	✔|✔	✔			✔		propane tanks, cooking oil, tires, yard waste, polystyrene, rechargeable batteries
Wicomico c				✔|✔	✔		✔	✔	✔	pesticides, wood pallets
Worcester			✔	✔|	✔		✔	✔	✔	eCycle event

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

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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 14 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 benefit to Maryland's communities that are provided by all permitted solid waste acceptance facilities. **The facilities that updated their information in 2013 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.
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.
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.

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
Baltimore City	Wheelabrator Baltimore LP. (Privately Owned)	Extends life of landfills by reducing MSW volume through incineration.	Sponsors several community outreach and partnership programs.	68 employees including professionals and skilled workers.	No information provided.
Baltimore City	L & J Waste Recycling, LLC (Privately Owned)	The facility is located in a rehabilitated location and generates revenue through its solid waste recycling by turning waste into valuables. Also, the facility adds to the local economy through personal and business tax revenue annually.	The Facility diverts 75% of its waste accepted at the site for recycling and saves costs of disposal.	$298,000/10 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 $30,000 in property taxes per year.	The business has invested over four 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.	$705,125/30 employees.	Purchased local goods and services for $368,561, and fuel for 116,000. Paid $13,249 for Tags and permits. Revenues of recycled material is in excess of $390,000.
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.

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
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 41 staff with $2,371,207 in salaries. The employees associated with the transfer station are neither hired, managed, evaluated, nor compensated by Calvert County Division of Solid Waste. The number of, types and compensation of the employees at the transfer station are at the discretion of Garnet of Maryland, Inc. (Waste Management, Inc. [WM].	The landfill capital and operational projects have utilized various contractors and vendors within Calvert County and surrounding jurisdictions.
Carroll	Roll-Off Express, Inc. (Privately Owned)	$54,000/year paid in real estate, personal property and sales taxes.	$2.25 million investment for facilities.	$275,000/17 employees including equipment operators, drivers, laborers.	$375,000 annual purchase of goods and services.
Cecil*	Cecil County Central Landfill* (County Owned)	Amnesty program for recycling materials, household hazardous waste days, and eCycling events. Mulch for minimum fees.	Provides waste disposal and recycling opportunities for Cecil County's population. The facility works in conjunction with two transfer stations owned by Cecil County Government to accept MSW originating within the County for no cost.	$1,135,000/20 Employees.	Estimated value of goods and services purchased from the locality for the facility: $2,600,000. Estimated value of materials recycled for the year: $100,000.

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
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.	$187,000/3 Employees.	Estimated value of goods and services purchased from the locality for the facility: $32,000. Estimated value of materials recycled for the year: $16,000.
Frederick*	Reichs Ford/Site B Municipal Sanitary Landfill/Transfer Station* (County Owned)	Free curbside recycling, A recycling drop-off center, HHW collection, free mulch, yard waste grinding & sampling and analysis of 29 off-site residential water wells adjoining landfill property.	Disposal of C&D and MSW.	$2.95 Million/43 employees.	Spent $2.8 million on various recycling contracts and programs.
Harford*	Harford Waste Disposal Center (HWDC)/HWDC Horizontal Expansion* (Publicly Owned)	Provide County residents with disposal and recycling services. In addition, the facility acquires good and services from local vendors. Further, the facility employs external contractors for various routine and non-routine services.	Provides County residents with non-profit disposal methodology and hierarchy. Provides recycling services at "no cost."	$4.4 Million/55 full time employees.	For FY 2013: $573,325 Contractual Services. $135,450 Supplies and Materials. $342,415 Capital Equipment/ Fleet Management. County manages both HWDC and HWDC Horizontal Expansion as a single budget entity.
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.

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
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.	20 full time County employees. 59 full time Covanta Montgomery, Inc., and 3 full time Clean Harbors. 10 full time/4 temporary MES employees.	Revenue from some materials partially offsets operating costs, allowing fees to remain relatively flat over the past several years.
Prince George's	Lawrence Street C & D Processing Facility	Benefits include taxes that support local infrastructure, jobs, and access to a facility close by for local users.	Strategically located for local customers.	Employs 10 people for estimated budget of $650,200.	Goods and services purchased is approximately $1.5 million, $1.8 Million in recycled products produced.
St. Mary's	St. Andrew's Municipal Landfill (Publicly Owned)	Tipping fees waived during emergency/storm damage situations and other approved non-profit organization projects. Provides mulch made from yard and wood waste free to county residents.	Processes county's residential yard waste into mulch. Provides location for disposal of appliances and up to five (5) tires per trip, free of charge. Future expansion of area C (36.8 acres) permitted landfill, if required.	$700,000/21 employees includes a manager, 4 equipment operators, 2 scale house operators, and 14 attendants (full & part time).	$300,000 - County subsidy of Recycling. $1.3 million - County subsidy for residential solid waste disposal.
Washington*	Forty West Municipal Landfill* (Publicly Owned)	Centrally located in County for easy access to accommodate residential, industrial, and commercial use.	Facility owned and operated by Washington County for the solid waste disposal need of County residents.	$1.6 million /30 employees. Jobs include: director (1), assistant director (1), office staff (2), operations supervisor (1), weigh clerk full time (3) and part time (4), equipment operators (7), mechanics (2), recycling coordinator (1), residential drop-off attendants (4), part time drop off attendants (2), and part time guards for 4 inmate crew (2).	Approx. $6.8 million annual operating budget spent locally for the purchase of materials, goods and services. Operates 5 residential drop-off sites.

