

The Annual Report of the Recycling Public Advisory Council



**Presented to the
Honorable John Carney, Governor of Delaware
and the
148th Delaware General Assembly**

**March 2017
Fifteenth Edition**

The Annual Report of the Recycling Public Advisory Council

March 2017 (Fifteenth Edition)

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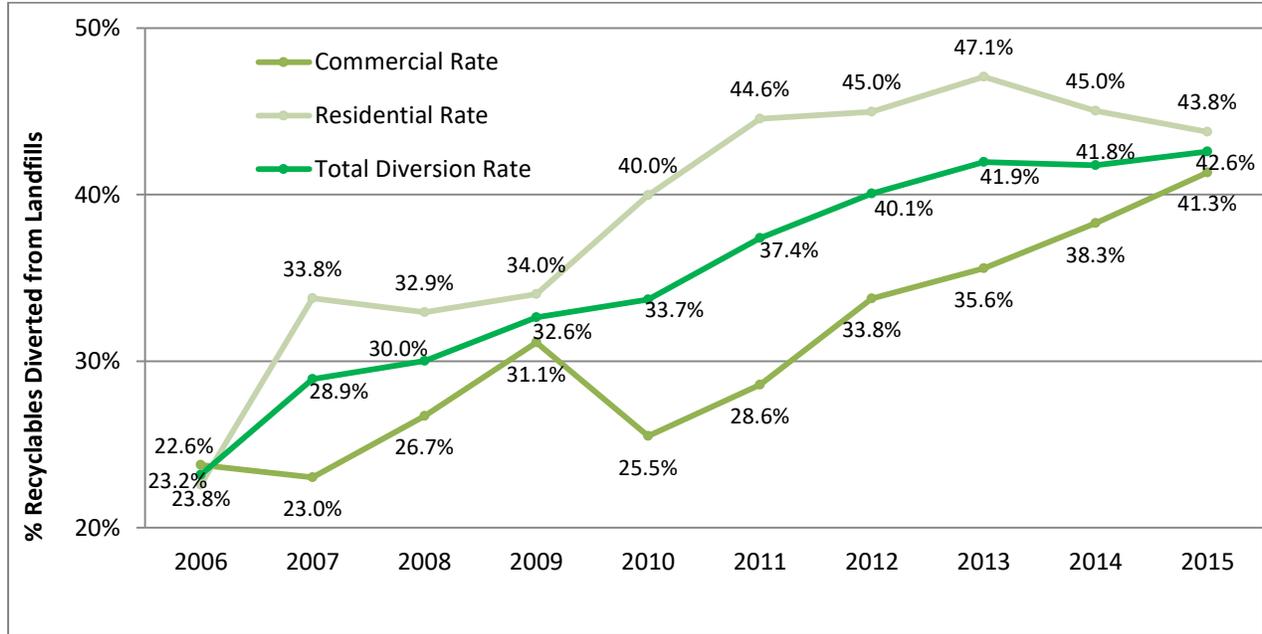
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Executive Summary

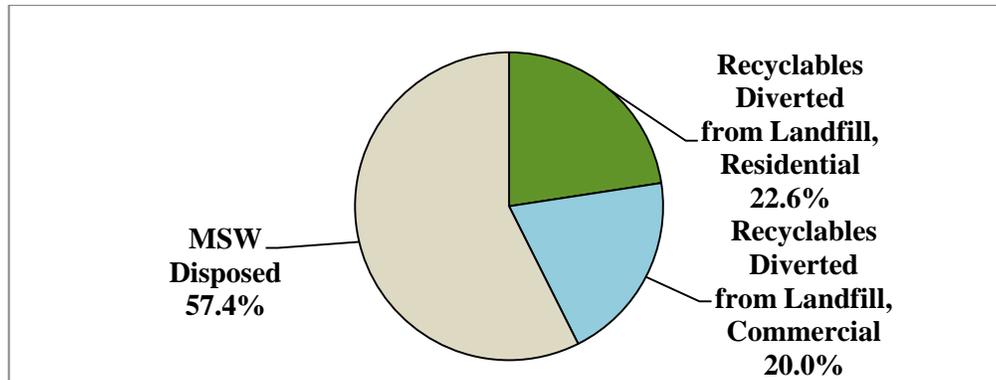
Thanks directly to the passage of Delaware’s Universal Recycling Law, signed into law on June 8, 2010, the state currently recycles about 42% of its municipal solid waste, making us a national leader in recycling. But our job is not done. The environmental and social benefits of recycling are great yet we should be reminded of perhaps Delaware’s most compelling reason to recycle: To preserve the useful life of our landfills; to delay the impossible, or impossibly expensive, construction of a new landfill in Delaware.

Residential, Commercial and Total Diversion Rates in Delaware, CY2006-2015



Since 2008 Delaware has roughly doubled the recovery rate of most of our recyclables and decreased our annual landfill tonnage by about 1/3. Significant effort is still necessary to improve the recovery rates of some materials, among them food waste, cardboard, textiles, and others, if we are to reach our Universal Recycling goals and to maximize the life of our landfills.

MSW Disposed and % Residential and Commercial recyclables in CY2015



While we are above the national average, we still haven’t reached the 50% state-wide goal for 2015 set in the Universal Recycling Law. We believe education on what and how to recycle and targeted

initiatives are the most important steps for continuing progress. Furthermore, the residential recycling rate has decreased in the past two years, demonstrating that rates can wane absent periodic outreach and other support efforts. Continuing to grow recycling and implementing new programs in our state is a sound and wise investment and leaves our future generations with a cleaner and more sustainable environment.

The Universal Recycling Law also implemented a short term beverage container fee that resourced the successful implementation of the Universal Recycling Grants and Low Interest Loan Program. This competitive program, administered by the Department of Natural Resources and Environmental Control’s Solid and Hazardous Waste Section, is marking its sixth year of awarding schools, businesses, and community grants to assist in implementing and expanding recycling programs and opportunities throughout Delaware. Since the grant program’s inception, 112 grants, totaling more than \$8.5 million, have been awarded to bolster recycling activities and waste diversion innovation in the state. The funding source for this forwarding thinking and collaborative program was sunset in 2014 but more recently has been cut and the awarding of future grants is not possible without additional funding.

- Current RPAC members:**
BJ Vinton, RPAC Chairman and member of the Citizens Solid Waste Solutions Commission
Paul Bickhart, Recycling Express of Delaware
Michael Parkowski, Delaware Solid Waste Authority
Richard Cecil, Delaware Association of Counties
Marjorie Crofts, Director, Division of Waste and Hazardous Substances, DNREC
George Danneman, Delaware Beverage Association
Robert Ziegler, Waste Hauling Industry
Brian Nixon, Delaware Chamber of Commerce
Marianne Cinaglia, Delaware Environmental Alliance for Senior Involvement
Adam Webster, Delaware Restaurant Industry
Julie Miro Wenger, Delaware Food Industry Council
Stan Mills, League of Local Governments
Coralie Pryde, League of Women Voters
Charles Campbell-King, Public representative
Wendy Turner, Brandywine School District

The Recycling Public Advisory Council was established under Executive Orders going back to 2000 but was more recently formally established in the Universal Recycling Law. Members of the Council are volunteers who are appointed by the Governor. The Council’s tasks include, but are not limited to, offering advice to the Department of Natural Resources and Environmental Control and the Delaware Solid Waste Authority on all aspects of recycling and to advise in developing criteria for the Recycling Grants and Low Interest Loan Program, including providing an annual assessment of the revenue needed to satisfy the grant requirements (see Appendix A, § 6058). The Council plays a key role in reporting to the Governor and

General Assembly on the annual status of recycling in Delaware. An additional responsibility of the Council is to maintain an approved, sound and current methodology to measure recycling rates that is both scientific and comparable to other state and federal measures.

