



MARYLAND

Department of the Environment

MARYLAND SOLID WASTE MANAGEMENT and DIVERSION REPORT

– 2011 –

(Calendar Year 2010 Data)

Prepared by:

Waste Diversion and Utilization Program
Land Management Administration

Prepared for:

Senate Education, Health, and Environmental Affairs Committee

House Environmental Matters Committee

Martin O'Malley, Governor
State of Maryland

Anthony G. Brown, Lt. Governor
State of Maryland

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

Michael E. Busch, House Speaker
Maryland General Assembly

November 2011



MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard | Baltimore, MD 21230 | www.mde.state.md.us/recycling
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Martin O'Malley, Governor | Anthony G. Brown, Lt. Governor | Robert Summers, Ph.D., Secretary





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Overview

Introduction

The Maryland Department of the Environment (“MDE” or “the Department”) respectfully submits to the Governor, General Assembly, House Environmental Matters 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 2010. Beginning in 2010, the Maryland Waste Diversion Activities Report and Solid Waste Management 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 solid waste landfills; rubble (construction and demolition (C&D)) landfills; industrial waste landfills; landclearing debris landfills; solid waste transfer stations; solid or 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 calendar year (CY) 2010, and an overview of the State’s technical assistance activities from July 2010 through June 2011. Data contained in Part II comes from annual reports submitted to MDE by Maryland’s 23 counties and Baltimore City, annual reports filed by Maryland permitted solid waste acceptance facilities, State government agencies participating in the All StAR (**All State Agencies Recycle**) Program, and newspaper and telephone directory publishers. Counties also provide MDE information on their collection programs, institutional recycling programs, public education efforts, source reduction activities, and disposal facilities.

Executive Summary

In 2010, Maryland counties and Baltimore City generated 11,573,831 tons of solid waste. 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 6.8 percent from the 12,422,018 tons generated in 2009. Maryland Recycling Act (MRA) waste (MRA waste is equal to Municipal Solid Waste (MSW) plus industrial waste from

non-private industrial waste landfills) comprises 6,660,569 tons (2,731,195 tons of MRA recyclables + 3,929,374 tons of MRA waste disposed (without recycled MSW ash)) of the total waste generated in Maryland.

A total of 8,379,569 tons of waste was accepted at Maryland permitted solid waste acceptance facilities. Of the 8,379,569 tons of solid waste accepted, a total of 7,791,268 tons was managed by Maryland permitted solid waste acceptance facilities during calendar year 2010, by recycling, disposal (incineration and landfilling), or transportation out of State (see Table 3, page 5). Table 1 gives a breakdown, by Maryland county, of the 11,573,831 tons of waste that was generated. Table 2 details the difference between the amount 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 1 – Maryland Waste Generation Totals

County	Total Waste (tons)
Allegany	597,704.12
Anne Arundel	1,031,789.45
Baltimore City	852,817.79
Baltimore County	2,292,221.49
Calvert	126,817.83
Carroll	389,173.65
Cecil	218,336.25
Charles	548,640.67
Dorchester	69,972.30
Frederick	347,842.12
Garrett	62,060.48
Harford	330,240.81
Howard	729,385.31
Mid-Shore *	288,905.91
Montgomery	1,374,040.94
Prince George's	1,519,880.70
Somerset	43,048.30
St. Mary's	130,037.94
Washington	212,333.12
Wicomico	129,771.89
Worcester	144,058.54
State Highways	134,751.00
MARYLAND TOTALS	11,573,831

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

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

Waste Detail		Tons
A	Total Maryland Waste Recycled (see Table 20)	5,981,419
B	Total Maryland Waste Disposed	5,592,412
C	Total Waste Generated in Maryland (A + B) (see Table 1)	11,573,831
D	Recycling total adjusted for amount managed through Maryland permitted solid waste acceptance facilities (5,981,419 – 1,893,540 (see Table 3))	4,087,879
E	Total waste disposed by Maryland counties but not captured by a Maryland permitted solid waste acceptance facility ^	329,449
F	Natural Wood Waste Disposed (see Table 12)	0
G *	Recycled Ash, Back-End Scrap Metal, and By-Pass Adjustment ^^	303,821
H	Total waste imported into Maryland (see Table 13)	193,210
I **	Maryland Ash, Back-End Scrap Metal, and By-Pass Disposed ^^	137,734
Total Waste Managed by Maryland permitted solid waste acceptance facilities (C-D-E+F+G+H+I) (see Table 3)		7,791,268
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 recycled product material from the incineration process is subtracted from the amount of material sent to the incinerator. However, this material is managed by permitted facilities.

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

^ Reported by counties via the MRA Tonnage Reporting Survey.

^^ Reported by permitted solid waste acceptance facilities via the Solid Waste Tonnage Report.

Maryland achieved a 44.6 percent MRA waste diversion rate. This was comprised of a 41 percent (2,731,201 tons) MRA recycling rate plus a 3.6 percent (246,403 tons reduced) source reduction credit. An additional 3,250,224 tons of materials (*e.g.*, scrap metal, asphalt and concrete, etc.) that do not count towards the MRA recycling rate were also recycled for a grand total of 5,981,425 tons recycled in Maryland.

Other highlights for CY 2010:

- Approximately 2,101,405 tons (27.0 percent) of the waste managed by Maryland permitted solid waste acceptance facilities was landfilled, 1,747,953 tons (22.4 percent) was recycled/reused, 1,374,883 tons (17.6 percent) was incinerated, and 2,567,027 tons (33.0 percent) was exported to out-of-State facilities.
- Maryland remains a significant exporter of solid waste and exports more waste than it imports. A total of 2,567,027 tons of waste was exported from Maryland, while only 193,210 tons of waste was imported to Maryland, a decrease of 6.5 percent from 2009.
- Maryland landfills reported a total available capacity of 88,480,930 tons in 2010.

Part I – Permitted Solid Waste Acceptance Facility Waste Management

Introduction

This part of the report **ONLY addresses waste managed 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 reporting the above information, permit holders for solid waste acceptance facilities may submit optional information relating 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 calendar year 2010. 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 2010 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 Acceptance Facility Solid Waste Management for 2010

In 2010, approximately 8.4 million tons of solid waste was accepted by Maryland permitted solid waste acceptance facilities. The 8.4 million tons includes waste stored on site and waste sent from one facility to another. Of the 8.4 million tons accepted, approximately 7.8 million tons were actually managed by recycling/disposal in Maryland or transportation out of State. Table 3 details the waste managed by Maryland permitted solid waste acceptance facilities.

Table 3 – Waste Managed in 2010 by Maryland Permitted Solid Waste Acceptance Facilities*

Solid Waste Category	Tons Accepted ¹	Tons Recycled/ Reused ²	Tons Disposed	Tons Managed ³
Construction & Demolition Debris	1,630,970	228,744	1,272,032	1,500,776
Industrial Waste	31,251	341	30,910	31,251
Land Clearing Debris	31,548	20,440	11,108	31,548
Municipal Solid Waste	4,611,294	0	4,172,090	4,172,090
Natural Wood Waste	308,050	308,050	0	308,050
Other Wastes ⁴	1,356,103	1,050,809	285,642	1,336,451
Total Waste Received	7,969,216	1,608,384	5,771,782	7,380,166
Tons of MSW Incinerator Ash	411,102	285,156	125,946	411,102
TOTAL MANAGED	8,380,318	1,893,540	5,897,728	7,791,268

* Includes waste generated inside and outside of Maryland.

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.

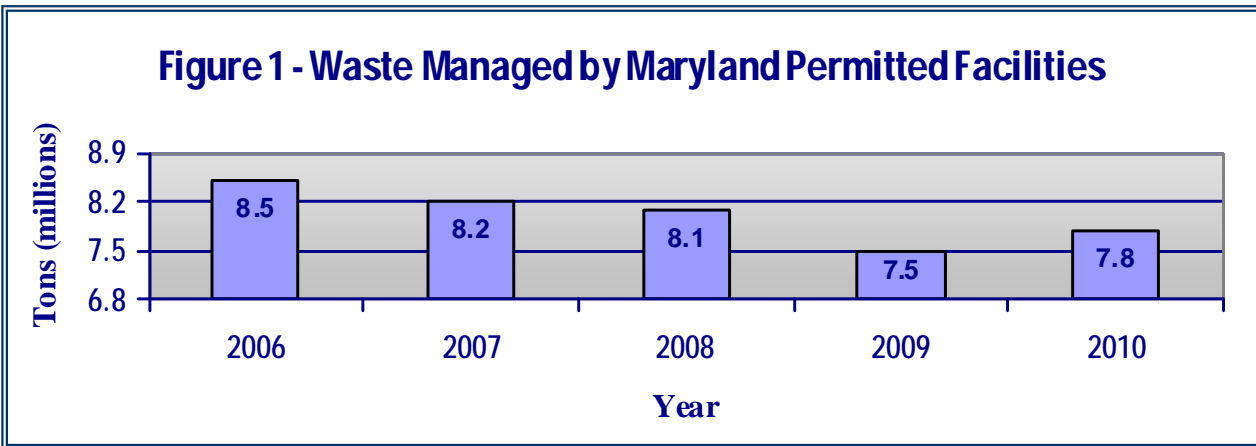
3 "Tons Managed" is equal to "Tons Recycled/Reused" plus "Tons Disposed". "Tons Managed" is waste that was managed both in Maryland and outside of Maryland (see Figures 3 and 4 and Tables 14 and 15).

4 "Other Wastes" includes special medical waste, non-MSW ash, asbestos, and sewage sludge.

There was an approximately 7 percent decrease, to 193,210 tons, in the amount of out-of-State waste that was managed in Maryland in 2010, as compared to 2009. The volume of solid waste accepted, processed, and disposed at the permitted facilities in Maryland is similar to previous years. Approximately 2.1 million tons of waste was disposed and 1.4 million tons was incinerated in Maryland. The reclaimed recyclables were collected, sorted, and transferred to recycling facilities.

The use of out-of-State facilities for disposal of municipal waste generated in Maryland is likely to maintain current levels (33% percent of waste was exported in 2010 and 33.7 percent was exported in 2009). Very large out-of-State commercial landfills can achieve higher efficiency 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 managed via export, disposal (*i.e.*, landfilling and incineration), and recycling/reuse.



Refuse Disposal Systems

Under Maryland law, a refuse disposal system (“System”) is a system that includes the services, facilities, or properties used in connection with the intermediate or final disposal of any solid waste, unless these activities are limited to waste generated by an individual, a single corporation or business, or are disposed as authorized by a permit issued by the Department under Environment Article, § 7-232, § 9-224, or § 9-323, Annotated Code of Maryland. 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 Solid Waste (MSW) Landfill

A MSW landfill is designed, constructed and operated so that all types of waste generated by a community, except waste specifically prohibited by solid waste

regulations, can be accepted. During 2010, of 24 permitted facilities, 22 facilities accepted waste, managed/disposed waste, and/or transferred recyclables to the market place. The Midshore II Solid Waste Regional Municipal Landfill in Caroline County began its operations during 2010. The Harford Waste Disposal Center (Expansion) Municipal Landfill is under construction. The 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. Over 1.57 million tons of solid waste was disposed at the permitted facilities in 2010. The two facilities that disposed the most waste were Brown Station Road Landfill (450,974 tons) in Upper Marlboro and Quarantine Road Landfill (128,931 tons) in Baltimore City. Ash recycled as alternative daily cover contributes toward a MSW landfill's capacity since the ash is recycled at the landfill. Details are presented in Table 4.

Table 4 – Permitted MSW Landfills

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
Allegany	Mountainview Sanitary Landfill	Private	60,671	60,671	0
Anne Arundel	Millersville Landfill & Resource Recovery Facility	County	108,442	70,719	13,751
Baltimore City	Quarantine Road Landfill	City	354,879	128,931	238
Baltimore County	Eastern Sanitary Landfill	County	178,531	128,347	3,731
Calvert	Appeal Sanitary Landfill	County	11,182	993	8,751
Caroline	Midshore II Landfill	County	11,786	11,786	0
Carroll	Northern Municipal Landfill	County	14,331	14,071	260
Cecil	Cecil County Central Landfill	County	162,022	103,002	5,200
Charles	Charles County Municipal Landfill	County	107,815	95,429	1,280
Dorchester	Beulah Municipal Landfill	County	54,930	54,728	202
Frederick	Fort Detrick – Area B & Main Post	Federal	1,211	1,211	0
	Reichs Ford/Site B Municipal Sanitary Landfill	County	32,273	16,014	11,300
Garrett	Garrett County Solid Waste Disposal & Recycling Facility	County	36,319	36,054	117
Harford	Harford Waste Disposal Center	County	75,806	12,531 ^	25,965
Harford	Harford Waste Disposal Center (Expansion)	County	0	0	0
Howard	Alpha Ridge Municipal	County	44,178	509	23,524

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
	Landfill				
Montgomery	Montgomery County Site 2 Landfill	County	0	0	0
Prince George's	Brown Station Road Landfill	County	452,708	450,974	1,734
St. Mary's	St. Andrew's Municipal Landfill	County	14,775	0	14,775
Somerset	Somerset County Landfill – Fairmount Site	County	25,508	25,416	92
Talbot	Midshore Regional Solid Waste Facility	County	228,590	90,060	2,016
Washington	Forty West Municipal Landfill	County	113,989	109,076	3,632
Wicomico	Newland Park Municipal Landfill	County	102,177	102,177	0
Worcester	Central Sanitary Landfill	County	65,485	61,147	3,107
TOTAL			2,257,608	1,573,846	119,675

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2010, but not managed until 2011.