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
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	MD Grid * E / N	Permit Number	Expiration Date	Fill/Site Acreage	Site Location /Comments
Allegany	Mountainview Sanitary Landfill	WMF	PRI	262 / 652	2011-WMF-0010	4/13/2016	40 / 396	13300 New George's Creek Road, Frostburg MD 21532.
	Western Maryland Processing Facility and Transfer Station	WPT	PRI	801/710	2008-WPT-0632	10/30/2019	- /5.85	13810 Hazmat Drive Cumberland, MD 21502 **Facility Not Constructed**
Anne Arundel	Annapolis Junction Recycling and Transfer Station	WPT	PRI	860 / 470	2011-WPT-0158	3/24/2016	- / 17	8077 Brock Bridge Road, Jessup MD 20794.
	Curtis Creek Processing Facility and Transfer Station	WPT	PRI	917 / 500	2013-WPT-0539	12/19/2018	- / 12.8	23 Stahl Road, Baltimore MD 21226. Accepts C&D Waste.
	Millersville Landfill and Resource Recovery Facility	WMF	CTY	895 / 460	2012-WMF-0240	11/13/2017	330 / 567	389 Burns Crossing Road, Severn MD 21144.
Baltimore City	BFI Baltimore Processing and Transfer Center	WPT	PRI	921 / 499	2013-WPT-0627	2/24/2019	- / 15.6	5800 Chemical Road, Baltimore MD 21226.
	Daniel's Sharpsmart Special Medical Waste Processing Facility	WPT	PRI	950 / 525	2008-WPT-0633	2/9/2015	- / <1	6611 Chandlery Street Baltimore, MD 21224 Accepts only Special Medical Waste.
	Curtis Bay Energy Medical Waste Incinerator	WMI	PRI	926 / 568	2011-WMI-0036	3/8/2017	- / 4.0	3200 Hawkins Point Road, Baltimore MD 21226. Formerly Pheonix Services.
	Fort Armistead Road – Lot 15 Industrial Landfill	WIF	PRI	927 / 500	2011-WIF-0653	9/26/2018	32 / 65	3601 Fort Armistead Road, Baltimore MD 21226.
	Hawkins Pt. Plant Industrial Landfill	WIF	PRI	925 / 501	2009-WIF-0527A	1/4/2016	57 / 95	3901 Fort Armistead Road, Baltimore MD 21226.
	Northwest Transfer Station	WTS	MUN	855 / 550	2010-WTS-0038	1/17/2016	- / 6.6	5030 Reisterstown Road, Baltimore MD 21215.
	Baltimore Recycling Center LLC Processing Facility and Transfer Station	WPT	PRI	535 / 920	2008-WPT-0631	12/19/2014	- / 12.5	1030 Edison Highway, Baltimore MD 21213. Accepts Only C&D Waste.
	Quarantine Road Landfill	WMF	MUN	922 / 502	2010-WMF-0325	6/3/2015	126 /153	6100 Quarantine Road, Baltimore MD 21226.
	Stericycle Medical Waste Processing Facility and Transfer Station	WPT	PRI	921 / 501	2009-WPT-0591	12/06/2014	- / 2.4	5901 Chemical Road, Baltimore MD 21226.
	University of Maryland Medical Waste Incinerator	WMI	UMD	907 / 532	2010-WMI-0512	7/6/2015	- / < 1	714 W. Lombard Street, Baltimore MD 21201.
	Wheelabrator Baltimore, LP Waste-to-Energy Facility	WTE	PRI	904 / 523	2011-WTE-0030	10/6/2016	- / 15	1801 Annapolis Road, Baltimore MD 21230. Formerly BRESCO.
	W.R. Grace and Co. Industrial Landfill	WIF	PRI	921 / 500	2012-WIF-0613	1/30/2017	10.7/157	5500 Chemical Road, Baltimore MD 21226
	L & J Waste Recycling, LLC.	WPF	PRI	896 / 531	2008-WPF-0634	6/29/2016	- / <1	222 N. Calverton Road Baltimore MD 21223

County	Facility Name	Type	Owner Type	MD Grid * E / N	Permit Number	Expiration Date	Fill/Site Acreage	Site Location /Comments
Baltimore	Baltimore County Central Acceptance Facility	WPT	CTY	900 / 507	2010-WPT-0048	11/4/2015	6.0 / 7.3	10275 Beaver Dam Road, Cockeysville MD 21030.
	Days Cove Rubble Landfill – Lateral Expansion	WRF	PRI	975 / 570	2009-WRF-0592	10/1/2014	35.6 / 99	6425 Days Cove Road, White Marsh MD 21162.
	Eastern Sanitary Landfill	WMF	CTY	974 / 570	2008-WMF-0052A	12/16/2015	200 / 367	6259 Days Cove Road, White Marsh MD 21162.
	Eastern Sanitary Transfer Station	WTS	CTY	974 / 570	2011-WTS-0508	6/11/2017	- / 3.2	6260 Days Cove Road, White Marsh MD 21162.
	Honeygo Run Reclamation Center	WRF	PRI	958 / 564	2008-WRF-0579A	10/1/2014	77/117	10710 Philadelphia Road, Perry Hall MD 21128. Expansion of Existing Landfill.
	Recovermat Mid-Atlantic	WPF	PRI	888 / 506	2010-WPF-0341	12/26/2015	- / 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	905 / 510	2009-WTS-0599	5/11/2015	6.0 / 6.0	3310 Transway Road, Halethorpe MD 21227.
Calvert	Appeal Municipal Landfill	WMF	CTY	961 / 200	2012-WMF-0531	11/19/2017	30 / 350	401Sweetwater Road, Lusby MD 20678.
	Appeal Transfer Station	WTS	PRI	961 / 200	2012-WTS-0519	11/19/2017	- / 1	401Sweetwater Road, Lusby MD 20678.
	Hance Landclearing Debris Landfill	WLC	PRI	923 / 246	2010-WLC-0252	12/2/2015	10.2 / 23.6	1/4 mile west of MD Rtes 2 & 506, Prince Frederick MD 20678.
	Hill Landclearing Debris Landfill	WLC	PRI	914 / 304	2009-WLC-0551	12/12/2014	2.9 / 17.6	MD Rte. 2 & Dalrymple Road, Sunderland MD 20689.
	Howlin Landclearing Debris Landfill	WLC	PRI	961 / 200	2013-WLC-0577	5/28/2018	3.0 / 32.7	8580 Nursery Road, Lusby MD 20657.
	M.T. Parran Landclearing Debris Landfill	WLC	PRI	945 / 227	2009-WLC-0550	12/12/2014	4.3 / 6.6	Eastside MD Rte 765 - North of MD Rtes 2 & 4, Saint Leonard MD 20689.
	Southern Maryland Processing Facility	WPF	PRI	910 / 310	2014-WPF-0597	12/8/2014	- / 0.2	7659 Binnacle Lane, Owings MD 20736
Caroline	Midshore II Solid Waste Regional Municipal Landfill	WMF	MES	405/113	2013-WMF-0608	2/4/2019	- /71.3	12236 River Road Ridgely MD 21660.
Carroll	Northern Municipal Landfill	WMF	CTY	816 / 626	2010-WMF-0066	8/8/2015	80 / 220	1400 Baltimore Boulevard, Westminster MD 21157.
	Northern Municipal Landfill	WPT	CTY	816 / 626	2008-WPT-0541	9/2/2013	3 / 220	1400 Baltimore Boulevard, Westminster MD 21157.
	Roll-Off Express, Inc.	WPF	PRI	832 / 605	2012-WPF-0159	6/9/2018	- / 6.8	2900 Dede Road, Finksburg MD 21048.
Cecil	Cecil County Central Landfill	WMF	CTY	1107 / 644	2012-WMF-0532	11/13/2017	40 / 418	758 East Old Philadelphia Road, Elkton MD 21921.
	Stemmer's Run Transfer Station	WTS	CTY	1095 / 581	2010-WTS-0072	2/20/2016	- / 9.7	45 Stemmer's Run Road, Earleville MD 21919.
	Woodlawn Transfer Station	WTS	CTY	1058 / 658	2010-WTS-0074	1/20/2016	- / 37	Fire Tower & Waibel Roads, Port Deposit MD 21904.
Charles	Charles County Municipal Landfill	WMF	CTY	832 / 269	2007-WMF-0076A	2/3/2015	73 / 114	12305 Billingsley Road, Waldorf MD 20602.
	Naval Support Facility Indian Head Incinerator	WIN	FED	750 / 275	2009-WIN-0529	9/4/2014	- / 1	101 Strauss Avenue, Indian Head MD 20640.
Dorchester	Beulah Municipal Landfill	WMF	CTY	1115 / 307	2007-WMF-0628	2/03/2015	27 / 40	6812 East New Market-Ellwood Road, Hurlock MD 21643.