2015 Recycling Rates Summary in Tons

Diverted Recyclables	MSW Disposed	Total Municipal Solid Waste = Diverted Recyclables + MSW Disposed	Percent Diverted Recyclables
499,363	673,058	1,172,421	42.6%

RPAC Members continue to offer advice and suggestions to DNREC on all things related to solid waste diversion and recycling. RPAC holds monthly meetings throughout the year to discuss opportunities to engage the public and the Legislature in ways the promote recycling.

Current Recommendations

The RPAC’s recommendations to Governor Carney and the General Assembly include the following steps to support our efforts to increase the recyclables diversion rate. These are summarized Recommendations. Further detail on each Recommendation can be found in ‘Section 8-Recommendations’ of this Report.

- (1) **Lead by example** – mandate recycling in all state government facilities, including public schools and libraries, the courts system, and the legislature.
- (2) **Re-allocate funding to the Universal Recycling Grants and Low Interest Loan Program** – this highly successful program supported ongoing efforts to implement, expand, evaluate and promote economically and environmentally sustainable practices through encouraging recycling behavior throughout the state.

DNREC's Recycling Grants and Low Interest Loan Program (the Program) will no longer be able to offer grants to our schools, businesses and communities due to the State Legislature appropriating almost all remaining funds during FY 2016. The Program was self-funded through the \$0.04 bottle recycling fee which was sunset on December 1, 2014. The Grant funds were projected to carry the Recycling Grants Program through 2020 to ensure compliance with the State's Universal Recycling Law.

- (3) **Actively promote recycling** – by providing information from RPAC in their newsletters and distributing at public meetings; ensuring staff are informed on the state of recycling in the state, offering staff opportunities to attend RPAC meetings and participate in other DNREC and RPAC events, Co-hosting, a “meet and greet” event so that RPAC and the Legislators and staff become acquainted with each other and utilize and optimize electronic and web based media to leverage information sharing.
- (4) **Strengthen organics diversion** – employ the recommendations of the Organics Recycling Task Force that will result in long term, viable solutions for organics diversion in Delaware.

1.0 Purpose

This is the Annual Report of the Recycling Public Advisory Council (RPAC). The purpose of the report is to fulfill requirements of 7 Del. C., §6058, which directs the RPAC to prepare an annual report addressing the following:

- The status of attainment of the recycling goals specified in 7 Del. C., §6056;
- An accounting of the recycling grants and loans programs and recommendations for future funding of the programs;
- An assessment of the activities of both the Delaware Natural Resources and Environmental Control (DNREC) and the Delaware Solid Waste Authority (DSWA) in achieving the goals specified in 7 Del. C., §6056;
- An objective, auditable accounting of recycling rates for total solid waste, municipal solid waste, and residential solid waste; and
- Such other recommendations as the RPAC shall deem appropriate.

The Solid Waste Recycling Law (the Universal Recycling Law) is attached to this report as Appendix A. A list of the current RPAC members can be found in Appendix B.

2.0 Background

2.1 *Benefits of Recycling*

There is more to recycling than feeling good about the environment. It also has tremendous economic value. Recycling:

- Provides over 10 times more jobs than landfilling¹
- Creates local industry
- Extends the useful life of municipal landfills
- Reduces emissions of greenhouse gases
- Saves energy
- Conserves natural resources
- Reduces environmental damage from industrial, residential, and commercial waste
- Teaches environmental stewardship to individuals, business and government

For further information, please reference *The Sixth Annual Report of the Recycling Public Advisory Council*, visit RPAC's website at <http://www.dnrec.delaware.gov/dwhs/Info/Pages/RPAC.aspx> or contact DNREC's Solid & Hazardous Waste Management Section.

The Northeast Recycling Council, Inc. (NERC) produced the [*Recycling Economic Information Study Update: Delaware, Maine, Massachusetts, New York, and Pennsylvania*](#) in February 2009. This report and its last two iterations are available on NERC's website, <https://nerc.org/>. An important note is that the Delaware recycling, reuse, and remanufacturing industry has been estimated to have a \$346 million direct positive impact on our State's annual economy. Although recyclable values are currently lower than usual, it remains more cost effective to manage recyclables as a resource than to dispose of them.

2.2 *Recent Recycling Efforts in Delaware*

The State of Delaware has been promoting recycling since 1975, and a more extensive history of those efforts can be found in Appendix E. The following is a summary of recent recycling efforts:

- **Grants** – The 7th and 8th cycles of the Universal Recycling Grant and Low Interest Loan Program were made available in April and August of 2016. A total of 35 grants totaling were awarded \$1,967,929.30. For more details see Section 5, Recycling Grants and Loans Program.
- **Outreach** – From January 1, 2016 to December 31, 2016 DNREC held twenty outreach and education training events throughout the state in reference to grant opportunities, the implementation of commercial recycling, and general recycling outreach and education. DNREC also held 19 no-cost, onsite waste assessments for schools, businesses, and communities to assist with identifying best practices in implementing and expanding recycling programs. For a detailed list of these events see Table 11 in section 6 of this report.

¹See [*A Scenario for Resource Management in the State of Delaware*](#)

- **Special Event** – Governor’s Legacy Event. On November 29, 2016 an event was held at HO Brittingham Elementary School in Milton that focused on the school’s recycling program, the recycling grants program and the importance of recycling to keep our environment clean and sustainable. DNREC Secretary David Small and RPAC Chair, BJ Vinton, also spoke at this event.
- **Recycling Measurement** – DSWA is conducting a waste characterization study of what is being landfilled and a “Total Solid Waste” study to evaluate wastes that do not typically end up in a landfill. This will give RPAC, and the State of Delaware, a complete analysis of recycling rates for specific commodities and the fullest picture of waste management. Delaware may be the only state with such comprehensive data.

3.0 RPAC Activities

RPAC continues to primarily focus its efforts on implementation of the Universal Recycling Law. This includes providing recycling grant and loan guidance, improving recycling guidance and toolkits for residents and businesses, and continuing with measurement and reporting of the amount and percent diversion of recyclables from Delaware landfills.

3.1 Measurement and Reporting

The RPAC's Measurement and Methodology Subcommittee developed a statistically acceptable and comparable methodology for measuring recycling diversion rates based upon EPA guidelines. This methodology provides an objective and auditable approach to recycling measurement which is relevant and repeatable. The Subcommittee's name was subsequently changed to "Measurement and Reporting" but their work continues in the current RPAC and has resulted in the ninth Recycling Measurement Report (included as section 4.0 of this report). Moreover, these Recycling Measurement Reports establish a uniformly accepted approach making past, present, and future recycling measurements consistent and comparable.