^ Includes 6,372 tons of recycled ash used for landfill construction.

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 2010, of five permitted rubble landfills, four landfills disposed of 500,234 tons of waste. The two that disposed of the most waste by weight were Ritchie Land Reclamation – Marlboro Road (199,796 tons) in Upper Marlboro, Prince George's County, and Days Cove Rubble Landfill (142,948 tons) in White Marsh, Baltimore County. Details are presented in Table 5.

Industrial Waste Landfill

An industrial waste landfill is a solid waste acceptance facility restricted to the acceptance of only non-hazardous industrial waste. Industrial waste is defined as any liquid, gaseous, solid, or other waste substance, or combination thereof, resulting from (a) any process of industry, manufacturing, trade or business; or (b)

Table 5 – Permitted C&D Landfills

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
Baltimore County	Days Cove Rubble Landfill – Lateral Expansion	Private	224,736	142,948	293
	Honeygo Run Reclamation Center	Private	256,347	140,722	790
Prince George's	Ritchie Reclamation – Marlboro Road	Private	294,628	199,796	4,235
Queen Anne's	Baker Rubble Landfill	Private	18,770	16,768	277
Washington	Washington County Rubble Landfill	County	0	0	0
TOTAL			794,481	500,234	5,595

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2010, but not managed until 2011.

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. During 2010, there were two permitted industrial waste landfills that accepted waste. The Grace Division Landfill in Baltimore City accepted the most industrial waste, 17,004 tons, for disposal. Details are presented in Table 6.

Table 6 – Permitted Industrial Waste Landfills

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
Baltimore City	Millennium Inorganic Chemicals – HPP Landfill	Private	4402	4402	0
	W. R. Grace and Co. – Davison Chemical Division	Private	17,004	17,004	0
Frederick	Eastalco Aluminum Company	Private	0	0	0
TOTAL			21,406	21,406	0

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2010, but not managed until 2011.

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 2010, only two of the five permitted facilities accepted waste and disposed of 5,919 tons of waste. Details are presented in Table 7.

Table 7 – Permitted Landclearing Debris Landfills

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Disposed	Waste Transported
Calvert	Hance Landclearing Debris Landfill	Private	3,710	0	0
	Hill Landclearing Debris Landfill	Private	0	0	0
	M. T. Parran Landclearing Debris Landfill	Private	0	0	0
	Howlin Landclearing Debris Landfill	Private	5,919	5,919	0
St. Mary's	Knott Landclearing Debris Landfill	Private	0	0	0
TOTAL			9,629	5,919	0

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2010, but not managed until 2011.

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 a wide variety of solid waste materials at the transfer station. A typical transfer station may accept MSW, C&D, metals, wood waste, yard waste, recyclables, etc. During 2010, there were nine permitted transfer stations in operation that accepted a total of 583,752 tons of solid waste. The two busiest transfer stations in Maryland during 2010 were the Western Acceptance Facility in Baltimore County (265,647 tons accepted) and the Eastern Sanitary Landfill Transfer Station in Baltimore County (108,787 tons accepted). Details are presented in Table 8.

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

Table 8 – Permitted Solid Waste Transfer Stations

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Stored	Waste Transported
Baltimore City	Northwest Transfer Station	Municipal	42,790	0	42,790
Baltimore County	Eastern Sanitary Landfill	County	108,787	0	108,787
	Western Acceptance Facility	County	265,647	76	265,571
Calvert	Appeal Sanitary Landfill	Private	108,141	0	108,141
Cecil	Stemmers Run Transfer Station	County	874	0	874
	Woodlawn Transfer Station	County	2,656	0	2,656
Howard	Workplace Essentials Transfer Station	Private	149	0	149
Talbot	Midshore Regional Solid Waste Facility	Maryland Environmental Service/State	21,534	0	21,534
Worcester	Ocean City Transfer Station	Municipal	33,174	0	33,174
TOTAL			583,752	76	583,676

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2010, but not managed until 2011.

these facilities. A typical solid waste processing facility accepts MSW, C&D, metals, wood waste, etc. During 2010, five out of nine permitted processing facilities accepted waste. A total of 236,194 tons of waste was accepted at these facilities. The largest of these facilities was Lawrence Street C&D Processing facility in Prince George’s County which accepted 87,059 tons of solid waste and Roll-Off Express, Inc. in Carroll County, which accepted 68,487 tons. Details are presented in Table 9.

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 2009, a total of sixteen facilities were in operation. Of the sixteen facilities, fourteen sites accepted 2,381,552 tons of waste in 2010. The two facilities that accepted the most waste tonnage in 2010 were Montgomery County Solid Waste Transfer Station in Montgomery County (728,412 tons) and Annapolis Junction Recycling and Transfer Station in Anne Arundel County (505,944 tons). The details are presented in Table 10.

Table 9 – Permitted Solid and Medical Waste Processing Facilities

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 Facility	Private	23,081	0	23,081
Carroll	Roll-Off Express, Inc.	Private	68,487	0	68,487
Montgomery	C&D Recovery Processing Facility	Private	57,562	464	57,617
Prince George's	Lawrence Street C&D Facility	Private	87,059	0	87,059
Prince George's	Dower House Recycling and Processing Facility	Private	0	0	0
Prince George's	Kenilworth Recycling and Processing Facility	Private	0	0	0
Wicomico	Peninsula Regional Medical Center	Private	5	0	5
	Bennett Processing Facility	Private	0	0	0
TOTAL			236,194	464	236,249

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2010, but not managed until 2011.

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	146,107	0	146,107
	Annapolis Junction Recycling and Transfer Station	Private	505,944	0	505,944
Baltimore City	BFI Baltimore Processing and Transfer Center	Private	70,465	0	70,465
	Stericycle, Inc.	Private	23,668	0	23,668
	Baltimore Recycling Center, LLC	Private	41,206	0	41,206
	Daniels Sharpsmart	Private	785		785
Baltimore County	Baltimore County Resource Recovery Facility	County	331,579	298	331,516

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Stored	Waste Transported
Carroll	Northern Municipal Landfill	County	87,653	0	87,653
Frederick	Reichs Ford Landfill	County	166,592	0	166,592
Harford	Auston Processing and Transfer Facility	Private	2,245	264	2,085
Howard	Alpha Ridge Municipal Landfill	Private	33,286	0	33,286
	Ameriwaste Processing and Transfer Station	Private	171,631	0	171,631
Montgomery	Montgomery County Solid Waste Transfer Station	County	728,412	0	728,412
Prince George's	Brandywine Enterprises	Private	71,979	0	71,979
St. Mary's	St. Andrew's Waste Processing and Transfer Station	County	0	0	0
TOTAL			2,381,552	562	2,381,329

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2010, but not managed until 2011.

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 municipal solid waste, 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 2010, the nine facilities in operation accepted 1,376,544 tons of solid waste. Wheelabrator Baltimore, LP. in Baltimore City and the Montgomery County Resource Recovery Facility accepted the bulk of the material in this category, accounting for 676,448 tons and 553,438 tons, respectively. Details are presented in Table 11.

Table 11 – Permitted Incinerator Facilities

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Incinerated	Waste Transported
Baltimore City	Wheelabrator Baltimore, LP.	Private	676,448	676,434	204,623
	Curtis Bay Energy	Private	25,478	25,478	9,483
	University of Maryland – Baltimore	State	170	0	170
Charles	Naval Support Facility Indian Head Incinerator	Federal	119	4	119
Frederick	Fort Detrick – Area B and Main Post	Federal	4,498	2,960	2,139

Jurisdiction	Facility Name	Ownership	Waste Accepted *	Waste Handled	
				Waste Incinerated	Waste Transported
Harford	Harford County Resource Recovery Facility	County	116,257	116,433	52,057
Montgomery	Montgomery County Resource Recovery Facility	County / Northeast MD Waste Disposal Authority	553,438	553,438	173,100
Somerset	Smith Island Incinerator	County	105	105	28
Washington	Washington County Hospital	Private	31	31	6
TOTAL			1,376,544	1,374,883	441,725

* Waste Accepted will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2010, but not managed until 2011.

Natural Wood Waste Recycling Facility

MDE views natural wood waste (NWW) as vegetation, in its natural state, that has been discarded or designated for disposal and requires owners or operators of facilities that receive or process natural wood waste to obtain a permit to operate. A natural wood waste recycling (NWWR) facility manages and recycles NWW and is regulated under Code of Maryland Regulations 26.04.09. 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 can recycle NWW into useful products. A 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. Additionally, facilities that only accept processed wood are not required to obtain a NWWR Facility Permit from MDE. During 2010, of twenty-eight permitted operations, twenty-five facilities reported 308,050 tons of NWW recycled. The two highest volume facilities, Edrich Lumber in Baltimore County and L & W Recycling Inc. of Anne Arundel County, accepted 55,931 tons and 35,000 tons, respectively. Details of 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/LandPrograms/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 Recycled *	Waste Handled	
				Waste Stored	Waste Marketed
Anne Arundel	A-A Recycle & Sand	A-A Recycle & Sand, Inc.	17,202	0	23,098
	Bronson Contracting, Inc.	Bronson Contracting, Inc.	2,936	2,936	0
	L and W Recycling	L & W Recycling, Inc.	35,000	0	35,000
Baltimore County	King Mulch and Pallet	Albert J. Bierman	6,990	135	6,855
	Edrich Lumber	Edrich Lumber, Inc.	55,931	0	55,931
	Northwest Recycling	Northwest Recycling LLC.	20,455	20,455	0
	Wirtz & Daughters	Wirtz And Daughters, Inc.	15,272	0	32,564
	Hollins Organic Products	Hollins Organic Products, Inc.	13,581	3,384	10,197
Calvert	Sawmill Road Natural Wood Waste Recycling Facility	Quality Built Homes, Inc.	15,203	10,991	4,212
Carroll	C. J. Miller	C. J. Miler, LLC.	8,532	0	8,838
	Recycled Green Industries	Recycled Green Industries, LLC.	32,775	0	38,056
Cecil	Grass Busters Landscaping	Grass Busters Landscaping Company, Inc.	0	0	0
	A L C Stump and Brush Recycling	A L C Stump and Brush Recycling	450	0	450
Charles	Maxi Mulch	Maxi Mulch, LLC.	957	476	481
	James E. Hill	James E. Hill	1,606	891	715
Frederick	Butler Wood Recycling	William Lee Butler	1,609	1,034	575
	Bussard Brothers Landscape	R. W Bussard & Sons, Inc.	5,000	5,000	0
Harford	Arthur D. Heston	Arthur D. Heston	570	0	570
	Crouse Construction Company	Crouse Construction Co., Inc.	0	0	0
	T and M Mulch Natural Wood Waste Recycling Facility	Pope Thomas/T&M Mulch, Inc.	4,501	0	4,501
	Comer Construction, Inc.	Comer Construction, Inc.	16,631	0	17,849
Howard	Jerom M. Carlin	Jerom M. Carlin	30,195	0	32,984

Jurisdiction	Facility Name	Permittee	Waste Recycled *	Waste Handled	
				Waste Stored	Waste Marketed
Montgomery	Twin Ponds Farm	Twin Ponds Farm, LLC.	1,164	833	331
	Acme Biomass Reduction	Acme Biomass Reduction, Inc.	17,741	12,736	5,005
Queen Anne's	Baker Rubble Landfill	R.B. Baker & Sons, Inc.	1,977	0	1,977
Talbot	Dependable Sand and Gravel Company	Dependable Sand And Gravel Company, Inc.	1,172	0	1,480
Wicomico	Dunn's Tractor Service	Dunn's Tractor Service Inc.	0	0	0
	Eastern Shore Forest Products	Eastern Shore Forest Products, Inc.	600	0	600
TOTAL			308,050	58,871	282,269

* Waste Recycled will not always equal the sum of the waste handled columns. For example, waste may be accepted in 2010, but not managed until 2011.