County	Facility Name	Type	Owner Type	MD Grid * E / N	Permit Number	Expiration Date	Fill/Site Acreage	Site Location /Comments
Frederick	Eastalco Aluminum Company Industrial Landfill	WIF	PRI	650 / 535	2009-WIF-0537	10/1/2014	10.2 / 20	5601 Manor Wood Road, Frederick MD 21703.
	Essroc Cement Corporation	WIF	PRI	672/547	2010-WIF-0640	1/22/2017	25/50	4120 Buckeystown Pike, Frederick, MD 21717. Limited to Essroc Waste Only.
	Fort Detrick – Area B & Main Post Municipal Landfill	WMF	FED	672 / 583	2010-WMF-0327	8/8/2015	61 / 297	Area B - Rosemont Avenue & Shookstown Road. Fort Detrick Waste Only.
	Fort Detrick – Area B & Main Post Incinerator	WIN	FED	678 / 582	2010-WIN-0341	11/29/2015	- / 1	Area A - East off Beasley Drive. Limited To Waste Only From Fort Detrick.
	Reichs Ford/Site B Municipal Landfill	WMF	CTY	702 / 561	2013-WMF-0582	6/11/2018	58 / 184	9031 Reichs Ford Road, Frederick MD 21704.
	Reichs Ford/Site B Municipal Sanitary Landfill	WPT	CTY	702 / 561	2011-WPT-0604	8/25/2016	58 / 184	9031 Reichs Ford Road, Frederick MD 21704.
Garrett	Garrett County Solid Waste Disposal & Recycling Facility	WMF	CTY	116 / 604	2011-WMF-0094	3/29/2016	30 / 188	3118 Oakland-Sang Run Road, Oakland MD 21550.
Harford	Auston Process and Transfer Facility	WPT	PRI	983 / 583	2012-WPT-0616	1/14/2018	3.0 / 6.01	1202 Pauls Lane, Joppa MD 21085.
	Harford Waste Disposal Center	WMF	CTY	1000 / 650	2010-WMF-0098	11/15/2015	60 / 259	3241 Scarboro Road, Street MD 21154.
	Harford Waste Disposal Center Expansion	WMF	CTY	1000 / 650	2012-WMF-0570	10/3/2017	77.4 / 286	3241 Scarboro Road, Street MD 21154.
	Harford County Resource Recovery Facility	WTE	PRI	994 / 573	2013-WTE-0576	12/12/2018	- / 4	1 Magnolia Road, Joppa MD 21085. Produces Steam for APG Complex.
Howard	Alpha Ridge Municipal Landfill	WMF	CTY	823 / 539	2010-WMF-0110	4/4/2016	195 / 590	2350 Marriottsville Road, Marriottsville MD 21104.
	Alpha Ridge Processing and Transfer Station	WPT	CTY	823 / 539	2012-WPT-0578	3/19/2018	195 / 590	2350 Marriottsville Road, Marriottsville MD 21104.
	Ameriwaste Processing Facility and Transfer Station	WPT	PRI	865 / 489	2011-WPT-0572	11/3/2016	- / 12.89	7150 Kit Kat Road, Elkridge MD 21075. Accepts Only C&D Waste.
	Workplace Essentials Transfer Station	WTS	PRI	885 / 550	2009-WTS-0594	6/6/2015	- / 1	7184 Troy Hill Drive, Suites J & K, Elkridge MD 21075. Accepts Diapers & Other Special Sanitary Wastes.
Montgomery	C & D Recovery Processing Facility	WPF	PRI	710 / 510	2014-WPF-0581	5/26/2019	- / 10.8	24120 Frederick Road, Clarksburg MD 20871.
	Montgomery County Resource Recovery Facility	WTE	CTY	671 / 501	2013-WTE-0538	12/26/2018	- / 35	21204 Martinsburg Road, Dickerson MD 20842.
	Montgomery Co. Site 2 Municipal Landfill	WMF	CTY	680 / 490	2014-WMF-0237	5/11/2019	125 / 650	3 miles southwest of Dickerson, MD 20842. **Landfill Not Constructed**.
	Montgomery County Solid Waste Transfer Station	WPT	CTY	845 / 465	2011-WPT-0617	1/10/2017	- / 43	16101 Frederick Road, Derwood MD 20850.