The RPAC and DNREC have developed guidelines for the recycling industry to report information as directed by the Universal Recycling Law (7 Del. C., §6056). To help protect proprietary business information, the RPAC has been using a consultant to collect recycling data. Because reporting on commercial recycling activities was not previously obligatory, the Recycling Measurement Report was limited to voluntary surveys. The new, legally required reporting system will generate a fuller and more accurate spectrum of data, and will result in a better overall measurement of recycling in Delaware. The first reporting year with the new data collection requirement was 2011, which means this is the fifth report with a full year's worth of data from the required industry reporting. This data does reflect the impact of implementation in all three phases of Universal Recycling – i.e. single-family, multi-family and commercial recycling.

3.2 Recycling Markets

Paul Bickhart (RPAC Member representing the recycling industry) and Michael Parkowski (RPAC Member representing DSWA) have key industry contacts providing information on the sale of collected recyclables. They have educated the RPAC on the status of recycling markets to better understand current industry circumstances. In late 2008, the markets for recycled commodities declined sharply in response to the national and global economies. Later in 2009 prices very slowly started to improve. The outlook continued to be positive into 2010, and was relatively strong and stable in 2011. Prices generally declined for some commodities and remained flat for others in 2012. In 2013 the overall recycling markets were relatively flat with little price movement up or down. In 2014 and 2015 prices declined further and remain on the low side of historical trends. Again, this data is relevant to the 2016 report detailing recycling in CY 2015. This trend has historically followed the price of oil.

This extended period of low pricing for recyclable materials is a global issue and is of concern to recycling managers everywhere. Consumers of recyclable materials continue to place strong emphasis on material cleanliness and have a low tolerance for contamination. Delaware is well suited to meet these demands with the modern separation infrastructure that has recently been constructed and despite low recyclables pricing, recycling remains more cost effective than disposal.

3.3 Outreach

The RPAC, DNREC, and the DSWA continue to coordinate on the education of the public regarding the transition into universal curbside recycling, commercial sector recycling, improved yard waste diversion, the transition out of beverage container deposits, recycling industry reporting requirements, and the availability of the recycling grant and loan program. Educating the public is of very high importance to the RPAC and a necessary part of any successful program. Many citizens do not know why they should recycle or how to participate. The RPAC provides advice and guidance to DNREC and the DSWA regarding their outreach and education efforts. While the RPAC does not provide recycling services, their input on this subject assists in the facilitation and encouragement of recycling amongst the state's citizenry. The RPAC has advised DNREC to support the universal recycling grant projects from various media on a significant, mass media outreach campaign. The RPAC anticipates this having a huge, positive impact on recycling in Delaware. DNREC and DSWA specific outreach efforts are described in Section 6, Section 7, and Appendix D.

DNREC has also performed numerous onsite waste assessments at schools and businesses across the state. This effort has culminated in a greater awareness within DNREC, the RPAC, and in our schools and commercial sector about the importance of understanding and implementing best and most current practices in recycling at point of disposal. The impetus for offering these assessments was to assist businesses and organizations with starting an effective recycling program and to increase awareness of the Universal Recycling Grants and Low Interest Loan Program opportunity. Since the Recycling Grants Program funds were re-allocated by the Legislature last session, the ability to carry on these critically important assessments is in jeopardy and may have an adverse impact on increasing recycling across the State.

3.4 Other Activities

The RPAC is committed to helping Delawareans realize and implement better waste management practices. Regular RPAC meetings provide insight into a variety of topics. Most discussions and presentations over the past year have focused on the implementation of the Universal Recycling Law, the need for additional recycling outreach and education and what additional diversion efforts will be necessary in order to achieve the Universal Recycling diversion goals. Specific to these additional efforts, recycling stakeholders anticipate that the forthcoming updated waste characterization study will assist in targeting both recyclable materials (e.g. cardboard) and recycling sectors (residential vs. commercial) that require additional attention if excessive recyclables are found in the waste during evaluation of these respective waste streams.

RPAC continues to significantly contribute to the Universal Recycling Grant and Low- Interest Loan Program by reviewing and scoring grant applications. With DNREC's assistance the RPAC also tracked the recycling fee revenue. The total revenues raised by the recycling fee were just over \$14.4 million and therefore only sixty five percent of the \$22 million projected revenue was collected. To date almost \$8.5 million has been awarded in grants and loans from 2011-2015 and nearly \$1.4 million has been expended/encumbered in program support. RPAC previously recommended to the Governor and General Counsel that the remaining balance is necessary to provide continued support for the recycling grant and loan program. However, the General Assembly reallocated \$5 million (over 90%) of the remaining funding at the end of FY2016.

The RPAC would also like to recognize that an alcohol beverage industry representative awaits appointment.

4.0 Recycling Measurement Report

Originally under Executive Order 90, the RPAC had been directed to use the U.S. EPA's definitions of "recycling" and "municipal solid waste" and also to develop an "objective and auditable accounting of recycling rates for total solid waste, municipal solid waste, and residential solid waste." In response to this directive, the RPAC created the Measurement and Reporting Subcommittee (M&R Subcommittee) comprising members of the RPAC, DSWA, DNREC, and the community. Pursuant to this directive, the M&R Subcommittee produced a methodology which was developed via an open and transparent process, recorded in such a way that it could be easily understood by members of the general public, and which was fully endorsed by each organization represented on the Council. This methodology has been consistently employed by the RPAC to analyze recycling data since CY2006 so that meaningful trends and comparisons could be established. The M&R Subcommittee has continued to employ this methodology under the new Universal Recycling Law.

4.1 Data Collection

The M&R Subcommittee obtained data from DSM Environmental Services, Inc. (DSM) for CY2015. Their report, State of Delaware Assessment of Municipal Solid Waste Recycling for Calendar Year 2015, is excerpted in Appendix C. In previous reports, DSM had collected data on recyclable materials collected by private industry in Delaware, while DSWA collected its own data and reported numbers directly to the RPAC. The RPAC then calculated commercial and residential waste disposal and recycling estimates using both data sets. Starting with calendar year 2011 data, DSM has collected data from both the DSWA and from private industry, and calculated recycling rates using methodology consistent with the M&R Subcommittee's previous efforts.

Calendar year 2015 represents the fifth year that private industry was required to report on recycling activity, per the Universal Recycling Law. While reporting has notably improved as a result of this requirement, DNREC and DSM continue to work with and pursue non-reporters who are believed to have valuable recyclables generation data which is critical to calculating the most accurate diversion rate possible.

The RPAC and DSM have worked to ensure that the methodology for data gathering is consistent with EPA guidelines and that there is no double counting of recycling activities. The survey work by DSM was funded by the DSWA for CY2015, but program management has been the responsibility of the RPAC.

4.2 Diversion Rate Calculation

The waste stream can be broken down into two primary categories: Municipal Solid Waste (MSW) and non-MSW. Put simply, MSW is what most of us think of when we think of "trash" - even though it contains a high percentage of valuable resources. The EPA's guidance for calculating recycling rate limits "recycling" to the category of MSW. Additional detail regarding definitions of recycling can be found in RPAC's 2006 Annual Report and in "Measuring Recycling: A Guide for State and Local Governments" (EPA-530-R-97-011 at <http://infohouse.p2ric.org/ref/01/00801/>).