Imported Solid Waste

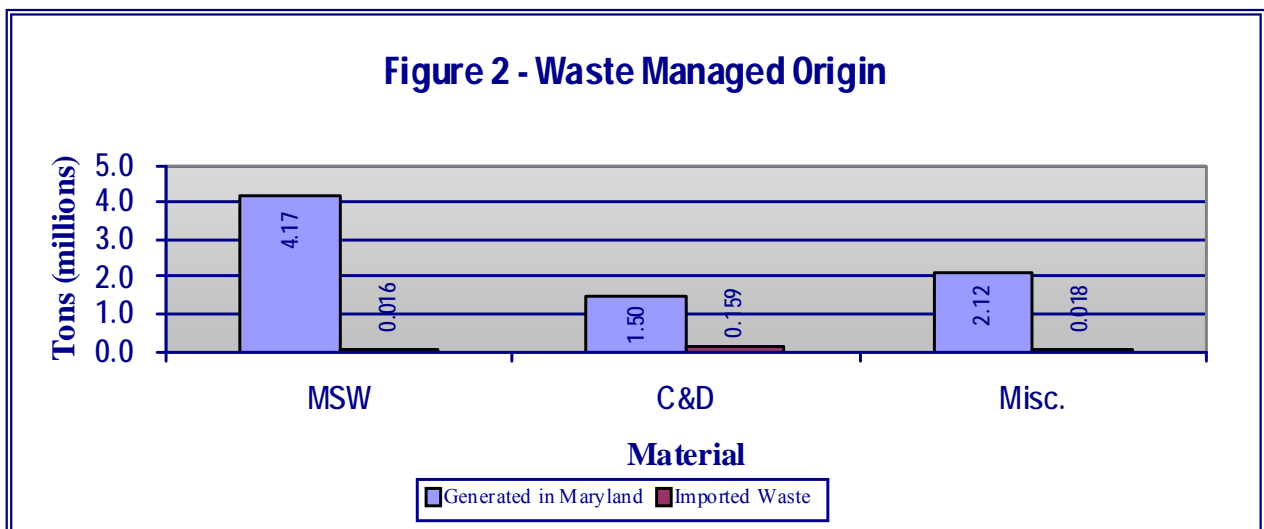
Table 13 compares the amount of solid waste in tons, by category, that was generated outside Maryland and imported into the State for management, to the total amount of solid waste managed at permitted solid waste acceptance facilities in Maryland. Figure 2 illustrates the comparison of the amount of solid waste in tons imported into Maryland for management, to the amount of Maryland-generated solid waste accepted at permitted solid waste acceptance facilities. In CY 2010, Maryland's permitted solid waste acceptance facilities accepted waste from Delaware, New Jersey, New York, Pennsylvania, Virginia, Washington D.C., West Virginia, and North Carolina. Highlights include:

- ⊙ In 2010 (193,210 tons), there was a decrease of approximately 6.5 percent of the amount of solid waste imported into Maryland compared to calendar year 2009 (206,698 tons).
- ⊙ The solid waste imported into Maryland comprises approximately 2.5 percent of the 7.79 million tons of solid waste managed at permitted Maryland solid waste acceptance facilities.
- ⊙ The facilities that received the most imported MSW were the Mountainview Sanitary Landfill in Allegany County, BFI Baltimore Processing and Transfer Center in Baltimore City, and Roll-Off Express, Inc., in Carroll 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 Honeygo Run Reclamation Center and Days Cove Rubble Landfill – Lateral Expansion in Baltimore County; Ritchie Reclamation – Marlboro Road and Brandywine Enterprises in Prince George's County; and C&D Recovery Processing Facility in Montgomery 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	15,622	DE, PA, WV, NJ District of Columbia	4,172,090
C&D	159,339	DE, NJ, PA, VA, WV, District of Columbia	1,500,776
Miscellaneous *	18,249	DE, NY, PA, VA, WV, NC, District of Columbia	2,118,402
TOTAL	193,210		7,791,268

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



Exported Solid Waste

Due to economic considerations and the desire to conserve disposal capacity in county-owned landfills, many counties in Maryland transport some of their solid waste out of State for recycling or disposal. These jurisdictions include: Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Dorchester, Frederick, Garrett, Harford, Howard, Montgomery, Prince George’s, St. Mary’s, Talbot, Washington, and Worcester Counties. The Annapolis Junction Recycling and Transfer Station in Anne Arundel County exported the majority of its MSW to King George Landfill in Virginia and the Baltimore County Resource Recovery Facility transported more than 70% its solid waste to nine states. Ash from the Montgomery County Solid Waste Transfer Station in Dickerson was exported to Brunswick and Old Dominion landfills in Virginia for disposal. A large amount of recyclables collected at the Montgomery County Solid Waste Transfer Station were transported to various out-of-State facilities. Figure 3 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:

- ❖ Over 2.5 million tons of solid waste, consisting of MSW, C&D and miscellaneous wastes (including incinerator ash and recyclables) were transported outside Maryland for management. This represents nearly 33 percent of the total solid waste managed at Maryland’s permitted solid waste acceptance facilities.
- ❖ A total of thirty-six (36) facilities exported solid waste for disposal or recycling to out-of-State facilities.
- ❖ The Annapolis Junction Recycling and Transfer Station, which transferred 448,823 tons of waste, was the largest State exporter of solid waste.

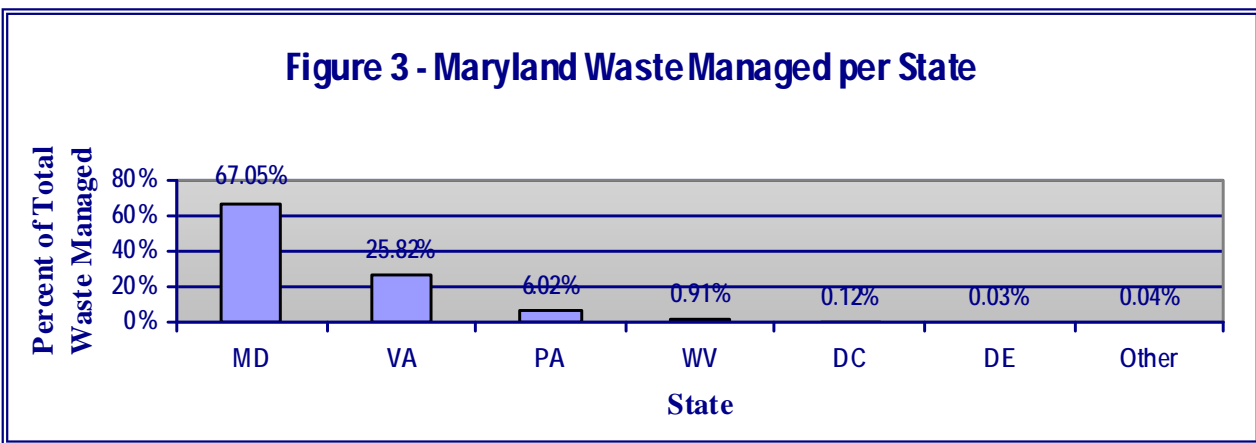


Table 14 – Maryland Exported Waste Tonnage by State Destination

Solid Waste Category	Virginia	Pennsylvania	Delaware	West Virginia	District of Columbia	Other	Total (Tons)
MSW	1,364,989	410,109	0	0	0	0	1,775,098
C&D	469,239	29,775	0	0	0	0	499,014
Recycling	54,405	7,631	2,224	70,952	9,697	678	145,587
Miscellaneous *	123,226	21,660	8	190	0	2244	147,328
TOTAL (Tons)	2,011,859	469,175	2,232	71,142	9,697	2,922	2,567,027

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

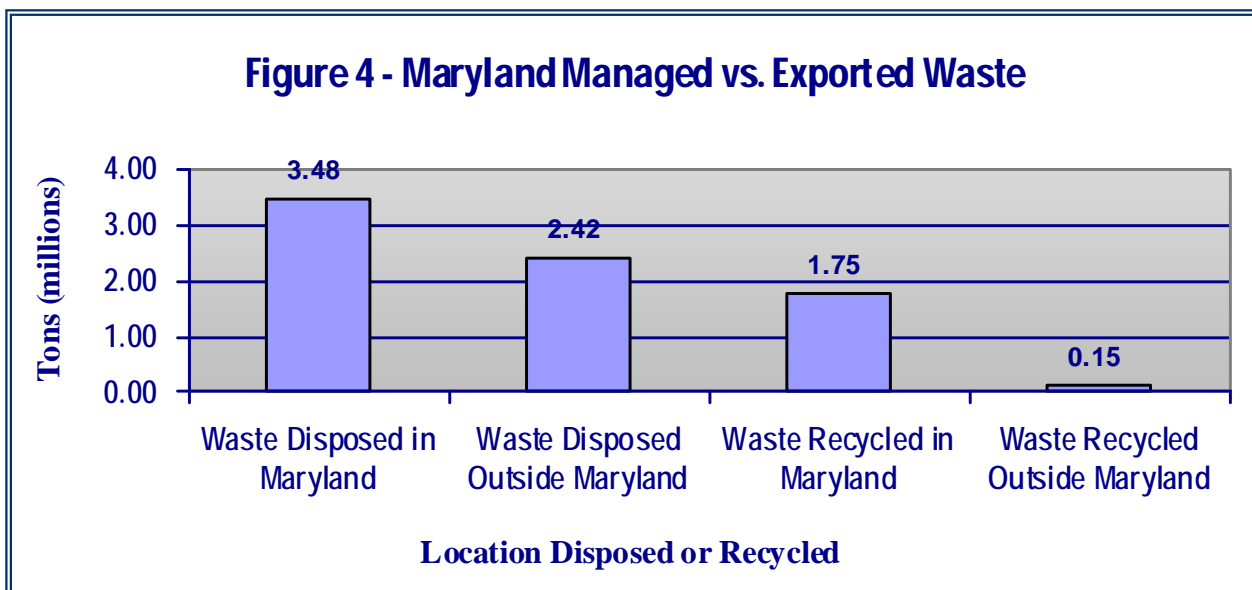
Solid Waste Management Practices

In 2010, 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.

Approximately 162,633 tons of the 2,567,027 tons of Maryland exported waste was incinerator ash. Figure 4 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
Exported	2,567,027	33%
Landfilled in Maryland	2,101,405	27%
Incinerated in Maryland	1,374,883	18%
Recycled/Reused in Maryland	1,747,953	22%
TOTAL	7,791,268	100%



Landfill Capacity

Landfills in Maryland are required to report on their available cubic yard (CY) 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 61,921,894 tons (98,288,721 CY x 0.63 compaction factor) with 1,573,846 tons being disposed in 2010. This available capacity is based on the calculated compaction rates provided by the landfills. Thus, at the current disposal rate, there would be approximately 39 years (61,921,894 ÷ 1,573,846) 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. Lastly, the Department notes that due to the anticipated relocation of military personnel to Maryland under the Federal BRAC program, jurisdictions must pay close attention to capacity issues in the coming years.

Table 16 – MSW Landfill Capacity

Municipal Landfill Facility Name	Permit Number	Permitted Capacity (CY)	Landfilled To Date (CY)	Landfilled To Date (TONS)	Remaining Capacity (CY)	Reach Capacity Year	Landfilled in 2010 (TONS)	Used in 2010	Permitted Cells
Alpha Ridge Municipal Landfill	2005-WMF-0110	9,978,000	4,137,499	2,275,724	5,840,501	2127	509	.02%	4
Appeal Municipal Landfill	2007-WMF-0531	2,799,290	607,113	364,268	2,192,177	2033	993	0.6%	5
Beulah Sanitary Landfill	2009-WMF-0554	1,483,205	1,277,943	1,367,511	205,262	2015	54,728	3%	4
Brown Station Road Landfill	2003-WMF-0589	16,505,000	10,107,396	6,832,553	6,397,604	2019	450,974	4%	11
Cecil County Central Landfill	2007-WMF-0532	6,527,539	4,119,291	2,553,960	2,408,248	2024	103,002	2.4%	3
Central Sanitary Landfill	2006-WMF-0152	4,800,000	1,865,433	1,305,803	2,934,567	2037	61,147	1.9%	9
Charles County Municipal Landfill	2005-WMF-0076	4,374,700	1,331,555	971,938	3,043,145	2031	95,429	3.3%	4
Eastern Sanitary Landfill	2005-WMF-0052	23,479,000	11,743,000	5,341,000	11,736,000	2044	128,347	1%	9
Fort Detrick – Area B & Main Post	2005-WMF-0327	1,000,900	102,860	80,383	898,040	2429	1,211	0.2%	17
Forty West Municipal Landfill	2007-WMF-0266A	20,273,000	3,256,500	1,331,552	17,016,500	2070	109,076	1.4%	15
Garrett County Solid Waste Disposal & Recycling Facility	2006-WMF-0094	2,042,927	925,560	540,589	1,117,367	2027	36,054	3%	4
Harford Waste Disposal Center	2005-WMF-0098	2,980,000	2,873,303	1,552,244	106,697	2012	12,531	1.2%	10
Harford Waste Disposal Center (Expansion) **	2000-WMF-0570	4,870,330	0	0	4,870,330	2028	0	0	6
Midshore Regional Solid Waste Facility	2004-WMF-0144	3,924,994	3,684,695	2,032,481	240,299	2010	90,060	4.3%	4
Midshore II Regional Solid Waste Facility **	2005-WMF-0608	7,800,000	18,708	11,786	7,781,292	2031	11,786	0	5
Millersville Landfill & Resource Recovery Facility	2007-WMF-0240	14,156,000	4,716,486	2,959,123	9,439,514	2034	70,719	1%	9
Montgomery County Site 2**	2009-WMF-0237	0	0	0	0	N/A	0	0	0
Mountainview Sanitary Landfill	2006-WMF-0010	4,260,000	3,173,963	2,193,933	1,086,037	2018	60,671	2%	9
Newland Park Municipal Landfill	2005-WMF-0283	7,200,000	2,483,184	1,340,920	4,716,816	2036	102,177	2.6%	10
Northern Municipal Landfill	2005-WMF-0066	3,504,187	1,085,494	542,747	2,418,693	2062	14,071	0.3%	4
Quarantine Road Landfill	2005-WMF-0325	18,320,622	9,313,517	10,896,843	9,007,105	2026	128,931	1.6%	6
Reichs Ford/Site B Municipal Sanitary Landfill	2005-WMF-0307	7,003,487	3,159,057	1,808,872	3,844,430	2045	16,014	.7%	3
St. Andrews Municipal Landfill*	2005-WMF-0138	0	0	0	0	2001	0	0%	5
Somerset County Landfill – Fairmount Site	2009-WMF-0268	1,610,000	621,903	314,001	988,097	2023	25,416	3.1%	4
Totals		168,893,181	70,604,460	46,618,231	98,288,721		1,573,846	1.6%	160

* St. Andrews 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 2005-WMF-0138 to operate the closed St. Andrews Landfill as a transfer station.