County	Facility Name	Type	Owner Type	MD Grid * E / N	Permit Number	Expiration Date	Fill/Site Acreage	Site Location /Comments
Prince George's	Brown Station Road Municipal Landfill	WMF	CTY	865 / 365	2010-WMF-0589	10/5/2015	134 / 164	3500 Brown Station Road, Upper Marlboro MD 20772.
	Dower House Recycling and Processing Center	WPF	PRI	843 / 355	2010-WPF-0563	10/26/2015	- / 10	5900 Dower House Road, Upper Marlboro MD 20772. **Facility Not Constructed.**
	Ritchie Reclamation Rubble Landfill Phase I & II Marlboro Road	WRF	PRI	849 / 372	2010-WRF-0590 2010-WRF-0126	12/28/2015 4/29/2015	78 / 258	2001 Ritchie Marlboro Road, Upper Marlboro MD 20772.
	Sheriff Road Processing & Transfer Facility	WPT	PRI	826 / 391	2012-WPT-0218	2/21/2018	- / 1.5	5800 Sheriff Road, Fairmont Heights MD 20743. Accepts Only C&D Waste.
	Sun Services Processing and Recycling Center	WPF	PRI	828 / 438	2009-WPF-0639	4/6/2016	4.3	11220 Somerset Ave Beltsville, MD 20705
	Lawrence Street C & D Processing Facility	WPF	PRI	818/400	2012-WPF-0626	1/30/2018	1.8/2.85	4700-A Lawrence Street. Hyattsville MD 20781
Queen Anne's	Baker Rubble Landfill	WRF	PRI	1046 / 429	2013-WRF-0622	4/24/2018	15.9 / 18.5	501 4-H Park Road, Queenstown MD 21658. Serves Mid-Shore Counties.
St. Mary's	Knott Landclearing Debris Landfill	WLC	PRI	946 / 140	2011-WLC-0134	4/24/2016	4.3 / 55	1/4 mile North - Flat Iron Rd 2 & Boothe Road, Great Mills MD 20634.
	St. Andrews Municipal Landfill	WMF	CTY	934 / 167	2010-WMF-0138	11/7/2015	36.8 / 55	44825 St. Andrews Church Road., California MD 20619. Landfill Not Operating.
	St. Andrews Waste Processing & Transfer Facility	WPT	CTY	934/ 167	2006-WPT-0624	9/11/2013	1 / 55	44861 St. Andrews Church Road, California MD 20619
Somerset	Somerset County Landfill – Fairmount Site	WMF	CTY	1158 / 184	2014-WMF-0268	6/24/2019	33 / 62	8716 James Ring Road, Westover MD 21871.
	Smith Island Incinerator	WIN	CTY	1076 / 057	2010-WIN-0140	6/23/2016	0.06	Smith Island Road, Ewell MD 21824.
Talbot	Midshore Regional Solid Waste Facility	WMF	MES	1080 / 356	2010-WMF-0144	4/1/2015	67 / 140	7341 Barkers Landing Road, Easton MD 21601. Serves Talbot, QA, Caroline and Kent Counties.
	Midshore Transfer Station	WTS	MES	1080 / 356	2010-WTS-0549	5/11/2015	0.5 / 140	7341 Barkers Landing Road, Easton MD 21601. Serves Talbot, QA, Caroline and Kent Counties
Washington	Forty West Municipal Landfill	WMF	CTY	575 / 673	2007-WMF-0266A	10/13/2014	189 / 425	12630 Earth Care Road, Hagerstown MD 21740.
	Washington County Rubble Landfill	WRF	CTY	568 / 652	2009-WRF-0270	10/1/2014	75 / 100	11112 Kemps Mill Road Williamsport MD 21740. Landfill Not Operating.
Wicomico	Bennett Processing Facility	WPF	PRI	0802 / 220	2010-WPF-0579	2/15/2016	5 /14.3	513-515 South Camden Ave., Fruitland MD 21826.
	Newland Park Municipal Landfill	WMF	CTY	1180 / 200	2010-WMF-0283	4/5/2015	60 / 125	7161 Brick Kiln Road, Salisbury MD 21801.
	Peninsula Regional Medical Center	WPM	PRI	1201 / 186	2011-WPM-0505	2/11/2018	- / 23	100 East Carroll Street, Salisbury MD 21801.
Worcester	Central Sanitary Landfill	WMF	CTY	1278 / 140	2011-WMF-0152	5/31/2016	230 / 725	7091 Central Site Lane, Newark MD 21841.
	Ocean City Transfer Station	WTS	MUN	1353 / 207	2010-WTS-0156	9/9/2015	- / 2.2	306 - 65th Street, Ocean City MD 21842. Accepts Only MSW.

Table B2 – Summary of Permitted Solid Waste Acceptance Facilities

Type Of Facility	Number of Facilities
WMF: Municipal Solid Waste Landfill	24
WRF: Construction & Demolition Landfill	5
WLC: Landclearing Debris Landfill	5
WIF: Industrial Landfill	5
WIN: MSW or Special Medical Waste Incinerator	3
WMI: Medical Waste Incinerator	2
WPF: Processing Facility	9
WPM: Special Medical Waste Processing Facility	1
WTS: Transfer Station	9
WPT: Processing Facility & Transfer Station	16
WTE: Waste to Energy/MSW Incinerator	3
TOTAL	**82**

Type of Ownership	Number of Facilities
CTY: County Government	32
PRI: Private (Commercial)	40
MUN: Municipal Government	3
UMD: University of Maryland System	1
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
Allegany	Western Maryland Processing Facility and Transfer Station	Processing Facility and Transfer Station	Private	Not Built
Calvert	Hill Landclearing Debris	LCD Landfill	Private	Inactive
Frederick	Essroc Cement Corporation	Industrial Landfill	Private	Being 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
St. Mary's	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	Closed
Washington	Washington County Rubble Landfill	C&D Landfill	County	Inactive