Determining the percent diversion of recyclables from Delaware's solid waste stream involves the following calculation:

$$\text{Diversion rate of recyclables (\%)} = 100 \times \frac{\text{MSW recyclables, tons diverted}}{\text{MSW recyclables, tons diverted} + \text{MSW, tons disposed}}$$

The methodology developed by the RPAC calculates the percent of recyclables diverted from the MSW stream, as well as the total tonnage of MSW being landfilled. It also subdivides results into the residential and commercial sectors. These residential and commercial allocations were developed based upon comprehensive waste composition studies conducted in 2006 and 2007, the best judgment of DSM, and the best judgment of the members of the M&R Subcommittee.

Determining whether a material was generated by the commercial or residential sector can sometimes be difficult to resolve and is not always intuitive. Generally the EPA and the M&R Subcommittee allocate materials to the original ‘generator’ even though they may not be the one who actually performs the recycling. For example, lead acid battery recycling performed by a commercial battery retailer would be attributed 80% to the residential sector because approximately 80% of the batteries are generated from non-commercial vehicles. While this ‘generator rule’ can be debated, it is consistent with general EPA guidelines and has been applied consistently since 2006.

4.3 Recycling Rates

Since CY2006, the RPAC has employed an objective, scientific, and auditable methodology for calculating recycling rates in Delaware that is consistent with the U.S. EPA’s guidelines. A summary of the recycling rates produced using the aforementioned methodology is shown in Table 2 below:

Table 3. Recycling Rates Summary, CY2006-2015.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Diverted Recyclables (tons)	248,410	323,396	318,002	323,637	359,147	401,883	405,953	450,499	472,344	499,363
MSW Disposed	823,479	794,984	741,143	668,353	706,368	672,761	607,539	623,463	658,788	673,058
Total Municipal Solid Waste = Diverted Recyclables + MSW Disposed	1,071,889	1,118,380	1,059,145	991,990	1,065,515	1,074,644	1,013,492	1,073,962	1,131,132	1,172,421
Percent Diverted Recyclables	23.20%	28.90%	30.00%	32.60%	33.70%	37.40%	40.10%	41.90%	41.80%	42.6%

Results comparing the residential to commercial sector rates for CY2014 & CY2015 are shown in Table 4 below. The residential recycling rate continues to exceed the commercial recycling rate, but the gap is narrowing. This is likely due in large part to the fact that 2014 was the first year of the commercial requirement to recycle resulting in a three percent increase in the commercial diversion rate. This attenuating gap is also due to the fact that the residential diversion rate is slipping and it is important to note that if additional residential diversion is going to be realized, additional efforts will be required.

It is also important to understand that waste and recycling tonnages fluctuate on an annual basis for many reasons and due to a variety of influences such as the economy, weather's impact on yard waste generation, recyclables markets and minor errors and omissions that may be discovered in subsequent reporting years.

For example, even with the overall tonnage of MSW disposed higher in CY2014 than in CY2013, the residential diversion rate declined approximately two percent due primarily to a decrease in the residential yard waste tonnage as compared with CY2013. Typically these small variations should not be considered alarming while trends and larger drops should be investigated and considered for correction.

Table 4. Recycling Rates for Residential and Commercial Sectors, CY2014-2015.

	2014		2015	
	Residential	Commercial	Residential	Commercial
Diverted Recyclables (tons)	262,653	209,691	264,750	234,613
MSW Disposed	320,651	338,137	340,052	333,006
Total Municipal Solid Waste = Diverted Recyclables + MSW Disposed	593,304	547,828	604,802	517,619
Percent Diverted Recyclables	45%	38.3%	43.8%	41.3%

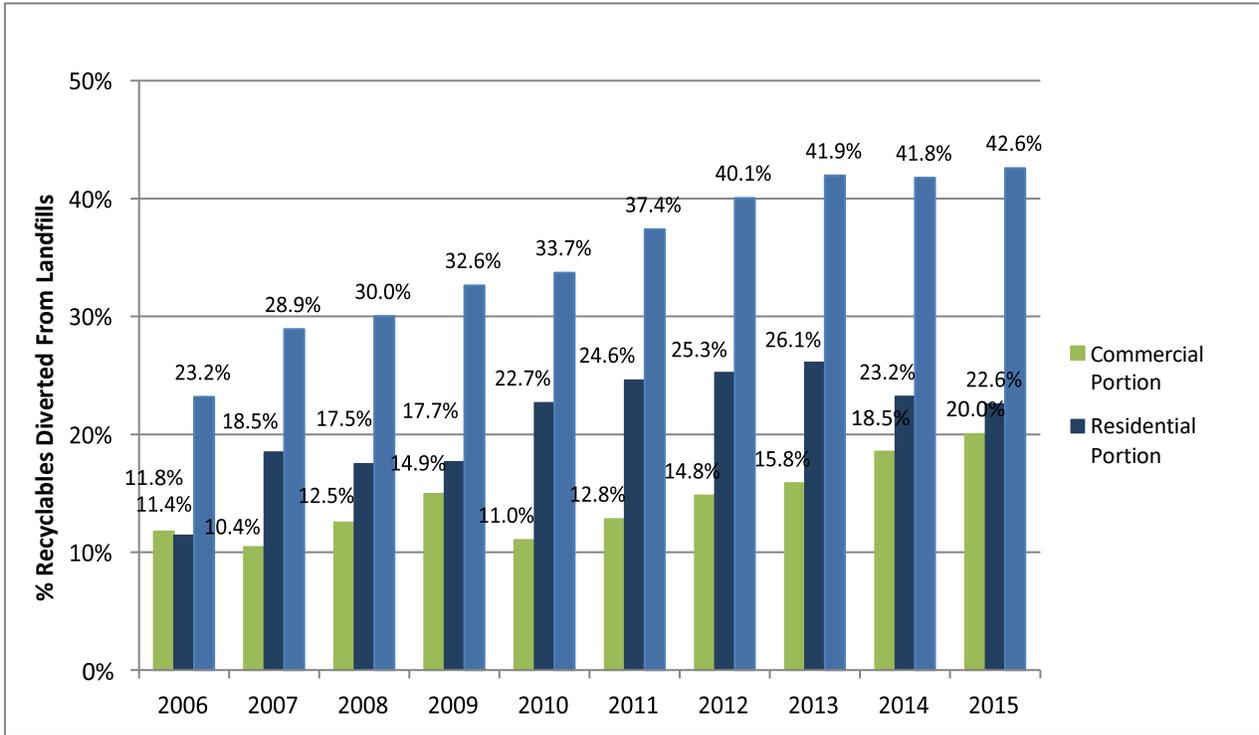
4.4 Behind the Data – CY2015

CY2015 saw a slight increase in diverted recyclables versus CY2014. The CY2015 statewide average diversion rate was 42.6% a net increase of 0.8% since CY2014 (see Figure 1 below).

This minor fluctuation in Delaware's diversion rate likely represents an increase in commercial recycling and better reporting as a result of the Universal Recycling Law, as well as a slight improvement in the economy, and maintenance of the yard waste bans. It could have been higher absent the slight decrease in the residential recyclables diversion rate.

The downward trend in residential recycling is likely a function of recyclers becoming more restrictive on contamination. It also supports the need for public outreach and education.

Figure 1. Percentage of recyclables diverted from landfills in Delaware, CY2006-2015.



Notes: 1. The green and dark blue columns represent the commercial and residential percentage of the recyclables diverted from disposal. For the individual residential commercial and diversion rates, 41.3% and 43.8% respectively, see Figure 2 below.
 2. The light blue column is the total diversion rate of all residential and commercial recyclables since 2006.