** Harford Waste Disposal Center (Expansion) and Midshore II Regional Solid Waste Landfills are being constructed. Montgomery County Site 2 Landfill's construction is on hold until the County needs landfill space in the future.

Construction and Demolition Debris landfills (Table 17) reported a total available capacity of 14,487,548 tons (18,573,780 CY x 0.78 compaction factor) with 500,234 tons disposed in CY 2010. At the current disposal rate, there would be approximately 29 years of available C&D landfill capacity in Maryland.

Table 17 – C&D Landfill Capacity

Landfill Facility Name	Permit Number	Permitted Capacity (CY)	Landfilled To Date (CY)	Landfilled To Date (TONS)	Remaining Capacity (CY)	Reach Capacity Year	Landfilled in 2010 (TONS)	Used in 2010	Permitted Cells
Baker Rubble Landfill	2006-WRF-0622	820,000	524,440	305,237	295,560	2018	16,768	4%	1
Days Cove Rubble Landfill – Lateral Expansion	2009-WRF-0592	3,200,000	1,472,547	900,549	1,727,453	2015	142,948	7.6%	9
Honeygo Run Reclamation Center	2008-WRF-0579A	11,723,461	3,842,589	2,669,138	7,880,872	2045	140,722	1.8%	9
Ritchie Land Reclamation Partnership	2003-WRF-0590	7,055,800	420,879	420,879	6,634,921	2043	199,796	2.8%	5
Washington County Rubble Landfill	2009-WRF-0270	2,201,664	166,690	83,345	2,034,974	2020	0	0	5
TOTALS		25,000,925	6,427,145	4,379,148	18,573,780		500,234	3.2%	29

Industrial landfills (Table 18) have 12,003,791 tons (6,743,703 CY x 1.78 compaction factor) of available capacity. If the current rate of 21,406 tons are disposed annually, there would be approximately 561 years of available industrial landfill capacity in Maryland.

Table 18 – Industrial Landfill Capacity

Landfill Facility Name	Permit Number	Permitted Capacity (CY)	Landfilled To Date (CY)	Landfilled To Date (TONS)	Remaining Capacity (CY)	Reach Capacity Year	Landfilled in 2010 (TONS)	Used in 2010	Permitted Cells
W.R. Grace and Co. – Davison Chemical Division	2005-WIF-0613	495,000	78,616	101,327	416,384	2038	17,004	3.5%	1
Eastalco Aluminum Company	2009-WIF-0537	380,000	79,517	109,256	300,483	2050	0	0%	5
Millennium Inorganic Chemicals – HPP Landfill	2005-WIF-0527	7,293,378	1,266,542	2,184,045	6,026,836	3163	4,402	.07%	5
TOTALS		8,168,378	1,424,675	2,394,628	6,743,703		21,406	1%	11

Landclearing Debris landfills (Table 19) have 67,697 (218,378 CY x 0.31 compaction factor) tons of capacity. At the current disposal rate of 5,919 tons annually, there would be approximately 11 years of available landclearing debris landfill capacity in Maryland.

Table 19 – Landclearing Debris Landfill Capacity

Landfill Facility Name	Permit Number	Permitted Capacity (CY)	Landfilled To Date (CY)	Landfilled To Date (TONS)	Remaining Capacity (CY)	Reach Capacity Year	Landfilled in 2010 (TONS)	Used in 2010	Permitted Cells
Howlin Landclearing Debris Landfill	2008-WLC-0577	64,120	42,480	53,100	21,640	2016	5,919	7.4%	1
Knott Landclearing Debris Landfill	2006-WLC-0134	94,500	75,621	6,875	18,879	2015	0	0%	1
Hance Landclearing Debris Landfill	2005-WLC-0252	267,053	126,973	63,486	140,080	2044	0	0%	1
Hill Landclearing Debris Landfill	2004-WLC-0551	25,439	22,600	33,900	2,839	2015	0	0%	1
M.T. Parran Landclearing Debris Landfill	2004-WLC-0550	55,180	20,240	30,360	34,940	2025	0	0%	1
TOTALS		506,292	287,914	187,721	218,378		5,919	1.4%	5

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 disposed in this Part were gathered from Maryland Recycling Act (MRA) Tonnage Reporting Surveys, filed with MDE, that 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. The MRA requires:

- ▲ Each jurisdiction to develop and implement recycling programs by January 1, 1994. Jurisdictions with populations greater than 150,000 are required to recycle 20 percent or more of their waste and jurisdictions with populations less than 150,000 are required to recycle 15 percent or more of their waste. In no case is the recycling rate to be less than 10 percent.
- ▲ 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.
- ▲ 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.
- ▲ Telephone directories distributed in the State to have a recycled content, by weight, of 40 percent in 2005 and all subsequent years.
- ▲ 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.

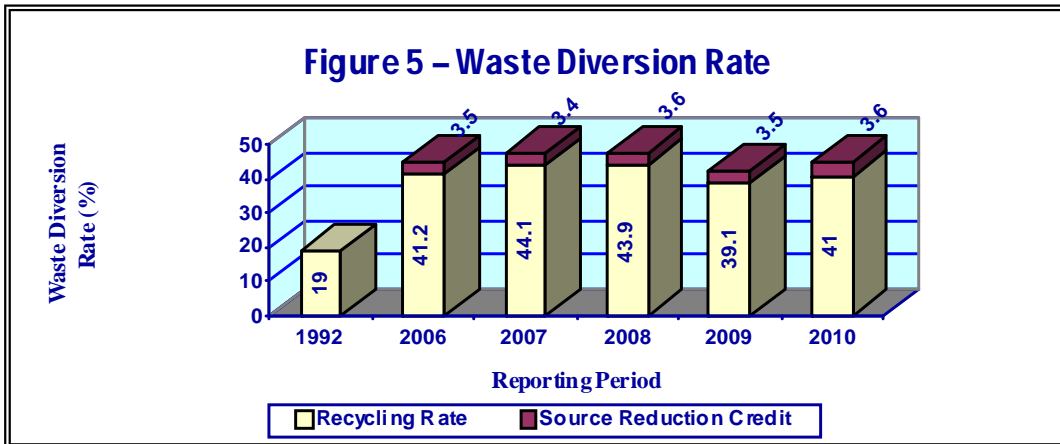
The MRA excludes from its scope scrap metal, landclearing debris, construction and demolition debris, sewage sludge, hospital wastes, and waste generated by a single individual or business and disposed in a facility dedicated solely for that entity's waste.

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).
- ▶ Mandating that Counties address the feasibility of composting mixed solid waste when developing solid waste management plans (1992).
- ▶ Including composting in the calculation of the recycling rate (1992).
- ▶ Banning separately collected yard waste from disposal at solid waste acceptance facilities (1994).
- ▶ 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, Statewide waste diversion goal of 40 percent by the year 2005, consisting of a 35 percent MRA recycling rate plus up to 5 percent credit for source reduction activities (2000).
- ▶ 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 Statewide collection, reclamation, and recycling of all products containing mercury (2006).
- ▶ Requiring that manufacturers of an average of more than 1,000 computers and video display devices in the previous three years who sell or offer for sale their product in Maryland register and pay a fee to MDE; providing that the revenue may be used to provide grants to counties and municipalities for computer and video display device recycling activities; replacing the 2005 computer recycling pilot program (2007).
- ▶ 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).
- ▶ Requiring a county recycling plan to address the collection, processing, marketing, and disposition of recyclable materials from county public schools; requiring a county to submit a revised recycling plan to MDE by October 1, 2010 (2009).
- ▶ Requiring, 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).
- ▶ Requiring a county recycling plan to address the collection and recycling of fluorescent and compact fluorescent lights that contain mercury; requiring a county to submit a revised recycling plan to MDE by October 1, 2011 (2010).

Maryland's 44.6 Percent Waste Diversion Rate

The recycling rate plus the source reduction (SR) credit make up the waste diversion rate. Through the efforts of its citizens, businesses and government agencies, Maryland achieved a Statewide waste diversion rate of 44.6 percent in calendar year (CY) 2010. The 44.6 percent waste diversion rate was composed of a 41 percent MRA recycling rate and a 3.6 percent SR credit. This exceeds the requirements of the MRA and the 40 percent waste diversion goal targeted for 2005. Figure 5 provides a historical breakdown of Maryland's waste diversion rate.



Maryland's 41 Percent Recycling Rate

In CY 2010, Maryland residents and businesses recycled 41 percent (MRA recycling tonnage ÷ (MRA recycling tonnage + MRA waste disposed)) of the municipal solid waste generated. 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 6 summarizes the recycling tonnages since 1992 and Figure 7 categorizes the total MRA tons recycled by material in CY 2010. Compostables and paper materials constituted the largest portion of materials recycled (miscellaneous materials are comprised of multiple materials, the largest being municipal incinerator ash at over 45 percent of the total miscellaneous materials). Table 20 details recycling and waste diversion totals for each of Maryland's jurisdictions.

Maryland's 36 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 towards the recycling

Figure 6 – MRA Recycling Tonnage

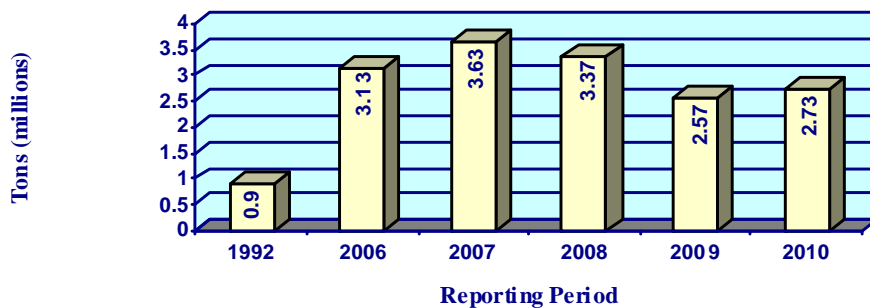
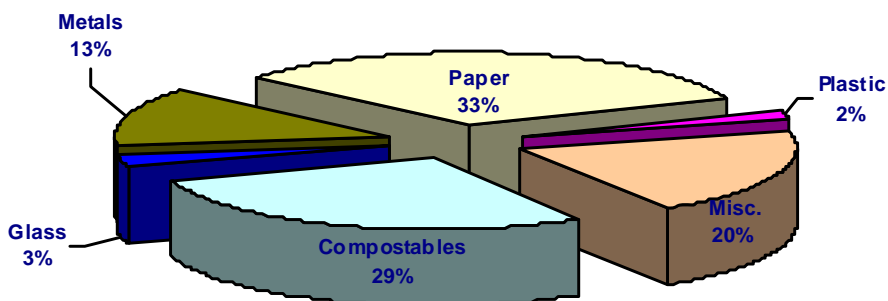


Figure 7 – MRA Materials Breakdown



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 towards 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 towards the recycling rate by 522,410 tons to 2,208,785 tons, for an EPA recycling rate of 36 percent. EPA's recycling rate goal is 35 percent by 2008.

Maryland's 3.6 Percent Source Reduction Credit

In 2010, fourteen 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 2010 is available in the "State, County, and City Recycling Rates" section of MDE's web page at www.mde.state.md.us/recycling.