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APPENDIX C

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Permitted Natural Wood Waste Acceptance Facilities

Table C1 – Permitted Natural Wood Waste Acceptance Facilities

County	Facility & Location	Permit Type	Permit Numbers	Site Acreage	Issued Date	Expiration Date	Phone Number	Fax Number
Allegany	Braddack Construction, LLC. 14000 New Georges Creek, SW Midland, MD 21542	GP	2012-NWW-GP01	19.71	9/12/2011	9/20/2017	(301) 689-5979	(301) 689-8826
Anne Arundel	A-A Recycling, Inc. 8217 Baltimore-Annapolis Blvd., Pasadena, MD 21122	GP	2011-NWW-GP01	9.90	9/12/11	9/11/16	(410) 437-7718	(410) 437-7718
	Bronson Contracting, Inc. 1000 Kembo Road Baltimore, MD 21126	GP	2014-NWW-GP01	8.00	5/7/2014	5/6/2019	(410) 360-8587	(410) 360-1243
	L and W Recycling, Inc. 8316 Lokus Road Odenton, MD 21113	GP	2011-NWW-GP01	12.00	10/21/11	10/20/16	(410) 670-0860	(410) 670-0863
Baltimore	King Mulch and Pallet 1114 Hengemihle Avenue Essex, MD 21221	GP	2012-NWW-GP01	5.90	4/25/12	4/24/17	(410) 682-2992	(410) 574-0123
	Edrich Lumber, Inc. 9700 Old Court Road Baltimore, MD 21244	GP	2010-NWW-GP01	12.00	6/25/10	6/24/15	(410) 922-5959	(410) 521-2778
	Hollins Organic Products, Inc. 6247 Falls Road Baltimore, MD 21209	GP	2010-NWW-GP01	2.00	4/30/10	4/29/15	(410) 828-0210	(410) 823-7645
	Northwest Recycling, LLC 212 Cockeys Mill Road Baltimore, MD 21136	GP	2010-NWW-GP01	5.00	11/8/10	11/7/15	(410) 833-9369	(410) 833-3963
	Wirtz & Daughters, Inc. 6275 Days Cove Road White Marsh, MD 21162	IP	2010-NWW-0552	14.00	3/25/10	3/24/2015	(410) 335-0400	(410) 592-6248
Calvert	A.H Hatcher, Inc. 7185 Sawmill Road Lusby MD 20657	GP	2011-NWW-GP01	11.25	5/2/11	5/1/16	(410) 586-3404	(410) 586-2843
	231 Materials & Recycling Products, LLC 171 Skipjack Road Prince Frederick, MD 20678	GP	2011-NWW-GP01	4.00	5/13/11	5/12/16	(410) 535-7666	(410) 968-2391
Caroline	Cahall Construction, LLC	GP	2012-NWW-GP01	24.49	9/28/2012	9/27/2017	(410) 479-5384	(301) 479-5387
Carroll	C.J. Miller, LLC 390 Vision Way Westminster, MD 21158	GP	2011-NWW-GP01	40.00	9/2/11	9/1/16	(410) 239-8006	(410) 239-4204
	Recycled Green Industries, LLC 7901 Kabik Court Woodbine, MD 21797	GP	2013-NWW-GP01	30.00	4/26/13	4/25/18	(301) 674-6689	(301) 942-6734
Cecil	Chesapeake Wood Recycling 1726 East Old Philadelphia Road Elkton, MD 21421	GP	2010-NWW-GP01	25.00	6/3/10	6/2/15	(410) 392-0770	(410) 392-2317
	Grass Busters Landscaping Company, Inc. Shop 383 Hotton Road Elkton, MD 21921	GP	2010-NWW-GP01	48.80	4/9/10	4/8/15	(301) 292-1166	(301) 292-1197
Charles	James E. Hill 6585 Ripley Road Ripley, MD 20646	GP	2010-NWW-GP01	8.50	11/3/10	11/2/15	(301) 518-2306	(301) 934-1536
	Beuchert Excavating, Inc. 12340 Crain Highway Newburg MD 20664	GP	2014-NWW-GP01	12.50	3/28/14	3/27/19	(301) 399-5088	(301) 274-2454
Frederick	Butler Wood Recycling 4039 Tuscarora Road Point of Rocks, MD 21777	GP	2014-NWW-GP01	58.00	5/19/14	5/18/19	(301) 607-4541	(301) 874-8348
	Bussard Brothers Landscape Supply–5307-B Green Valley Rd Monrovia, MD 21770	GP	2014-NWW-GP01	2.00	11/20/14	11/19/19	(301) 865-3925	(301) 865-8496
	Grant County Mulch 6720 Manor Road Frederick, MD 21703	GP	2012-NWW-GP01	3.00	11/2/2012	11/1/2017	(301) 732-5194	(301) 732-5195