Residential, Commercial and Total Diversion Rates in Delaware, CY2006-2015



Figure 3. Total tons of MSW recycled or landfilled in Delaware, CY2006-2015

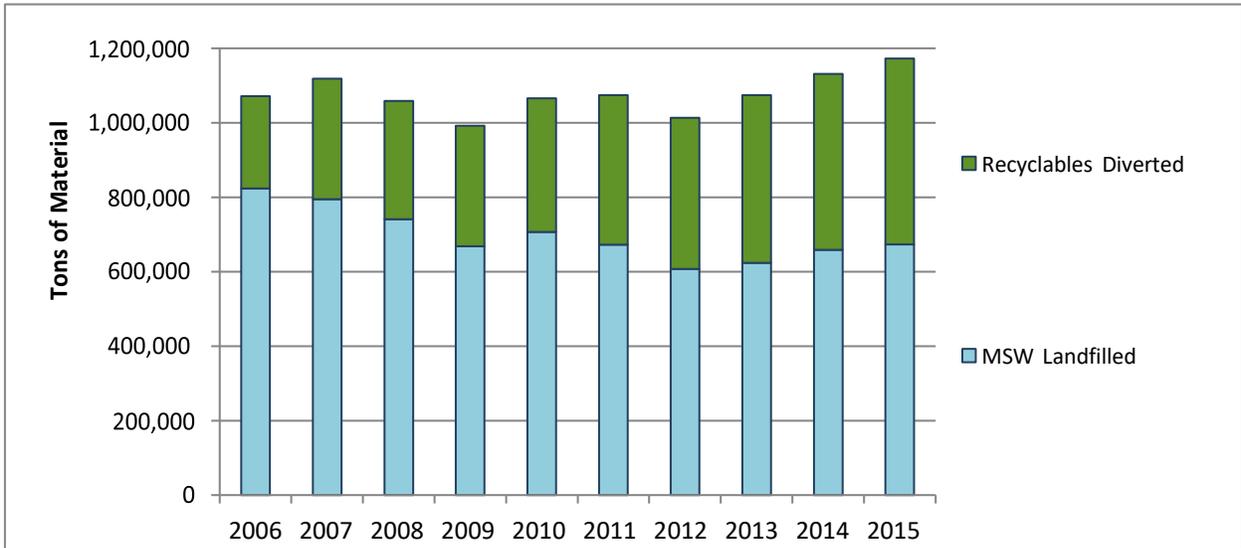
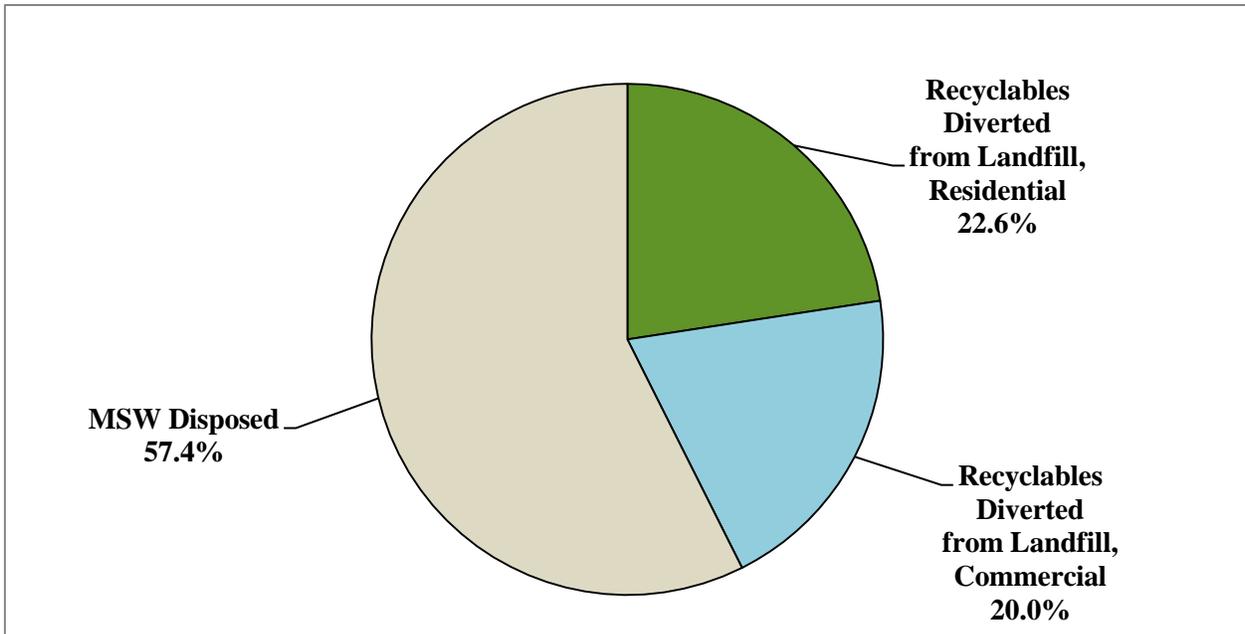


Figure 4. MSW Disposed and % Residential and Commercial recyclables in CY2015



4.5 Status of the Recycling Goals

The passage of the Universal Recycling Law established diversion goals of 50% for MSW and 72% for all solid waste by 2015. The diversion rate of recyclables for CY 2015 was 42.6% for the total MSW stream, which is above the national average. To reach the goal of 50% set in our recycling legislation (and 60% in 2020), will require the diversion of substantially more residential and commercial waste. This will likely require additional measures which include, but are not limited to:

- Additional recycling outreach and education efforts focused on what materials to recycle and how and where to recycle them.
- Continued expansion of recycling in the commercial sector.
- Comprehensive recycling throughout all branches of government.

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- Programs such as Product Stewardship, Pay-As-You-Throw and/or disposal bans.
- The re-establishment of outlets for the organic fraction of the waste stream.

The RPAC may recommend additional mechanisms to improve solid waste diversion in Delaware after the DSWA Waste Characterization Study is complete in 2016.

DSWA has obtained the services of DSM Environmental, Inc. to estimate the CY2015 Total Solid Waste diversion rate. It is important to understand that the TSW is significantly different than MSW. MSW, which is the waste we typically think of as household and commercial waste and which had a CY2015 weight of 1,172,421 tons, is a subset of TSW which had a Mid-2015 weight of 3,467,216 tons. While TSW includes MSW, it also includes much larger sources of solid waste such as poultry waste, asphalt, concrete, coal ash and more. These wastes are largely recycled or put to beneficial use by the industries that create them because it makes sense to do so. Collectively the CY2015 TSW had a diversion weight of 2,500,068 tons with a diversion rate of seventy-two (72) percent. This meets the 2015 Universal Recycling interim diversion goal for TSW, but additional effort will be necessary to meet the 2020 goal set by the Legislature. By maintaining a consistent methodology for ten (10) years, the RPAC has been able to develop a reasonably accurate and meaningful trend line analysis for recycling progress in Delaware. Continuing with this consistent methodology will enable the accurate tracking of progress toward the state's goals and help to inform future policy decisions.