Table 20 – County Recyclables by Commodity in Tons for Calendar Year 2010

Compiled by the Maryland Department of the Environment from Reports Submitted for Calendar Year 2010

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	25.19	27.19	6,061	244	1,247	7,387	867	6,116	21,922	493,224	515,146
Anne Arundel	44.05	47.05	96,354	12,123	39,767	98,583	6,323	26,229	279,379	217,303	496,682
Baltimore City	27.01	27.01	4,234	4,036	7,127	38,782	622	133,369	188,170	34,240	222,410
Baltimore County	40.99	45.99	97,825	5,499	56,351	137,672	3,438	132,422	433,207	857,377	1,290,584
Calvert	26.07	26.07	1,275	893	5,629	6,240	502	1,925	16,464	26,914	43,378
Carroll	41.17	46.17	37,359	8,396	4,647	12,523	4,026	6,144	73,095	183,436	256,531
Cecil	45.90	49.90	49,701	362	9,110	8,434	1,785	1,148	70,540	41,028	111,568
Charles	39.03	44.03	29,842	1,959	2,337	14,811	1,600	2,026	52,575	361,219	413,794
Dorchester	18.96	18.96	1,126	77	3,009	1,469	71	3,249	9,001	7,161	16,162
Frederick	44.30	49.30	27,194	2,939	3,525	43,161	2,077	28,547	107,443	45,963	153,406
Garrett	45.17	46.17	9,048	262	998	2,186	125	5,624	18,243	7,673	25,916
Harford	56.77	59.77	58,542	2,011	7,960	48,510	650	38,107	155,780	17,924	173,704
Howard	45.94	49.94	79,602	14,628	10,130	101,282	5,721	5,584	216,947	144,143	361,090
Mid-Shore¹	50.28	50.28	12,061	1,252	1,628	31,254	653	60,203	107,051	46,988	154,039
Montgomery	47.21	52.21	174,569	21,246	83,369	147,657	6,224	67,360	500,425	70,940	571,365
Prince George's	40.35	45.35	77,410	9,186	89,116	140,704	7,271	15,713	339,400	454,101	793,501
Somerset	18.44	18.44	6	48	3,847	118	22	16	4,057	13,463	17,520
St. Mary's	36.60	40.60	7,478	744	15,896	6,147	325	1,451	32,041	18,967	51,008
Washington	42.25	43.25	1,095	1,262	1,261	53,579	2,889	2,864	62,950	37,810	100,760
Wicomico	18.85	18.85	2,872	643	5,032	9,256	2,630	2,140	22,573	4,945	27,518
Worcester	22.85	22.85	12,585	437	1,906	3,441	185	1,384	19,938	30,654	50,592
State Highways of Additional Asphalt and Concrete Recycled										134,751	134,751
TOTAL*	41.01	44.57	786,239	88,247	353,892	913,196	48,006	541,621	2,731,201	3,250,224	5,981,425

* Due to rounding, tonnage totals in this table may differ slightly from the sum of actual values (*i.e.*, MRA = 2,731,194.51 tons, Non-MRA = 3,250,224.95 tons, Total = 5,981,419.45 tons).

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

2 MRA Recycling Rate = MRA recycling 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 that fall outside the scope of the standard MRA Recycling Rate, but are reported by the counties as recycled materials.

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. As counties learn from their successful colleagues, even more SR programs are expected.

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. In fact, over 3.2 million tons of non-MRA materials were reported as recycled in 2010. Table 21 offers a breakdown by category of the non-MRA materials reported as recycled in 2010.

Table 21 – Recycling of Non-MRA Materials in Tons

*Compiled by the Maryland Department of the Environment
from Reports Submitted for Calendar Year 2010*

MATERIAL	TONS RECYCLED
Antifreeze	3,606
Asphalt & Concrete	760,271
Coal Ash	500,680
Construction/Demolition Debris	256,246
Landclearing Debris	70,559
Scrap Automobiles	119,540
Scrap Metal	971,603
Sewage Sludge	50,885
Slag	83,829
Soils	165,370
Waste Oil	32,783
Other Materials	234,852
TOTAL	3,250,224

Maryland's 23.9 Percent All StAR Recycling Rate

Maryland State government recycling is directed by the 1988 MRA (*i.e.*, § 9-1706 of the Environment Article, Annotated Code of Maryland), which mandates 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. The MRA also requires State agencies to institute 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. 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 All StAR (**All State Agencies Recycle**) program is the name of the State government agency recycling program that is designed to help Maryland State government reach its recycling goals. All StAR agencies each designate 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.

In 2010, State agencies recycled 19,071 tons of MRA materials for an overall MRA recycling rate of 23.9 percent. This is a decrease from the 26.3 percent recycling rate reported in 2009. Table 22 summarizes the performance of each State agency participating in the All StAR program.

Table 22 – Maryland State Agencies’ 2010 Recycling Rates

Compiled by the Maryland Department of the Environment from Reports Submitted for Calendar Year 2010

Agency Name	No. of Sites	No. of Sites Reporting	No. of People *	Total MRA 2010 (tons)	2010 MRA Recycling Rate (%) ^
Department of General Services	19	19	11,857	976.20	24.57
Department of Labor, Licensing & Regulation	12	9	1,278	129.99	29.57
Department of Agriculture	3	0	NR	NR	NR
Maryland Public Broadcasting Commission	1	1	170	18.25	15.86
Comptroller of the Treasury	1	1	825	217.07	80.87
Maryland School for the Deaf	2	2	912	254.60	56.75
Department of Natural Resources	2	2	629	22.04	25.32
Department of Juvenile Services	15	0	NR	NR	NR
Maryland State Archives	1	1	84	5.15	14.17
Department of the Environment	1	1	880	45.71	39.20
Department of Transportation	78	49	24,725	3,455.31	27.56
Department of Health and Mental Hygiene	12	10	5,874	742.19	14.02
Maryland General Assembly	1	1	992	89.98	25.19
Dept. of Public Safety and Correctional Services	26	26	36,369	2,508.53	14.42
Department of Human Resources	14	14	4,754	275.35	27.37
Department of Assessments and Taxation	1	0	NR	NR	NR
University of Maryland System	16	16	137,405	7,297.76	33.46
St. Mary’s College of Maryland	1	1	2,493	384.52	34.91
Morgan State University	1	1	8,741	701.41	16.84
Department of Education	3	3	1,203	78.04	18.13
Maryland Automobile Insurance Fund	1	1	370	58.60	48.13
Maryland Stadium Authority	1	1	1,100	380.67	17.82
Baltimore City Community College	1	1	8,796	10.42	4.48
Maryland Environmental Service	1	1	212	15.59	62.48
Maryland Food Center Authority	1	1	1,328	915.60	14.27


Agency Name	No. of Sites	No. of Sites Reporting	No. of People *	Total MRA 2010 (tons)	2010 MRA Recycling Rate (%) ^
Judiciary of Maryland	1	0	NR	NR	NR
Subsequent Injury Fund Board	1	0	NR	NR	NR
Department of Veterans Affairs	1	0	NR	NR	NR
Department of Budget and Management	1	1	181	7.93	27.60
Maryland State Police	26	26	1,620	293.35	30.12
Maryland Higher Education Commission	1	1	67	9.60	39.80
Dept. of Housing and Community Development	1	1	400	151.18	78.42
Maryland Insurance Administration	1	1	698	25.50	93.68
TOTALS	248	192	253,963	19,071	23.91


* State employees comprise approximately 81,450 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

NR = No Report filed at time of publishing

 Recycling Rate greater than previous year

 Not all offices reported

Additionally, State government recycled over 18,142 tons of non-MRA materials, including construction and demolition debris, antifreeze, motor oil, scrap metal, landclearing debris, concrete, and asphalt, that do not count toward the MRA Recycling Rate. A complete breakdown of the 2010 All StAR statistics is available under "State Agency Recycling" on MDE's web page at www.mde.state.md.us/recycling. MRA tonnages reported by State agencies are included in the 2010 recycling totals reported by the counties (Table 20).

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. In 2010, State agencies generated 11 percent more MRA waste while recycling 19 percent less material than in 2009. Consider the following money-saving scenarios based upon 2010 data with an average Maryland tipping fee of \$58:

- § Maryland State government potentially realized \$1,106,118 of avoided disposal costs by recycling 19,071 tons of MRA material.
- § If each State agency (per the EO) achieves a 20 percent recycling rate by increasing its MRA tonnage, \$123,804 in additional avoided disposal costs would be realized for a potential total savings of \$1,229,922.
- § If each State agency (per the EO) achieves a 20 percent recycling rate by decreasing the amount of waste generated, additional savings of \$546,587 would be realized for a potential total savings of \$1,652,705.

MDE is working with State agencies to implement § 9-1706(b) of the Environment Article, Annotated Code of Maryland and continues to encourage State agencies to expand their recycling programs. MDE provides technical support, on-site expertise, and publishes the *All StAR News*, a newsletter devoted to recycling in State government, which is due to make its return in mid 2012 – 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 get 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, not enough 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. Requiring recycling to be integrated into State office space leases and janitorial contracts, similar to the way waste collection contracts are currently done, would overcome this obstacle and make improvements in the recycling programs for Maryland State government. Currently, State offices are allowed to set up recycling programs, but recycling services are not required as part of the lease. MDE and the Lease Management and Procurement Division of the Department of General Services (DGS) have met on this issue and are working toward this goal.

In addition, State agency recycling rates could be improved by designating a recycling coordinator for each State office that has the responsibility of ensuring recycling goals are met. Finally, it should be ensured that State offices have the means necessary to support successful recycling programs such as material staging areas and 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; coast; Chesapeake Bay and coastal ecosystems; and human health.

According to the U.S. Environmental Protection Agency (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 www.mde.state.md.us/programs/Air/ClimateChange/Pages/Air/climatechange/index.aspx and the EPA's web page at www.epa.gov/climatechange/index.html.

Using the EPA WARM (Waste Reduction Model), 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.

Table 23 – Per Ton Greenhouse Gas (MTCO₂E*) Emissions

Material	MTCO ₂ E – Landfilled	MTCO ₂ E – Source Reduced	MTCO ₂ E – Recycled	MTCO ₂ E – Combusted
Aluminum Cans	0 **	(8.30) **	(13.65) **	0.01 **
PET Plastic Bottles	0 **	(2.11) **	(1.56) **	1.24 **
Newspaper	0 **	(3.92) **	(1.83) **	0.39 **
Glass	0 **	(0.57) **	(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 MTCO₂E – Landfilled a value of 0. A **negative value** (*i.e.*, a **value in parentheses**) indicates an emission reduction, while a **positive value** indicates an emission increase compared to the landfilling of a material.

Table 24 – Per Ton Energy Use (BTU[^])

Material	BTU (million) – Landfilled	BTU (million) – Source Reduced	BTU (million) – Recycled	BTU (million) – Combusted
Aluminum Cans	0 **	(126.75) **	(206.95) **	0.11 **
PET Plastic Bottles	0 **	(71.28) **	(53.36) **	(10.07) **
Newspaper	0 **	(36.85) **	(16.89) **	(8.16) **
Glass	0 **	(7.46) **	(2.66) **	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.

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 2010. In Table 25, for example, the GHG emissions associated with the lifecycle of glass is 15,120 metric tons of carbon dioxide (CO₂) equivalent without waste diversion (*i.e.*, recycling and source reduction) activities, and -30,297 metric tons of CO₂ equivalent with Maryland’s waste diversion activities, for a total savings of 45,417 (*i.e.*, 15,120 - -30,297) metric tons of CO₂ equivalent. Additional information on EPA’s WARM is available at www.epa.gov/climatechange/wycd/waste/calculators/Warm_home.html.

GHG savings produced by Maryland’s waste diversion activities in 2010 (Table 25) are the equivalent of removing over 1,193,000 passenger cars from the roadway each year, conserving over 739,728,000 gallons of gasoline, conserving over 2,715,000,000 cylinders of

propane used for home barbeques, or conserving over 34,000 railway cars of coal. The energy savings reported in Table 26 are the equivalent of the annual energy consumption of over 453,000 households (*i.e.*, 21 percent of the estimated 2,156,411 households in Maryland in 2010), or the amount of energy contained in over 8,300,000 barrels of oil or over 391,000,000 gallons of gasoline.

**Table 25 – Maryland Waste Diversion and GHG Emissions
for Calendar Year 2010**

MRA Material	MTCO ₂ NWD	MTCO ₂ WD	MTCO ₂ Savings	MTCE NWD	MTCE WD	MTCE Savings
Compostables	321,314	227,018	(94,296)	87,631	61,914	25,717
Glass	15,120	(30,297)	(45,417)	4,124	(8,263)	12,387
Metals	(232,655)	(2,156,141)	(1,923,486)	(63,451)	(588,038)	524,587
Paper	(587,818)	(4,840,693)	(4,252,875)	(160,315)	(1,320,189)	1,159,874
Plastic	472,643	266,636	(206,007)	128,902	72,718	56,184
Miscellaneous	32,802	(44,309)	(77,111)	8,946	(12,084)	21,030
TOTAL	21,406	(6,577,786)	(6,599,192)	5,837	(1,793,942)	(1,799,779)

MTCE = Metric Tons of Carbon Equivalent

MTCO₂ = Metric Tons of Carbon Dioxide Equivalent

NWD = No Waste Diversion (baseline = 60.5% landfilled and 39.5% incinerated)

WD = Waste Diversion from Maryland CY 2010 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 2010

(in million BTUs)

MRA Material	BTUs NWD	BTUs WD	BTU Savings
Compostables	(1,578,386)	(490,175)	1,088,211
Glass	192,103	(219,201)	(411,304)
Metals	(2,540,276)	(30,194,466)	(27,654,190)
Paper	(6,666,922)	(24,239,041)	(17,572,119)
Plastic	(5,330,497)	(10,264,969)	(4,934,472)
Miscellaneous	(2,664,609)	(3,769,748)	(11,05,139)
TOTAL	(18,588,587)	(69,177,600)	(50,589,013)

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

NWD = No Waste Diversion (baseline = 60.5% landfilled and 39.5% incinerated)

WD = Waste Diversion from Maryland CY 2010 Waste Diversion Totals

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

Promoting Recycled Products

The collection, sorting, and use of recycled materials in the manufacturing of new products are just part of the recycling process. Once manufacturers turn recyclables into products, it becomes every citizen's responsibility to "close the loop" and buy products made of recycled material. 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:

- ❖ State government is required to purchase products with recycled content whenever practicable. A 5 percent pricing preference over similar items not made from recycled material is allowed.
- ❖ MDE works cooperatively with the Maryland Department of General Services (DGS) to promote government purchasing of materials with recycled content.
 - In FY 2011, 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 2009 through June 2010, MDE continued implementing special programs designed to expand recycling and protect public health and the environment.