County	Facility & Location	Permit Type	Permit Numbers	Site Acreage	Issued Date	Expiration Date	Phone Number	Fax Number
Harford	Arthur D. Heston 2304 Whiteford Road Whiteford, MD 21169	GP	2012-NWW-GP01	3.67	10/12/12	10/11/17	(410) 692-2673	(410) 692-2253
	Comer Construction, Inc 900 Circelli Court Aberdeen, MD 21001	GP	2013-NWW-GP01	6.00	11/26/13	11/25/18	(410) 879-6094	(410) 638-0289
	Crouse Construction Co. 1001 Philadelphia Road Aberdeen, MD 21001	GP	2010-NWW-GP01	25.00	6/9/10	6/8/15	(410) 879-1822	(410) 893-0045
Howard	Elkridge Recyclery 7531 Cemetery Lane Elkridge, MD 21075	GP	2010-NWW-GP01	15.00	3/31/10	3/30/15	(410) 471-4450	(410) 471-4450
	Level Land Lisbon Mulch Yard 1100-1281 Madison Street Lisbon, MD 21765	GP	2013-NWW-GP01	5.00	8/9/13	8/8/18	(410) 489-5206	(410) 489-4316
Kent	Sharp Lawn & Tree Inc. 10010 Lakeside Lane Chestertown, MD 21620	GP	2011-NWW-GP01	3	4/8/11	4/7/16	(410) 778-6302	(410) 778-3509
Montgomery	ACME Biomass Reduction, Inc. 21601 New Hampshire Ave. Brookville, MD 20833	GP	2013-NWW-GP01	107.50	12/17/14	12/16/19	(301) 540-2968	(301) 540-9630
	Country Nursery 3330 Spencerville Road Burtonsville, MD 20866	GP	2013-NWW-GP01	11.5	6/17/13	6/16/18	(301) 421-9593	(301) 421-9593
	Twin Ponds Farm, LLC 15315 Mt. Nebo Road Poolesville, MD 20837	GP	2008-NWW-GP01	4.00	5/23/08	5/22/13	(301) 942-6700	(301) 942-6734
Prince George's	Grant County Mulch Facility 5402 Van Dusen Road Laurel, MD 20707	GP	2011-NWW-GP01	25	9/27/11	9/26/16	(800) 749-7451	(800) 749-7451
Queen Anne's	Baker Rubble Landfill 501 4-H Park Road Queenstown, MD 21658	IP	2011-NWW-0620	3.00	1/9/12	1/8/17	(410) 827-8831	(410) 827-8831
	Pardoe's Lawn & Tree Service, Inc. 112 Deep Landing Road Chestertown, MD 21620	GP	2011-NWW-GP01	15.98	4/8/11	4/7/16	(410) 778-2016	(410) 778-2022
	Grange Hall Yard 437 Grange Hall Road Centreville, MD 21617	GP	2010-NWW-GP01	9.06	8/25/10	8/24/15	(410) 974-0397	(410) 974-0397
Talbot	Dependable Sand and Gravel Company, Inc. 13155 Ocean Gateway Queen Anne, MD 21657	GP	2010-NWW-GP01	343	10/8/10	10/7/15	(410) 822-6363	(410) 820-7789
Washington	Hess Road Recycling Center 6502 Hess Road Hankcock, MD 21750	GP	2010-NWW-GP01	4.00	4/9/2012	4/8/2017	(410) 796-7676	(3010) 379-0112
Wicomico	Dunn's Tractor Services, Inc. 9042 Taylor Road Delmar, MD 21875	GP	2014-NWW-GP01	10.00	8/20/14	8/19/19	(410) 742-7429	(410) 742-7429

General Permits (GP):	35
Individual Permits (IP):	2
TOTAL	**37**

APPENDIX D

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MARYLAND
Department of the Environment

All StAR News

All StAR
All State Agencies Recycle

Maryland Stadium Authority Develops a Pilot Program for Food Scraps Composting

– CHRISTY BUJNOVSZKY
MDE STAFF

The Maryland Stadium Authority (MSA) recently developed a pilot program for food scraps composting at Oriole Park at Camden Yards (OPCY). Beginning on April 5, 2013 all OPCY kitchens, along with Dempsey's Brew Pub & Restaurant at Camden Yards (a year round restaurant), have collection bins for leftover food scraps. Waste Management Inc. (WMI) is responsible for collecting the food scraps 6 times per week from OPCY when the Orioles are in town and 3 times per week when they are on the road. On Saturdays, food scraps are not collected for

[See Food Scraps, Page 2]

Twenty State Agencies Exceeded 20% Recycling Goal

– CHRISTY BUJNOVSZKY
MDE STAFF

The 1988 Maryland Recycling Act (MRA) requires the development of a recycling plan that reduces the amount of solid waste disposed by State government by at least 20 percent or to an amount that is practical and economically feasible. In no case may the amount to be recycled be less than 10 percent. During the 2012 Maryland General Assembly session, legislation passed that increases the amount of waste required to be recycled by State agencies to 30 percent in 2014, with a goal of 40 percent by 2015. As part of the implementation process, all State agency recycling plans must detail strategies to reach the 30 percent rate. The plans were developed by each agency and are on file with the Maryland Department of the Environment.

In 2012, twenty State Agencies recycled at least 20 percent of their waste and Maryland State Government, as a whole, exceeded the minimum rate and recycled 28 percent of the waste it generated.

Details are available on the Maryland State Agencies' 2012 Recycling Rates Table included on Page 3 of this newsletter. Further details are available in the annual Maryland Solid Waste Management and Diversion Report available on MDE's webpage at www.mde.state.md.us/programs/Land/RecyclingandOperationsprogram/Publications/Pages/Programs/LandPrograms/Recycling/publications/index.aspx.

The next All StAR News is scheduled for the Winter of 2013/14.

Have a story idea or specific questions on a topic? Send to Christy Bujnovszky at Christy.Bujnovszky@maryland.gov

MDE

August 2013

composting, but are thrown away at OPCY because WMI does not offer pickup on Sundays. WMI transports the food scraps to their composting facility in Wilmington, DE.

To date, MSA is extremely pleased with this project and hopes to drastically reduce their amount of waste disposed. Thus far, 80 tons of food scraps have been collected at OPCY. In the future, MSA will look into the possibility of placing food scrap collection bins in the public areas so that the fans can also participate. For additional information on OPCY's food scraps composting program, please contact Mr. Matthew Kastel, Director of Baseball Operations and Events-Oriole Park, at 410-347-9317.

Maryland Department of the Environment's Swap Area

– CHRISTY BUJNOVSZKY
MDE STAFF

The Maryland Department of the Environment (MDE) has an on-going program where extra, unwanted office items that can be re-used are collected throughout the year. The materials are collected in a designated area called the "Swap Area" where employees can donate their surplus office supplies and furniture and also take whatever items are needed. Items such as desk lamps, chairs, binders, hanging folders, envelopes, book ends, in-boxes, and printer cartridges have been collected and reused by other employees. The area is monitored by MDE's Recycling Team to make sure items are usable and to keep the area organized.

It's easy for any State agency to start such a program! It is also a great example of source reduction. For more information about MDE's Swap Area, please contact Christy Bujnovszky at 410-537-4190.