5.0 Recycling Grants and Loans Program

The Universal Recycling Law established the Recycling Grants and Low Interest Loan Program (7 Del. C., §6054 and 7 Del. C., §6055). This program is designed to help implement:

- (1) Recyclables collection programs for residential, schools and community programs; and
- (2) Other recycling initiatives including outreach and education and the recycling of commercial waste and organics.

DNREC began the Recycling Grants and Low Interest Loan Program (the Program) in calendar year 2011 and will no longer offer grants due to the State Legislature reallocating almost all remaining funds during FY 2016.

5.1 Cycle 1

The application deadline for the First Cycle of the Program was January 24, 2011. Funding criteria prioritized startup costs for single-stream, curbside recycling programs, primarily funded the purchase of recycling carts, collection trucks, related equipment, and outreach expenses for municipalities and waste haulers. Recipients of Cycle One funding are included in Table 4.

Table 4. Entities Funded During the First Grant Cycle.

Applicant	Funding
Bethany Beach	\$250,377.00
City of Dover	\$101,151.00
City of Lewes	\$118,830.00
City of New Castle	\$24,220.00
City of Newark	\$212,063.00
City of Rehoboth	\$40,187.00
City of Wilmington	\$657,320.00
Delaware City	\$29,130.00
DE Restaurant Association	\$12,470.00
Delaware Sanitation	\$301,662.00
Econo-Haul	\$983,075.00
Fenwick Island	\$10,920.00
First State Disposal	\$201,053.00
Hockessin Sanitation	\$101,831.00
Jay D C Enterprises	\$149,760.00
KRC Waste Management, Inc.	\$104,160.00
Moor Disposal Services	\$778,939.00
O'Fig Sanitation	\$66,375.00
Palmatary's Sanitation	\$114,447.00
Town of Elsmere	\$94,622.00
Town of Middletown	\$306,000.00
Town of Smyrna	\$170,295.00
Total Encumbered	\$4,828,887.00
Total Expenditures	\$4,688,262.96

5.2 Cycle 2

The application deadline for the Second Cycle of the Program was March 14, 2012. Funding criteria for this round prioritized compliance assistance with the multi-family residential component of the Universal Recycling legislation, although other projects were considered. This cycle primarily funded recycling dumpsters, collection trucks and related equipment, and outreach expenses. Entities that applied, were awarded, and accepted funding for the second cycle are listed in Table 6. Most of the awardees were municipalities and waste haulers.

Table 6. Entities Funded During the Second Grant Cycle.

Applicant	Funding
Wilmington Housing Authority	\$18,059.80
HARJOCO	\$54,941.84
DE Restaurant Association	\$3,000.00
Econo-Haul	\$138,965.00
City of Rehoboth Beach	\$18,300.00
City of Newark	\$6,604.00
Lutheran Senior Services	\$2655.48
Burns and McBride	\$83,521.66
Total Encumbered	\$326,047.78
Total Expenditures	\$ 292,954.98

5.3 Cycle 3

The application deadline for the Third Cycle of the Program was March 28, 2013. Funding criteria for this round prioritized compliance assistance with the commercial recycling component of the Universal Recycling Legislation and primarily funded recycling dumpsters, collection trucks and related equipment and outreach expenses. Entities who were awarded and accepted grant funds are listed in Table 7 and consisted of equipment purchases of dumpsters, collection trucks, other related equipment and public outreach materials. Grant contracts for these awardees were signed in June of 2013. The 146th General Assembly used Bond Bill (House Bill 410) to direct DNREC to issue a recycling grant to fund the DNREC run yard waste sites. Holland Mulch was awarded a grant to establish a new yard waste drop-off site. Details of this site are discussed in greater detail in Section 6.2 of this report.

Table 7. Entities Funded During the Third Grant Cycle.

Applicant	Funding
Waste Management Inc.	\$91,933.33
Bethany Beach	\$17,325.00
Del. Nature Society	\$3,425.00
RevolutionRecovery	\$357,949.00
RPJ Waste	\$280,152.82
Recycling Express	\$58,291.63
Lewes	\$34,800.00
Delaware State Fair	\$22,480.00
Dover Downs	\$28,532.50
REPLENISH – North	\$76,608.00
Del-Mar-Va Council	\$35,212.43
K.S.I.	\$20,225.25
EDEN Delmarva-TLG	\$58,400.00
First State Disposal	\$172,227.00

Peninsula Disposal	\$133,357.33
Total Encumbered	\$1,390,919.29
Total Expenditures	\$1,295,408.04

5.4 Cycle 4

The application deadline for the fourth cycle of the Program was December 18, 2013. Funding criteria for this round prioritized compliance assistance with the commercial recycling component of the Universal Recycling legislation as well as non-profits and school recycling, although other projects were considered. This cycle primarily funded recycling dumpsters, school dishware conversion, balers and outreach and education expenses. Entities that applied, were awarded, and accepted funding for the fourth cycle are listed in Table 8. Grant contracts for these awardees were signed in the spring of 2014. The awardees were a mix of municipalities, waste haulers, private businesses, schools and not-for-profit entities.

Table 8. Entities Funded During the Fourth Grant Cycle.

Applicant	Funding
City of Newark	\$52,075.00
Waste Management Inc.	\$47,700.15
Caesar Rodney	\$16,437.31
Seaford Elementary	\$2,544.48
BFI Truck Body	\$64,646.00
Sanford School	\$25,306.90
BFI Containers	\$48,440.00
Bilcare	\$8,733.61
DE School for Deaf	\$27,687.68
Craig Technologies	\$8,625.00
Goodwill	\$21,907.50
Sussex County Habitat for Humanity	\$18,750.00
Biggs Museum	\$3,999.92
DE Ctr. for Inland Bays	\$19,012.95
Total Encumbered	\$365,866.50
Total Expenditures	\$190,851.33

5.5 Cycle 5

The application deadline for the fifth cycle, which prioritized implementation of school recycling programs, was August 14, 2014. Funding was primarily in the form of recycling containers and outreach and educational materials in the form of signage and posters. Those that applied, were awarded, and accepted funding for the Fifth Cycle are listed in Table 9.

Table 9. Entities Funded During the Fifth Grant Cycle.

Applicant	Funding
Delmar School District	\$1,459.00
Kirk Middle School	\$4,792.18
Mt. Pleasant Elementary	\$2,881.45
Wesley College	\$47,736.04
Total Encumbered	\$56,868.67
Total Expenditures	\$46,815.08

5.6 Cycle 6

The application deadline for the sixth cycle, which was a mix of school, municipal, non-profit, multi-family and office recycling programs was March 3, 2015. Entities that applied, were awarded, and accepted funding for the sixth cycle are listed in Table 10.

Table 10. Entities Funded During the Sixth Grant Cycle.

Applicant	Funding
Appoquinimink School Dist.	\$6,993.59
Cape Henlopen School Dist.	\$7,630.25
Capital School Dist.	\$15,276.00
Bright Fields Inc.	\$1,119.66
East Pointe Apartments	\$4,928.22
Georgetown Manor Apartments	\$5,285.97
Laurel School Dist.	\$6,635.89
Partnership for the DE Estuary	\$12,029.50
Red Clay School Dist.	\$56,215.65
Fenwick Island	\$2,689.00
University of Delaware	\$5,985.00
City of Wilmington*	\$143,150.00
Total Encumbered	\$267,938.73
Total Expenditures	TBD

*Note that the Wilmington application was made in Cycle 4 but was not finalized until Cycle 6.