Newsprint

Maryland law mandates that, on a Statewide basis, newspapers distributed in Maryland shall contain at least 40 percent recycled content newsprint. To determine compliance with the law, publishers are required to file quarterly and annual reports with 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 2010, the newsprint recycled content percentage was 55.2 percent, exceeding the requirements of the MRA.

Table 27 contains 59 known publishers that distribute 144 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	NR	Gay & Lesbian Community Ctr. of Baltimore	38.1
Afro-American Newspapers	35.4	Greenbelt Cooperative Publishing	NR
Alter Communications	46.3	Herald-Mail	60.5
American Farm Publications	38.4	Independent Newspapers, Inc.	36.1
Ascend Communications	50.7	Kimbel Publications	40.7
Baltimore Business Journal	23.9	Landmark Community Newspapers	40.9
Baltimore Newspaper Publishing Co., LLC	25.4	Latin American Times	NR
Baltimore Sun Community Newspapers	100	Legal Times	NR
Baltimore Sun	84.7	Maryland Coast Dispatch	NR
Baltimore Times Publications	24.8	Morgan Messenger	29.4
Bay Weekly	30.5	New York Times Company	29.6
Bayside Gazette	34.8	News Journal, Wilmington	24.3
Capital-Gazette Newspapers	44.4	Post Newsweek Media	61.6
Carroll Publishing Company	34.9	Prince George's Post	NR
Catholic Review	32.0	R&B Publishing Co.	NR
Chatsworth Enterprises	40.7	Randall Family, LLC	50.3
Chesapeake Publishing Corporation	32.5	Sentinel Newspapers	24.8
Citizen Communications, Inc.	100	Sincell Publishing Company	NR
City Paper	23.3	Southern Maryland Printing	NR
Connection Publishing	100	Southern Maryland Publishing Co.	47.8
Courier	32.3	Southern News Corporation	NR
Cumberland Times News	29.4	USA Today	33.1
Daily Record	40.7	Washington Business Journal	NR
Dow Jones & Company	25.8	Washington County Pickett	NR
El Tiempo Latino	48.7	Washington Newspaper Company	NR
Express Publications Company, LLC	51.2	Washington Newspaper Publishing Co., LLC	31.4
Flag Publications	30.3	Washington Post	49.3
Freestate Independent Inc.	100	Washington Times	42.3
FT Publications Inc.	20.5	Western Montgomery Bulletin	43.1
Gannett Company, Inc.	24.4	Statewide	55.2
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 the State of 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 five known publishers of telephone directories distributed in the State of Maryland. In 2010, recycled content for these directories was reported as follows:

- ✗ BSMG Directories – Did Not Report;
- ✗ Hispanic Yellow Pages – Did Not Report;
- ✗ Super Media - 40.0 percent recycled content;
- ✗ Yellow Book USA - 40.0 percent recycled content; and
- ✗ Yellow Pages Group Directories – Did Not Report.

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.

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 Computer Recycling Pilot Program (SCRPP) required computer manufacturers to register with, and pay an annual registration fee to, MDE in order to sell their products in Maryland. In 2007, the Statewide Electronics Recycling Program (SERP) was passed. Effective October 1, 2007, the SERP builds upon the success of the SCRPP. Key changes to the SCRPP include expanding the scope of electronics covered and clarification to the definition of "manufacturer". Highlights of the SERP include:

- ★ Requiring manufacturers who manufacture an average of more than 1,000 covered electronic devices per year in the immediately preceding 3-year period to register with and pay a registration fee to MDE if they plan to sell or offer for sale to any person in the State a new covered electronic device. A covered electronic device is a computer or video display device with a screen that is greater than 4 inches measured diagonally.
- ★ Payment of an initial annual registration fee of \$10,000. The subsequent annual renewal registration fee is \$5,000 but the fee can be reduced to \$500 provided the manufacturer has a MDE-approved takeback program.

- ★ Prohibiting a retailer 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.
- ★ Provision for civil and administrative penalties against manufacturers and retailers who fail to comply with the SERP.
- ★ Issuance of grants to counties and municipalities to assist with covered electronic device recycling activities.
- ★ Requiring counties 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, 2011, 76 manufacturers registered with MDE and were authorized to sell their products in Maryland in 2010. No eCycling grants were issued to the counties in Fiscal Year (FY) 2011 (July 1, 2010 through June 30, 2011).

Highlights of eCycling in Maryland from October 2001 **to December 2010**, include:

- ✓ 218 special collection events (*i.e.*, 1 or 2-day collection events) were held in 24 jurisdictions.
- ✓ There were 36 special events in 2010, a decrease of 4 over the 40 collection events in 2009.
- ✓ Permanent collection programs have been established in Anne Arundel, Baltimore, Calvert, Caroline, Carroll, Cecil, Charles, Frederick, Garrett, Harford, Howard, Kent, Montgomery, Prince George's, Queen Anne's, St. Mary's, Talbot, Washington, Wicomico, and Worcester Counties, and Baltimore City.
- ✓ Regularly scheduled eCycling collection events are held in the cities of Annapolis, College Park, Greenbelt, Laurel, Salisbury, Takoma Park, and Westminster.
- ✓ A one-day event in Baltimore County on April 30, 2005, collected over 89 tons of electronic equipment from 1,600 participants.
- ✓ Over 36,000 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. An additional 4,799 tons of electronics from commercial businesses were reported by the counties in 2010. 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	5,851,736	-	thru 12-31-09	-	27,798.41	55,596,813	-
eCycling Special Events in 2010 ^							
Allegany (2)	75,087	1-day	May, Sept	464	33.89	67,790	146
Carroll (3)	167,134	1-day	Mar, Apr, Jun	-	40.79	81,580	-
Midshore Region * (2)	138,843	1-day	Apr, Nov	1,088	42.40	84,800	78
Montgomery (7)	971,777	1-day	Mar, Apr, Jul thru Oct, Dec	-	70.01	140,020	-
Prince George's (14) **	863,420	1-day	Apr, Jul, May, Oct	2,061	43.20	86,408	42
Wicomico (1) **	98,733	1-day	Jan	150	3.77	7,550	50
Worcester (2)	51,454	1-day	Apr, Nov	442	27.75	55,490	126
Subtotal Events	2,366,448	-	2009	4,205	261.81	523,638	125
Permanent eCycling in 2010							
Anne Arundel ***	537,656	-	2010	-	1,055.77	2,111,548	-
Baltimore City	620,961	-	2010	-	716.43	1,432,860	-
Baltimore County	805,029	-	2010	-	1,718.62	3,437,240	-
Calvert	88,737	-	2010	-	391.47	782,940	-
Caroline	33,066	-	2010	-	6.31	12,613	-
Carroll	167,134	-	2010	-	238.75	477,500	-
Cecil	101,108	-	2010	-	192.23	384,460	-
Charles	146,551	-	2010	-	208.95	417,896	-
Frederick	233,385	-	2010	-	310.84	621,680	-
Garrett	30,997	-	2010	-	55.90	111,800	-
Harford	244,826	-	2010	-	288.44	576,880	-
Howard	287,085	-	2010	-	660.19	1,320,380	-
Kent	20,197	-	2010	-	13.05	26,100	-
Montgomery ***	971,777	-	2010	-	1,808.54	3,617,081	-
Prince George's ***	863,341	-	2010	-	320.59	641,175	-
Queen Anne's	47,798	-	2010	-	7.83	15,669	-
St. Mary's	105,151	-	2010	-	0.00	0.00	-
Talbot	37,782	-	2010	-	0.00	0.00	-
Washington	147,430	-	2010	-	155.08	310,160	-
Wicomico ***	98,733	-	2010	-	2.75	5,500	-
Worcester	51,454	-	2010	-	107.63	215,254	-
Subtotal Permanent	5,718,842	-	2010	-	8,259.37	16,518,736	-
TOTALS (2001 - 2009)				4,205 (2010)	36,319.59	72,639,187	125 (2010)

^ The Town of Brentwood (Prince George's County) had 5 events. The quantity of material collected was not tracked.
 * Midshore Region is composed of Kent, Queen Anne's, Talbot, and Caroline Counties.
 ** The totals for special events in the cities of College Park, Greenbelt, and Laurel were included in Prince George's County's special events total. Wicomico County total is a Salisbury event.
 *** Totals from the city of Annapolis's permanent eCycling drop-off were included in Anne Arundel County's permanent total. Totals from the city of Takoma Park's permanent eCycling drop-off were included in Montgomery County's permanent total. Totals from the City of College Park's permanent eCycling drop-off and Laurel's eCycling curbside program were included in Prince George's County's permanent total. Totals from the City of Salisbury's eCycling curbside program were included in Wicomico County's permanent total.

Mercury Recycling

MDE is working to ensure compliance with HB 1263 – Mercury Switch Removal from Vehicles (Environment Article Section 6-905.4 to 6-905.6). The law requires motor vehicle manufacturers to develop a mercury minimization plan that includes information on mercury switch removal from motor vehicles. Additionally, 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 2010 and 2011, MDE visited scrap recyclers in Maryland reminding them of their requirement to remove mercury switches from scrap automobiles and participate in the National Vehicle Mercury Switch Recovery Program (NVMSRP).

MDE continues to implement the 2001 mercury legislation entitled *Mercury and Products that Contain Mercury Act* (Environment Article, Subtitle 9 Sections 6-904 through 6-907). MDE has developed informational materials on the hazards of mercury, designed programs to encourage voluntary efforts of Marylanders to reduce mercury, increased awareness of mercury, and provided an information source for Marylanders in the event of mercury spills. In conjunction with County Health Officers and Environmental Health Directors, MDE worked to develop and distribute information for adults and children on mercury and mercury-containing products. Fact sheets are available on MDE's web page at www.mde.state.md.us/programs/Land/RecyclingandOperationsprogram/Mercury/Pages/Programs/LandPrograms/Recycling/mercury/index.aspx. The fact sheets cover such topics as mercury thermometer drop-off locations, general mercury information, alternative products to those containing mercury, mercury spill cleanup and spill kit vendor information, and fish consumption advisories. The MDE Emergency Response Division also continues to provide mercury specific response training to firefighters throughout the State.

MDE has collaborated with many organizations to fulfill the Mercury and Products that Contain Mercury Act mandates. Collaborations have been useful in ensuring that more Marylanders are aware of the hazards of mercury and the requirements of legislation concerning mercury. Some collaborations include:

- ✧ Support of the NVMSRP. 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 – Mercury Switch Removal from Vehicles (Environment Article Section 6-905.4 to 6-905.6) in 2009. In addition to being free

to scrap recyclers, the program pays scrap recyclers \$4 per switch that is returned for recycling. In 2010, 5,495 mercury containing switches (12.21 pounds) were collected for recycling. As of December 31, 2010, 116 recyclers of a possible 152 had enrolled in the program and submitted 51.46 pounds of mercury for recycling.

Mercury legislation enacted in 2006, Environment Article Section 6-905.2, prohibits the sale of mercury-containing thermostats by October 1, 2007. It also required that MDE report to the Governor and Legislature detailing the statewide collection, reclamation, and recycling of all products containing mercury.

Household Hazardous Waste (HHW)

The 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.state.md.us/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 at www.mde.state.md.us/recycling 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.state.md.us/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 where 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.state.md.us/programs/Land/RecyclingandOperationsprogram/EducationandOutreach/Pages/Programs/LandPrograms/Recycling/education/hhw.aspx.

Old automobile batteries can be returned to the 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 waste diversion web page at www.mde.state.md.us/recycling. 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 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.state.md.us/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/busguide.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/educationandoutreach/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/SpecialProjects/Pages/Programs/LandPrograms/Recycling/specialprojects/composting.aspx.

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 by on MDE's web page at www.mde.maryland.gov/programs/land/recyclingandoperationsprogram/publications/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 2010 through June 2011, 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 eighth Annual "Rethink Recycling" Sculpture Contest on November 19, 2010 at MDE headquarters.