Maryland Department of Transportation's Recycling Competition

– CHRISTY BUJNOVSZKY
MDE STAFF

Located in Hanover, MD, MDOT's The Secretary's Office (TSO) needed to come up with creative ways to save money after some budget reductions. Employees within TSO discovered that some offices throughout the building had a surplus of supplies; while others needed the supplies but had limited funds to purchase them.

With Earth Day 2013 quickly approaching, a few employees decided to combine their Earth Day program with a recycling competition. Each office used boxes to collect their unwanted items such as office supplies, furniture, old electronics, and even a car battery that had been abandoned in the parking lot. The boxes were labeled for each office, were collected by Facilities at the end of the competition, and weighed on a scale located in Facilities. After the weigh-in, the collected materials were separated into three categories: supplies that could be reused in-house; items that could be sold on eMaryland Marketplace; and items that could be recycled. The items that could be reused in-house were placed in the supply room where employees could come and get what they needed. The remainder were either sold or recycled.

The results were announced at the MDOT Earth Day festivities. The winning office collected 1,400 pounds of office supplies, materials, and equipment. The average office collected 300 pounds of supplies, with a total of nearly two tons collected! The winning office, The Office of Policy and Government Affairs, was awarded a pizza lunch and a "recycled" trophy-an old trophy that was collected during the competition. For additional information about TSO's recycling competition, please contact Mr. Robert Thompson, MDOT Recycling Coordinator, at 410-865-1180.

Helpful Resources

For information on Statewide recycling services contracts, access the Maryland Department of General Service's (DGS) webpage at: www.dgs.maryland.gov/Procurement/StatewideContracts/commodities.html

For information on Maryland green purchasing, access DGS' Buy Green webpage: www.dgs.maryland.gov/Procurement/Green/index.html

For additional information and resources on State Agency recycling, please visit MDE's State Agency recycling webpage at: www.mde.state.md.us/recycling.

August 2013

Maryland State Agencies' 2012 Recycling Rates

Compiled by the Maryland Department of the Environment from Reports Submitted for Calendar Year 2012

Agency Name	No. of Sites	No. of Sites Reporting	No. of People	Total MRA Recycling 2012 (tons)	2012 MRA Recycling Rate (%)
Baltimore City Community College	1	1	8,796	20.65	3.98
Comptroller of the Treasury	1	1	845	153.17	84.17
Department of Agriculture	3	0	NR	NR	NR
Department of Assessments and Taxation	15	15	971	26.85	32.74
Department of Budget and Management	1	1	190	19.90	49.87
Department of Education	29	25	1,474	138.28	26.61
Department of General Services	22	22	9,894	818.97	20.48
Department of Health and Mental Hygiene	17	16	6,058	1,663.84	13.34
Department of Human Resources	29	24	5,715	874.35	33.59
Department of Juvenile Services	15	13	2,379	195.86	7.70
Department of Labor, Licensing & Regulation	13	12	1,314	238.71	26.72
Department of Natural Resources	6	6	705	36.71	23.06
Department of the Environment	5	5	981	61.49	47.09
Department of Transportation	81	81	25,653	12,147.38	46.95
Department of Veterans Affairs	12	0	NR	NR	NR
Dept. of Housing and Community Development	3	3	427	75.08	16.27
Dept. of Public Safety and Correctional Services	30	30	36,056	3,181.13	12.01
Gov's Office Crime Control Prevention	1	1	800	2.73	13.30
Judiciary of Maryland	1	0	NR	NR	NR
Maryland Automobile Insurance Fund	1	1	357	71.61	41.17
Maryland Department of Disabilities	1	1	26	3.95	42.20
Maryland Department of Planning	1	1	138	205.73	62.24
Maryland Energy Administration	1	1	175	3.85	22.99
Maryland Environmental Service	4	4	244	15.99	63.83
Maryland Food Center Authority	1	1	1,325	0.25	0
Maryland General Assembly	1	0	NR	NR	NR
Maryland Insurance Administration	1	1	1,255	20.60	47.93
Maryland Military Department	1	0	NR	NR	NR
Maryland Public Broadcasting Commission	1	1	190	46.75	17.98
Maryland School for the Deaf	2	2	1,015	414.49	48.72
Maryland Stadium Authority	1	1	1,000	492.33	22.81
Maryland State Archives	1	1	117	2.88	4.76
Maryland State Police	28	27	1,682	318.67	16.20
MD Emergency Management Agency	1	0	NR	NR	NR
Morgan State University	1	1	9,241	117.76	12.79
St. Mary's College of Maryland	1	1	2,558	2,126.67	66.13
Subsequent Injury Fund	1	0	NR	NR	NR
University of Maryland System	17	17	141,709	9,501.67	38.54
TOTAL	**351**	**317**	**263,290**	**32,998.30**	**28.08**

NR = No Report

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APPENDIX E

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County Recycling Coordinators

Allegany

Ms. Terry Bennett
Recycling Coordinator
Allegany County Department of Public
Works
701 Kelly Road
Cumberland, MD 21502-
Phone: (301) 777-5933   **Ex:**
Fax: (301) 777-2001
Email: terry.bennett@allconet.org

Anne Arundel

Mr. Richard (Rich) Bowen
Solid Waste Recycling Manager
Waste Management Services
2662 Riva Road
MS-7406
Annapolis, MD 21401-
Phone: (410) 222-7954   **Ex:**
Fax: (410) 222-4484
Email: richard.bowen@aacounty.org
Ms. Kelly Mackall, Program Specialist
Mr. Robb Fish, Program Specialist

Baltimore City

Mr. Robert Murrow
Recycling Coordinator
Bureau of Solid Waste
200 Holiday Street
Baltimore, MD 21202-
Phone: (410) 396-4511   **Ex:**
Fax: (410) 545-6117
Email: robert.murrow@baltimorecity.gov

Baltimore County

Mr. Charles Reighart
Recycling Coordinator
County Office Building
111 West Chesapeake Avenue, Rm 225
Towson, MD 21204-
Phone: (410) 887-2000   **Ex:**
Fax: (410) 887-2931
Email: creighart@baltimorecountymd.gov
Mr. Clyde Trombetti, Public Info. Specialist
Ms. Anne Marcher, Public Info. Specialist