5.7 Cycle 7

The application deadline for the seventh cycle, which was a mix of schools, municipal, and businesses was June 22, 2016. Entities that applied, were awarded, and accepted funding for the seventh cycle are listed in Table 11. Note that the Cycle 7 award contracts were recently completed in December 2016 and included schools, businesses, and municipalities as well as public outreach.

Table 11. Entities Funded During the Seventh Grant Cycle.

Applicant	Funding
Capital School Dist.	\$21,831.67
DE State University Phase I	\$42,048.00
Fifer Middle School	\$1,827.88
HO Brittingham Elem. School	\$1,378.36
Milford, City of	\$42,230.00
MOT Charter School	\$2,997.47
Postlethwait Middle School	\$6,659.90
Red Clay School Dist.	\$5,100.00
Republic Services	\$36,400.00
William Penn High School	\$2,313.25
Total Encumbered	\$156,612.78
Total Expenditures	TBD

5.8 Cycle 8

The application deadline for the eighth cycle, which was a mix of schools, municipal, businesses and media was September 30, 2016. Entities that applied, were awarded, and accepted funding for the eighth cycle are listed in Table 12.

Table 12. Entities Funded During the Eighth Grant Cycle.

Applicant	Funding
Delmarva Broadcasting	\$101,020.40
ab+c Creative Intelligence	\$495,940.00
WRDE TV	\$72,000.00
iHeart Media	\$129,920.00
Marquee Broadcasting	\$63,960.00
ScreenVision	\$101,300.00
Clear Channel	\$256,520.00
TSN Media	\$36,480.00
Perdue Farms Milford	\$9,038.78
Mountaire Farms	\$1,982.16
Econo-Haul	\$17,839.00
Smyrna School Dist.	\$25,030.00
Waste Industries	\$44,900.68
Evergreen Waste Services	\$16,222.00
Blue Hen Disposal	\$67,963.20
Responsive Management	\$47,487.96
Chipman Middle School	\$1,580.00
Talley Middle School	\$4,818.19
Milford, City of	\$83,622.25
Rehoboth Beach, City of	\$24,967.70
Mt Pleasant High School	\$1,201.17
Univ. of Delaware	\$126,442.99
Amtrak Maintenance Facility	\$27,516.70
DE State University Phase II	\$50,917.50
Total Awarded	\$1,808,714
Total Expenditures	TBD

The Recycling Grants and Low Interest Loan Program was funded through recycling fees established in the Universal Recycling Law. The fees were sunset on December 1, 2014. At the end of FY 2016, the Legislature reallocated over 90% of remaining grant funds, \$5 million, to other programs. As of the writing of this Report, there is no money remaining in the Recycling Grants and Low Interest Loan Program beyond the end of CY 2016 and the awarding of Cycle 7 and 8 funds. Prior to the loss of the funding, the balance was expected to carry the grants program through 2020. Without continued funding, DNREC and RPAC maintain that any opportunity to reach the legislated diversion goals established for 2020 is in jeopardy.

6.0 DNREC Activities

DNREC's activities conducted in support of waste minimization and attaining the waste diversion goals included:

- providing no-cost, on site waste assessments to our schools, businesses and communities,
- holding public workshops to assist grant applicants with the application process,
- continued support to the RPAC,
- encouraging the recycling of yard waste,
- implementing and ensuring compliance with the universal recycling legislation, attending meetings, education and outreach events, and
- providing technical guidance to hundreds of individuals and organizations.

6.1 Supporting the RPAC

In fulfillment of its responsibilities under the Universal Recycling Law and previously under Executive Order No. 90, DNREC continues to provide support to the RPAC. DNREC tasks include but are not limited to:

- scheduling and publicizing meetings;
- preparing and distributing meeting agendas and meeting minutes;
- coordinating the Universal Recycling Grant and Low-Interest Loans Program submittal process;
- participating in Subcommittees:
 - Measurement and Reporting (M & R) Subcommittee which is responsible for establishing and enforcing recycling reporting requirements;
 - Commercial Industry Recycling Subcommittee;
 - Grants Scoring Subcommittee;
 - Education and Outreach Subcommittee;
- drafting documents for RPAC meetings and Subcommittees; and
- preparing, printing and distributing the RPAC's Annual Report to the Governor and General Assembly.

6.2 Supporting the Diversion of Yard Waste

The bulk of DNREC's yard waste diversion efforts have been focused on the Polly Drummond Site located in New Castle County. This site was created to facilitate residents dropping off yard waste at no cost. The materials collected at this site are periodically ground into mulch and removed by a contractor. The 146th General Assembly used Bond Bill (House Bill 410) language to direct DNREC to issue a recycling grant to fund the DNREC operated yard waste sites. Following DNREC's 2012 request for support, the RPAC recommended that DNREC use recycling grant money to issue either: a) A one-time grant for establishment of a private yard waste site that will serve as an alternative to both the DART and Polly Drummond Hill Road sites in between the two existing sites, OR b) A one-time grant for the establishment of a private alternative to the DART site and a one-time grant for the operation of the Polly Drummond Hill Road site or its alternative. The intent was solely to transition state-operated yard waste drop-off sites into the private sector.

The selected grantee, Holland Mulch, used the grant funds to establish a new yard waste drop-off site in between the two sites. Due to a long delay in Holland Mulch getting the necessary approvals from New Castle County and the Department of Transportation to open this new site located at 1034 South Chapel Street in Newark, a temporary site was opened on Brookhill Drive. The South Chapel Street became fully operational in August of 2014 and will accept yard waste from Delaware residents at no cost until October 2017. To date, DNREC has been unable to close the Polly Drummond Hill site due to legislative direction to keep it open.

DNREC presents yard waste management information and options to community and interest groups, maintains a yard waste management website that includes information on composting at <http://www.dnrec.delaware.gov/yardwaste/Pages/YardWasteHomeowners.aspx>.

The enforcement of the Cherry Island Landfill yard waste ban has been in place for close to eight years. Yard waste bans were incorporated in permits for DSWA's central and southern landfills effective January 1, 2011. Individuals and businesses have adjusted well. It is estimated that at least 110,690 tons of yard waste were diverted from Delaware's landfills in 2015. Banning yard waste from landfills has diverted a useful material that can be reused as well as supporting local jobs and businesses.

6.3 Implementing Recycling Legislation

Since the passage of the Universal Recycling Law, DNREC continues with implementation of the tasks required by the Universal Recycling law, including but not limited to:

- Outreach and educational efforts,
- Meeting with waste haulers, municipalities, and the DSWA to coordinate implementation of universal recycling,
- Continuation of the Universal Recycling Grant and Low-Interest Loan Program, and
- Recycling measurement and reporting.

DNREC continues to invest significant staff time and resources to support and carry out the Universal Recycling Law. Much work remains as staff works towards achieving the state's 2015 and 2020 diversion goals and every advance in recycling yields environmental and economic benefits.