The "Rethink Recycling" Sculpture Contest featured over 60 entries from 19 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, old records, broken mirrors, 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.

An alligator, chimes, a lamp, and a Maryland-themed cube were among the winning pieces of artwork.

MDE Web Site

Information on Maryland's waste diversion activities can be found on MDE's waste diversion web page at www.mde.state.md.us/recycling. The web page includes information on: State and County recycling programs, source reduction, special projects (*e.g.*, electronics and mercury recycling, composting, and household hazardous waste, etc.), setting up recycling programs at work and school, All StAR recycling, educational resources, and links to other sites. New information is added as it becomes available. MDE's website also offers Maryland's citizens and businesses the opportunity to 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 pharmaceutical 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 2010 include:

- Seventeen (17) counties achieved waste diversion rates greater than the 40 percent waste diversion goal.

- Fourteen (14) counties earned SR credits. Six (6) of these counties, Baltimore, Carroll, Charles, Frederick, Montgomery, and Prince George's earned the maximum 5 percent SR credit.
- Fifteen (15) counties accept fluorescent lights for recycling.
- Nine (9) Counties accept expired medication for proper disposal.
- Twenty-One (21) Counties had permanent electronic drop-off locations.
- Ten (10) counties held 36 eCycling collection events.
- Sixteen (16) counties operated textile collection programs.
- Sixteen (16) counties maintained mercury thermometer drop-off locations.
- Twelve (12) counties collected paint for recycling.
- Nineteen (19) 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	✓	✓	✓	✓/✓			✓	✓	✓	eCycle event, tire events; No hard cover books
Anne Arundel ^{CS}	✓		✓	✓/✓	✓	✓			✓	Cooking oil, wood pallets, scrap metal, tires, shingles
Baltimore City ^{CS}	✓		✓	✓/✓	✓	✓				bagged leaves and x-mas tree only
Baltimore County ^{CS}	✓	✓	✓	✓/✓	✓	✓		✓	✓	gasoline, propane tanks, usable building material, residential rechargeable batteries, vegetable oil
Calvert ^S	✓	✓	✓	✓/✓	✓	✓	✓	✓	✓	cooking oil, printer cartridges, scrap metal, auto tires, oil filters
Caroline			✓	✓/✓	✓		✓		✓	eCycle event: No hard covers books w/ mixed paper; Mid-shore program
Carroll ^{CS}	✓	✓	✓	✓/✓	✓	✓	✓	✓	✓	eCycle event: scrap metal, vinyl siding, plastic bags, grease/oil
Cecil ^{CS}	✓	✓	✓	✓/✓	✓	✓	✓	✓	✓	batteries, latex paint, oil filters, propane tanks, refrigerant units, wood pallets, vegetable oil
Charles ^{CS}	✓	✓	✓	✓/✓	✓	✓	✓		✓	household batteries, oil filters; No books, paperboard
Dorchester				✓/✓				✓		No books
Frederick ^{CS}	✓	✓	✓	✓/✓	✓		✓		✓	pesticide bottles, wood pallets, propane; No books
Garrett	✓			✓/✓	✓					#1 & 2 plastic only, inkjet & toner cartridges; No books
Harford ^C	✓		✓	✓/✓	✓	✓	✓	✓		gasoline, pesticide containers, oil filters, propane tanks, inkjet cartridges
Howard ^{CS}	✓		✓	✓/✓	✓	✓	✓	✓	✓	propane tanks, asphalt roof shingles, scrap metal, reusable building materials, carpet, vegetable oil
Kent			✓	✓/✓	✓		✓	✓	✓	eCycle event: pesticide containers, boat shrink-wrap; Mid-shore program; No hardback books
Montgomery ^C	✓		✓	✓/✓	✓	✓	✓	✓	✓	eCycle event: bicycles, cooking oil, propane tanks, tires, reusable building materials, scrap metal, rechargeable batteries, separated books
Prince George's ^{CS}	✓	✓	✓	✓/✓	✓	✓		✓	✓	eCycle event: cooking oil, mattress foam
Queen Anne's				✓/✓	✓		✓	✓	✓	eCycle event: boat shrink-wrap, bicycles, passenger tires; vegetable oil; Mid-shore program
St. Mary's ^S	✓	✓	✓	✓/✓	✓	✓	✓		✓	pesticide containers, oil filters, ink jet cartridges, cooking oil, rechargeable batteries, propane cylinders, scrap tires, scrap metal
Somerset ^S				✓/✓				✓		propane tanks, rechargeable batteries; No books
Talbot			✓	✓/✓	✓		✓		✓	eCycle event: pesticides, boat shrink-wrap; Mid-shore program
Washington			✓	✓/✓	✓			✓	✓	propane tanks, cooking oil, tires, yard waste, polystyrene, rechargeable batteries
Wicomico				✓/✓	✓		✓	✓	✓	pesticides, wood pallets
Worcester			✓	✓/✓	✓		✓	✓	✓	eCycle event

^c Curbside recycling collection ^s Single-stream Recycling (in Calvert Co. only some individual towns offer single-stream) ^o Have established Mercury Thermometer Drop-offs
~ Household Hazardous Waste Collection Day. Contact the County for details including materials accepted. ^ In this section, eCycle = electronics recycling

APPENDIX

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APPENDIX A

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Economic Benefits of Permitted Solid Waste Acceptance Facilities

This table provides information that was voluntarily reported by permitted solid waste acceptance facilities in 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 2010 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.
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.

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
Baltimore City	Cannon Hygiene USA, Inc. (Privately Owned)	Local employment, rent and other direct local purchases to support business.	Not provided.	8 full time employees. Salary and benefit valued at \$250,000.	Local expenditure: \$200,000.
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.
Calvert	Howlin Land Clearing Debris Landfill (Privately Owned)	Tax incentive.	Assisting county in disposing county solid waste.	3 employees.	No information provided.
Calvert	Southern Maryland Processing Facility (Privately Owned)	Assisting county in handling solid waste & promoting recycling.	Not provided.	4 employees.	\$10,000 annual purchase of goods and services, recycled products .
Calvert	Appeal Sanitary Landfill/Transfer Station* (County Owned)	The landfill is the sole County operated facility for the final disposition of County and out-of-county waste. The transfer station provides value to Calvert County by allowing the Division of Solid Waste to extend the useful life of the Appeal Municipal Landfill by at least 20 years, providing a tangible economic benefit.	Revenues are collected from users of the landfill via user fees and excise taxes. County residents may use the convenience centers free of charge, and for chargeable items, county residents pay a lower fee at the landfill than commercial haulers for disposal. The transfer station is complementary to the Appeal Municipal Landfill, and is operated in conjunction with ongoing solid waste refuse collection, landfilling and recycling operations.	The landfill operations and convenience centers are supported by a group of 38 staff with \$2,057,145 in salaries. The employees associated with the transfer station are neither hired, managed, evaluated, or 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.
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.

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
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 approximately 30% of Cecil County's population. These facilities provide outstanding recycling services. In 2006, Single Stream Recycling and recycling for ink cartridges was introduced. Solid waste staff provides recycling information and disposal guidelines.	\$400,000/23 Employees.	Special no cost or reduced cost program for recycling. Approximately \$7,000,000 generated by solid waste customers to operate this facility.
Frederick	Reichs Ford/Site B Municipal Sanitary Landfill/Transfer Station (County Owned)	Free curbside recycling, 12 recycling drop-off centers, HHW collection, mulch free, yard waste grinding & sampling and analysis of 29 off-site residential water wells adjoining landfill property.	Disposal of C&D and MSW.	\$2.2 Million/42 employees.	Spent \$2.6 million on various recycling contracts and programs.
Harford	Harford Waste Disposal Center* (Publicly Owned)	Provides County residents with mulch and compost products free (up to 3 bags) or at a reduced cost for amounts up to two cubic yards.	Provides County residents with solid waste disposal services at a competitive cost. Provides recycling services at "no cost."	\$2.2 Million/55 full time employees. Jobs include management, clerical, equipment operators, mechanics, chauffeurs, laborers, and weigh-master/attendants involved in both landfill and recycling activities.	\$1.2 Million Contractual Services. \$0.17 Million Supplies and Materials. \$0.34 Million Capital Equipment/ Fleet Management.

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
Howard	Work Place Essentials Transfer Station (Privately Owned)	Paid taxes and provides waste collection services to locality.	Assists County in providing collection of sanitary waste products originating from commercial restrooms in Baltimore, Howard, Anne Arundel Counties and others.	\$800,000/18 employees.	No information provided.
Howard	Ameriwest 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.	21 full time County employees. 58 full time Covanta Montgomery, Inc. and 17 full time/9 temporary MES employees.	Revenue from some materials partially offset's operating costs, allowing fees to remain relatively flat over the past several years.
Prince Georges	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 9 people for estimated budget of \$600,000.	Good and services purchased is approximately \$1.5 million, \$830,000 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.

Jurisdiction	Site Name	Economic Benefits To Community	Value of Facilities Provided	Direct Employment Benefits (Salaries/No. of Employees)	Other Economic Benefits
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.	\$1.7 million /30 employees. Jobs include: director (1), assistant director (1), office staff (2), operations supervisor (1), weigh clerk full time (4) and part time (2), equipment operators (8), 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).	\$7.5 million annual operating budget spent locally for the purchase of materials, goods and services.
Washington	Washington County Hospital	Provides health care for Washington County residents and the tri-state region.	No information provided.	Over 2,000 employees.	No information provided.
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.

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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	4/26/2014	- /5.85	13810 Hazmat Drive Cumberland, MD 21502
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	2008-WPT-0539	12/21/2013	- / 12.8	23 Stahl Road, Baltimore MD 21226. Accepts C&D Waste.
	Millersville Landfill and Resource Recovery Facility	WMF	CTY	895 / 460	2007-WMF-0240	11/1/2012	330 / 567	389 Burns Crossing Road, Severn MD 21144.
Baltimore City	BFI Baltimore Processing and Transfer Center	WPT	PRI	921 / 499	2007-WPT-0627	7/2/2013	- / 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	2005-WMI-0036	5/4/2011	- / 4.0	3200 Hawkins Point Road, Baltimore MD 21226. Formerly Phenix Services.
	Millennium Inorganic Chemicals – HPP Industrial Landfill	WIF	PRI	925 / 501	2005-WIF-0527	3/8/2012	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	2006-WPT-0631	11/19/2014	- / 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	7/9/2014	- / 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 21201-1010.
	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 BRESKO.
	W.R. Grace and Co. Industrial Landfill	WIF	PRI	921 / 500	2005-WIF-0613	1/24/2012	10.7/157	5500 Chemical Road, Baltimore MD 21226.
	Baltimore	Baltimore County Resource Recovery Facility	WPT	CTY	900 / 507	2010-WPT-0048	11/4/2015	6.0 / 7.3
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 Landfill		WTS	CTY	974 / 570	2006-WTS-0508	11/21/2011	- / 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.

County	Facility Name	Type	Owner Type	MD Grid * E / N	Permit Number	Expiration Date	Fill/Site Acreage	Site Location /Comments
	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	2007-WMF-0531	12/26/2012	30 / 350	401 Sweetwater Road, Lusby MD 20678.
	Appeal Transfer Station	WTS	PRI	961 / 200	2007-WTS-0519	5/30/2012	- / 1	401 Sweetwater 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	12/1/2014	2.9 / 17.6	MD Rte. 2 & Dalrymple Road, Sunderland MD 20689.
	Howlin Landclearing Debris Landfill	WLC	PRI	961 / 200	2008-WLC-0577	5/22/2013	3.0 / 32.7	8580 Nursery Road, Lusby MD 20657.
	M.T. Parran Landclearing Debris Landfill	WLC	PRI	945 / 227	2009-WLC-0550	12/1/2014	4.3 / 6.6	Eastside MD Rte 765 - North of MD Rtes 2 & 4, Street, Leonard MD 20689.
	Southern Maryland Processing Facility	WPF	PRI	910 / 310	2009-WPF-0597	7/9/2014	- / 0.2	7659 Binnacle Lane, Owings MD 20736
Caroline	Midshore II Solid Waste Regional Municipal Landfill	WMF	MES	405 / 113	2005-WMF-0608	2/2/2014	- / 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	8/3/2013	3 / 220	1400 Baltimore Boulevard, Westminster MD 21157.
	Roll-Off Express, Inc.	WPF	PRI	832 / 605	2007-WPF-0159	12/16/2012	- / 6.8	2900 Dede Road, Finksburg MD 21048.
Cecil	Cecil County Central Landfill	WMF	CTY	1107 / 644	2007-WMF-0532	10/21/2012	40 / 418	758 East Old Philadelphia Road, Elkton MD 21921.
	Stemmer's Run Transfer Station	WTS	CTY	1095 / 581	2005-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	5/21/2014	- / 1	101 Strauss Avenue, Indian Head MD 20640.
Dorchester	Beulah Municipal Landfill	WMF	CTY	1115 / 307	2009-WMF-0554	5/26/2014	27 / 40	6812 East New Market-Ellwood Road, Hurlock MD 21643.
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.
	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	2003-WMF-0582	5/8/2013	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.