Calvert

Mr. Bill Teter
Office of Recycling
P.O. Box 1330
401 Sweetwater Road
Lusby, MD 20657-
Phone: (410) 326-0210   **Ex:**
Fax: (410) 586-9461
Email: teterwj@co.cal.md.us

Caroline

Mr. Jake Jacobs
Recycling Coordinator
Department of Public Works
520 Wilmuth Street
Denton, MD 21629-
Phone: (410) 479-4040   **Ex:**
Fax: (410) 479-0409
Email: jjacobs@carolinemd.org

Carroll

Ms. Maria Myers
Chief, Bureau of Solid Waste
Dept. of Public Works
225 North Center Street
Room 200
Westminster, MD 21157-5194
Phone: (410) 386-2633
Fax: (410) 840-8279
Email: mtmyers@ccg.carr.org

Cecil

Ms. Tanya Adams
Recycling Coordinator
758 East Old Philadelphia Road
Elkton, MD 21921-
Phone: (410) 996-6275   **Ex:**
Fax: (410) 287-4608
Email: tadams@ccgov.org

Charles

Ms. Frances Sherman
Department of Public Facilities
1001 Radio Station Road
La Plata, MD 20646-
Phone: (301) 932-3569   **Ex:**
Fax: (301) 932-3449
Email: shermanf@govt.co.charles.md.us

Dorchester

Mr. Thomas Moore
Dorchester Co. Dept. of Solid Waste
5435 Handley Road
Cambridge, MD 21613-
Phone: (410) 463-0171   **Ex:**
Fax: (410) 228-9516
Email: tmoore@docogonet.com

Frederick

Ms. Lori Finafrock
Recycling Coordinator
Department of Solid Waste
9031 Reichs Ford Road
Frederick, MD 21704-
Phone: (301) 600-7403   **Ex:**
Fax: (301) 600-3044
Email: lfinafrock@frederickcountymd.gov

Garrett

Ms. Kim Madigan
Garrett County Office of Solid Waste
3118 Oakland-Sang Run Road
Oakland, MD 21550-
Phone: (301) 387-0322   **Ex:**
Fax: (301) 387-2224
Email: kmadigan@garrettcounty.org

Harford

Ms. Melissa Filiaggi
Recycling Coordinator
Division of Environmental Affairs
3135 Scarboro Road
Street, MD 21154-
Phone: (410) 638-3417   **Ex:**
Fax: (410) 638-4019
Email: mcfiliaggi@harfordcountymd.gov

Howard

Mr. Alan Wilcom
Division Chief, Recycling Division
Bureau of Environmental Services
6751 Columbia Gateway Drive
Columbia, MD 21046-
Phone: (410) 313-6444   **Ex:**
Fax: (410) 313-6490
Email: awilcom@co.ho.md.us
Ms. Kim Reichart, Recycling Coordinator

Kent

Mr. Martin Holden
Waste Management Coordinator
Kent County Public Works
709 Morgnec Road
Suite 104
Chestertown, MD 21620-
Phone: (410) 778-7448   **Ex:**
Fax: (410) 778-7424
Email: mholden@kentgov.org

Midshore

Mr. Richard Keller
Midshore Recycling Program
259 Najoles Road
Millersville, Maryland 21108
Phone: (410) 729-8200   **Ex:**
Fax: (410) 729-8383
Email: rkell@menv.commailto:jwood@qac.org

Montgomery

Mr. Alan Pultyniewicz
Division of Solid Waste Services
101 Monroe Street
6th Floor
Rockville, MD 20850-
Phone: (240) 777-6400   **Ex:**
Fax: (240) 777-6465
Email:
alan.pultyniewicz@montgomerycountymd.gov
Mr. Tom Kusterer
Mr. Bill Davidson

Prince George's

Ms. Marilyn Rybak
Recycling Manager
1220 Caraway Court
Suite 1050
Largo, MD 20774-
Phone: (301) 883-5045   **Ex:**
Fax: (301) 883-7645
Email: merybak@co.pg.md.us

Queen Anne's

 Ms. Connie Toulson
Recycling Coordinator
312 Safety Drive
Centreville, MD 21617-
Phone: (410) 758-2697   **Ex:**
Fax: (410) 758-6606
Email: ctoulson@qac.org

Somerset

Mr. Charles Cavanaugh
Director of Solid Waste Management
Somerset County Government
11916 North Somerset Avenue
Princess Anne, MD 21853-
Phone: (410) 651-9641   **Ex:**
Fax: (410) 651-1156
Email: ccavanaugh@co.somerset.md.us

St. Mary's

Mr. Nicholas Zurkan
Recycling Coordinator
Engineering Services
P.O. Box 508
California, MD 20619-
Phone: (301) 863-8400   **Ex:** 3550
Fax: (301) 863-8810
Email: nicholas.zurkin@stmarysmd.com

Talbot

Mr. Derick Brummell
Recycling Coordinator
Department of Public Works
605 Port Street
Easton, MD 21601-
Phone: (410) 770-8168   **Ex:**
Fax: (410) 770-8176
Email: derickb@talbotgov.org

Washington

Mr. Anthony (Tony) Drury
Recycling Coordinator
12630 Earth Care Road
Hagerstown, MD 21740-
Phone: (240) 313-2796   **Ex:**
Fax: (240) 582-3412
Email: adrury@washco-md.net

Wicomico

Mr. Henrik Wise
Recycling Coordinator
6948 Brick Kiln Road
Salisbury, MD 21801-
Phone: (410) 548-4935   **Ex:**
Fax: (410) 548-4847
Email: hwise@wicomicocounty.org
Ms. Mary Phillips (MRA Report)

<u>Worcester</u>

Mr. Ronald Taylor
Recycling Coordinator
Central Facility Landfill
7091 Central Site Lane
Newark, MD 21841-
Phone: (410) 632-3177   **Ex:**
Fax: (410) 632-3000
Email: rtaylor@co.worcester.md.us