County	Facility Name	Type	Owner Type	MD Grid * E / N	Permit Number	Expiration Date	Fill/Site Acreage	Site Location /Comments
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	2006-WPT-0616	9/12/2012	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	2000-WMF-0570	10/4/2012	77.4 / 286	3241 Scarboro Road, Street MD 21154.
	Harford County Resource Recovery Facility	WTE	PRI	994 / 573	2008-WTE-0576	3/20/2013	- / 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	2007-WPT-0578	11/20/2012	195 / 590	2350 Marriottsville Road, Marriottsville MD 21104.
	Ameriwaste Processing Facility and Transfer Station	WPT	PRI	865 / 489	2006-WPT-0572	11/5/2011	- / 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	2009-WPF-0581	3/31/2014	- / 10.8	24120 Frederick Road, Clarksburg MD 20871.
	Montgomery County Resource Recovery Facility	WTE	CTY	671 / 501	2008-WTE-0538	5/5/2013	- / 35	21204 Martinsburg Road, Dickerson MD 20842.
	Montgomery Co. Site 2 Municipal Landfill	WMF	CTY	680 / 490	2009-WMF-0237	5/12/2014	125 / 650	3 miles southwest of Dickerson, MD 20842. Landfill Not Constructed.
	Montgomery County Solid Waste Transfer Station	WPT	CTY	845 / 465	2006-WPT-0617	11/2/2011	- / 43	16101 Frederick Road, Derwood MD 20850.
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.
	Ritchie Reclamation Rubble Landfill Marlboro Road	WRF	PRI	849 / 372	2010-WRF-0590	12/28/2015	78 / 258	2001 Ritchie Marlboro Road, Upper Marlboro MD 20772.
	Brandywine Enterprises	WPT	PRI	826 / 391	2007-WPT-0218	9/12/2012	- / 1.5	5800 Sheriff Road, Fairmont Heights MD 20743. Accepts Only C&D Waste.
	Kenilworth Recycling Plant Processing Facility	WPF	PRI	820/302	2006-WPF-0571	10/19/2011	- / 9.2	4516 "S" Street Capitol Heights MD 20743
	Lawrence Street C & D Processing Facility	WPF	PRI	818/400	2006-WPF-0626	10/9/2012	1.8/2.85	4700-A Lawrence Street. Hyattsville MD 20781
Queen Anne's	Baker Rubble Landfill	WRF	PRI	1046 / 429	2006-WRF-0622	4/20/2013	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.

County	Facility Name	Type	Owner Type	MD Grid * E / N	Permit Number	Expiration Date	Fill/Site Acreage	Site Location /Comments
	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	2009-WMF-0268	10/11/2014	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 Hospital	WMI	PRI	658 / 598	2005-WMI-0553	6/15/2010	0.25 / 77	251 East Antietam Street, 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	2006-WPM-0505	12/21/2011	- / 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	3
WIN: MSW or Special Medical Waste Incinerator	3
WMI: Medical Waste Incinerator	3
WPF: Processing Facility	8
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	80

Type of Ownership	Number of Facilities
CTY: County Government	32
PRI: Private (Commercial)	38
MUN: Municipal Government	3
UMD: University of Maryland System	1
FED: Federal Government	3
MES: Maryland Environmental Service	3
TOTAL	80

Table B3 – Permitted Solid Waste Acceptance Facilities NOT in Operation

Jurisdiction	Site Name	Facility Type	Ownership Type	Status
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
	Kenilworth Recycling Plant	Processing Facility (C&D Only)	Private	Not Built
Washington	Washington County Rubble Landfill	C&D Landfill	County	Inactive
Wicomico	Bennett Processing Facility	Processing Facility	Private	Not Built

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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
Anne Arundel	A-A Recycling, Inc. 8217 Baltimore-Annapolis Blvd., Pasadena MD 21122	GP	2006-NWW-GP01	9.90	9/22/06	9/21/11	(410) 437-7718	(410) 437-7718
	Bronson Contracting, Inc. 1000 Kembo Road Baltimore MD 21126	GP	2009-NWW-GP01	8.00	4/10/2009	4/9/2014	(410) 360-8587	(410) 360-1243
	L and W Recycling, Inc. 8316 Lokus Road Odenton MD 21113	GP	2006-NWW-GP01	12.00	10/20/06	10/19/11	(410) 670-0860	(410) 670-0863
Baltimore	King Mulch and Pallet 1114 Hengemihle Avenue Essex MD 21221	GP	2007-NWW-GP01	5.90	7/13/07	7/12/12	(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 Cockeyes 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
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	2008-NWW-GP01	30.00	3/5/08	3/4/13	(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	(302) 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	2009-NWW-GP01	12.50	6/15/09	6/14/14	(301) 399-5088	(301) 274-2454
Frederick	Butler Wood Recycling 4039 Tuscarora Road Point of Rocks MD 21777	GP	2009-NWW-GP01	58.00	7/10/09	7/9/14	(301) 607-4541	(301) 874-8348
	Bussard Brothers Landscape Supply-5307-B Green Valley Rd Monrovia MD 21770	GP	2009-NWW-GP01	2.00	6/19/2009	6/18/2014	(3010) 865-3925	(301) 865-8496
Harford	Arthur D. Heston 2304 Whiteford Road Whiteford MD 21169	GP	2007-NWW-GP01	3.67	11/2/07	11/1/12	(410) 692-2673	(410) 692-2253
	T&M Mulch, Inc. 1808 N. Fountain Green Road Bel Air MD 21015	GP	2007-NWW-GP01	7.30	4/13/07	4/12/12	(410) 838-2266	(410) 838-2266
	Comer Construction, Inc 900 Circelli Court Aberdeen, MD 21001	GP	2008-NWW-GP01	6.00	10/08/08	10/07/13	(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 Cementery Lane Elkridge MD 21075	GP	2010-NWW-GP01	15.00	3/31/10	3/30/15	(410) 471-4450	(410) 471-4450

County	Facility & Location	Permit Type	Permit Numbers	Site Acreage	Issued Date	Expiration Date	Phone Number	Fax Number
Montgomery	ACME Biomass Reduction, Inc. 21601 New Hampshire Ave. Brookville MD 20833	GP	2009-NWWW-GP01	107.50	8/14/09	8/13/14	(301) 540-2968	(301) 540-9630
	Twin Ponds Farm, LLC 15315 Mt. Nebo Road Poolesville MD 20837	GP	2008-NWWW-GP01	4.00	5/23/08	5/22/13	(301) 942-6700	(301) 942-6734
Queen Anne's	Baker Rubble Landfill 501 4-H Park Road Queenstown MD 21658	IP	2006-NWWW-0620	3.00	12/13/06	12/12/11	(410) 827-8831	(410) 827-8831
Talbot	Dependable Sand and Gravel Company, Inc. 13155 Ocean Gateway Queen Anne, MD 21657	GP	2010-NWWW-GP01	343	10/8/10	10/7/15	(410) 822-6363	(410) 820-7789
Wicomico	Dunn's Tractor Services, Inc. 9042 Taylor Road Delmar MD 21875	GP	2009-NWWW-GP01	10.00	7/15/09	7/14/14	(410) 742-7429	(410) 742-7429
	Eastern Shore Forest Product, Inc. 3667 St. Lukes Road Salisbury MD 21804	IP	2005-NWWW-0615	2.00	12/13/06	12/12/11	(410) 548-7136	(410) 742-5540
General Permits (GP):								25
Individual Permits (IP):								3
TOTAL								28

APPENDIX D

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All STAR News



Fall, 2009

Maryland Legislature Passes State Agency Recycling Law

During Maryland's 2009 Legislative Session, State representatives strengthened Maryland government's recycling requirements by mandating the recycling of certain materials. House Bill (HB) 595 requires State agencies to develop a State agency recycling plan by July 1, 2010, that addresses the placement of collection bins and the recycling of aluminum, glass, paper, and plastic. Each agency and unit of State government must implement this plan by January 1, 2012.

To facilitate the implementation of the plan, the Maryland Department of the Environment (MDE) is working with the Department of General Services

(DGS) to include language in all State leasing contracts that mandates that landlords provide recycling collection at all State leased buildings. Also, MDE's Recycling Unit is available to assist State agencies in developing recycling programs. Contact Christy Bujnovszky for help with your All STAR program.

23 Maryland State Agencies Reach 20% Goal

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 eco-nomically feasible. In no case may the amount to be recycled be less than 10 percent. In 2008, Maryland State Government exceeded the minimum rate and recycled 27.5 percent of the waste generated.

Congratulations to the following agencies for increasing their recycling rate over 2007: MD Public Broadcasting Commission, MD State Archives, MD General

The next All STAR News is scheduled for the Spring of 2010!



Assembly, St. Mary's College, Morgan State University, MD Automotive Insurance Fund, MD Environmental Service, MD Food Center Authority, Judiciary of MD, MD State Police, MD Insurance Administration and Departments of Agriculture, Natural Resources, Health and Mental Hygiene, Public Safety and Correctional Services, Human Resources, Assessments and Taxation, Education, Veterans Affairs, and Transportation.

A detailed breakdown of the 2008 All STAR recycling activities and additional information on Maryland's 27.5% All STAR Recycling Rate (including a breakdown of each State agency's recycling rate) will soon be posted on MDE's recycling web page at www.mde.state.md.us/Programs/LandPrograms/Recycling/StateAgencies/index.asp.

RECYCLING CONTACTS

MD Department of the Environment
Land Management Administration

www.mde.state.md.us/recycling

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Technical Services and Operations Program
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David Mrgich, Chief Recycling Unit
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Christy Bujnovszky
Recycling Unit
cbujnovszky@mde.state.md.us

Have a story idea or specific questions on a topic? Send comments and ideas for future stories to Christy Bujnovszky at cbujnovszky@mde.state.md.us.

Maryland State Agencies' 2008 Recycling Rates

Compiled by the Maryland Department of the Environment from Reports Submitted for Calendar Year 2008

Agency Name	No. of Sites	No. of Sites Reporting	No. of People*	Total MRA 2008 (tons)	2008 MRA Recycling Rate (%)^
Department of General Services	18	18	11,674	720.48	24.59
Department of Labor, Licensing & Regulation	13	0	1,218	NR	NR
Department of Agriculture	3	3	266	44.13	37.94
Maryland Public Broadcasting Commission	1	1	212	18	11.00
Comptroller of the Treasury	1	1	850	198.59	71.80
Maryland School for the Deaf	2	2	834	92.60	36.89
Department of Natural Resources	5	1	721	17.60	22.00
Department of Juvenile Services	15	15	2,881	281.97	13.84
Maryland State Archives	1	1	84	2.80	8.24
Department of the Environment	1	1	858	23.35	19.81
Department of Transportation	74	74	25,252	10,381.57	44.30
Department of Health and Mental Hygiene	17	10	7,525	853.29	19.23
Maryland General Assembly	1	1	1,223	89.73	20.38
Dept. of Public Safety and Correctional Services	29	29	35,409	1,864.07	10.63
Department of Human Resources	11	11	4,433	220.77	25.55
Department of Assessments and Taxation	1	1	11	1.00	20.16
University of Maryland System	17	17	128,607	9,223.98	33.22
St. Mary's College of Maryland	1	1	2,567	791.54	42.39
Morgan State University	1	1	8,237	127.84	7.50
Department of Education	4	4	1,839	57.92	21.15
Maryland Automobile Insurance Fund	1	1	408	65.51	36.91
Maryland Stadium Authority	1	1	1,100	308.39	13.51
Baltimore City Community College	1	1	8,251	10.30	3.11
Maryland Environmental Service	1	1	210	16.26	34.26
Maryland Food Center Authority	1	1	1,327	3.00	0.05
Judiciary of Maryland	1	1	142	36.50	61.55
Subsequent Injury Fund Board	1	1	17	1.74	22.14
Department of Veterans Affairs	1	1	657	1.00	40.98
Department of Budget and Management	1	1	210	16.69	38.20
Maryland State Police	26	26	1,614	311.23	32.97
Dept of Business and Economic Development	1	1	580	31.16	23.74
Maryland Higher Education Commission	1	1	72	11.00	29.79
Dept. of Housing and Community Development	1	1	400	202.74	61.90
Maryland Insurance Administration	1	1	283	22.33	36.40
TOTALS	255	231	249,972	26,049.06	27.49

* State employees comprise approximately 84,541 of the total number of people working at State Agency Locations.

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

Bold Type – Satisfied the 20% recycling rate

NR – Did not report

Not all offices reported

Recycling Rate greater than previous year

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Blvd. • Suite 610 • Baltimore, Maryland 21230-1719

410-537-3314 • 800-633-6101 x3314 (within Maryland) • <http://www.mde.state.md.us/recycling>

APPENDIX E

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Ms. Anne Marcher, Public Info. Specialist

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Ms. Mary Phillips (MRA Report)

Worcester

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