6.4 Public Education and Outreach

DNREC works with RPAC and the DSWA on ways to reach every Delawarean with recycling messaging. DNREC accomplished the following multi-media efforts in 2016:

- Maintained & upgraded 'Delaware Recycles' website www.recycling.delaware.gov
- Maintained 'Delaware Recycles' Facebook page www.facebook.com/delawarerecycles
- Continue to post past and current RPAC Annual Reports, meeting minutes and agendas at www.dnrec.delaware.gov/dwhs/Recycling/Pages/Recycling.aspx
- Maintain website dedicated to yard waste at www.dnrec.delaware.gov/yardwaste

DNREC conducted or participated in many activities to increase public awareness of recycling opportunities and benefits. Table 11 below lists public outreach events and meetings attended or hosted by DNREC.

Table 11: DNREC Recycling Public Outreach Events, Meetings, Assessments for CY2016

Date	Meeting/Event (Location)	Hosted By
November 29	Governor's Legacy Event	HO Brittingham Elementary
November 7	Onsite Waste Assessment	Arbor Pointe Apartment Homes
November 7	Onsite Waste Assessment	University of Delaware
October 31	Presentation – Dover	Dover Downtown Rotary Club
October 28	Green Schools Workshop – Killen's Pond State	Delaware Valley Green Buildings Council
October 19	Cycle 8 Grant outcomes announced	DNREC
October 13	Waste Audit	Postlethwait Middle School
September 19	Onsite Waste Assessment	Lewes Waste Water Treatment Facility
September 19	Onsite Waste Assessment	Snyder's Candy, Rehoboth Beach
September 13	Onsite Waste Assessment	Amtrak Maintenance Facility
September 8	Onsite Waste Assessment	Perdue-Milford
September 1	Onsite Waste Assessment	Clayton Intermediate School assessment
August 30	Delaware Valley Green Buildings Council	DNREC-SHWMS
August 25	Recycling Bin Drop Off	Glasgow High School
August 25	Department of Education STEM Program	DNREC
August 23	Onsite Waste Assessment	Penn Wilmington & IMAX
August 18	University of Delaware Sustainability Manager	DNREC-SHWMS
August 11	Onsite Waste Assessment	Carmike Dover Cinemas
August 2	Cycle 7 Grant outcomes announced	DNREC-SHWMS
July 21-30	Delaware State Fair	Delaware State Fair DNREC Building
July 11	Capital School District Recycling Arts Contest Winners Certificate Signing	DNREC Secretary Dave Small
June 28	Onsite Waste Assessment	DTI-William Penn Building
June 21	Presentation – Dover	Harrington-ERA Realtors
June 14	Onsite Waste Assessment	Glasgow High School
June 14	Onsite Waste Assessment	Fifer Middle School
June 10	Recycling outreach to State offices	RPAC-Charles Campbell-King
June 9	Onsite Waste Assessment	Gallaher Elementary School
June 6	Onsite Waste Assessment	Dover High School
June 3	Onsite Waste Assessment	HO Brittingham Elementary School
June 3	Onsite Assessment	Delaware State Fair DNREC Building
June 3	Onsite familiarization tour and discussion of bio solids application	Rehoboth Beach Waste Water Treatment Facility
May 26	Presentation – Legislative Hall	Senate Democratic Caucus
May 26	Phone conference	Recycling Partnership
May 25	Universal Recycling Grants and Low Interest Loan Program Public Workshop	DNREC Auditorium
May 24	Universal Recycling Grants and Low Interest Loan Program Public Workshop	Wilmington Library
May 24	Universal Recycling Grants and Low Interest Loan Program Public Workshop	Middletown Library
May 19	Grant Application meeting	Glasgow High School
May 19	Onsite Waste Assessment and Grant discussion	William Penn High School
May 17	Universal Recycling Grants and Low Interest Loan Program Public Workshop	Millsboro Library
April 29	Dover High School Grant Application Meeting	DNREC
April 22	2016 Delmarva Christian Community Day	Eagle's Nest Christian School
April 22	Wilmington Earth Day	Partnership for the Delaware Estuary
April 22	Earth Day Event	Eastern Mountain Sports
February 11	Onsite Waste Assessment	Delaware State University
February 10	Construction & Demolition Workshop /	Michelle Jacobs / OTS
January 26	Onsite Waste Assessment	Delaware State University

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7.0 DSWA Activities

7.1 *Recycle Delaware Drop-Off Center Program*

The DSWA continues to operate over 40 recycling drop off centers located throughout Delaware. Delaware residents can drop off single stream recycling as well as used motor oil, oil filters, household batteries, corrugated cardboard and textiles. In FY15, 9,206 tons of recyclables were received at the drop off centers. Note that all of these sites will be closed by July 1, 2017 and replaced by approximately 13 staffed locations throughout the state.

Electronic Goods Recycling Program

In FY15, 1,911,414 pounds of electronic goods were recycled through DSWA's electronic goods collection program. DSWA collected 39,321 electronic devices for FY15.

Household Hazardous Waste (HHW) Program

In FY15, DSWA held seventeen (17) HHW events throughout the state. Approximately 11,139 vehicles dropped off household hazardous waste. The total amount of HHW collected at all events totaled 264,281 pounds. In addition to the seventeen events held throughout the state, DSWA holds weekly collection events at the DSWA Cheswold Collection Station, Delaware Recycling Center in New Castle, and the Jones Crossroads Landfill in Sussex County. These weekly events collected an additional 243,286 pounds of material, making a grand total of 507,567 pounds collected for FY15.

Oil Filter and Waste Oil Recycling Programs

In FY15, DSWA collected 48 tons of oil filters and 561 tons of used motor oil from DSWA drop off centers located throughout Delaware.

Polystyrene Foam Recycling Program

In FY15, DSWA has a special program for polystyrene (#6 foam); Residents and commercial companies can drop off polystyrene at the Milford Transfer Station and the Delaware Recycling Center in New Castle. DSWA recycled 26,258 pounds of polystyrene.

Household Battery Recycling

In FY15, DSWA collected 108,000 pounds household batteries that were recycled.

Latex Paint Recycling

In FY15, DSWA held 2 Latex Paint Recycling events. DSWA collected 59,200 pounds of latex paint from 651 participants.

Paper Shredding

In FY15, DSWA provided paper shredding at all the special events. This service allows Delaware residents to safely recycle their sensitive documents with no fear of identity theft. DSWA collected 313,900 pounds of paper for FY15.

7.2 Public Education and Outreach

DSWA strongly believes in educating Delaware residents to increase awareness and to establish an interest in protecting the environment. DSWA educates residents about their programs through school and community presentations, attending special events, and developing educational curriculum which is taught at the Environmental Education Building. In 2015, DSWA attended over 65 school and community presentations reaching over 10,000 residents. DSWA distributed educational materials covering multiple topics for children of all ages with emphasis on recycling and composting.

In 2015, DSWA placed an important emphasis on its public outreach effort by attending over 22 different events throughout the state, which reached over 225,000 Delaware residents. DSWA attended events such as the Delaware State Fair in Harrington and many others. DSWA attends events like these to promote environmental awareness throughout the state as well as educate the public on programs and facilities that DSWA provides for residents.

The DSWA Environmental Education Building is located at the Delaware Recycling Center, next to the MRF. In the third school year of operation, over 5,000 children from Delaware schools visited the center and learned about recycling, composting and conservation.

DSWA encourages citizens of Delaware to contact them if they are in need of environmental information concerning any DSWA program or facility. DSWA provides a Citizens' Response Line, (800-404-7080) which answers approximately 50 calls a day from residents. In addition, DSWA's website (www.dswa.com) provides even more information for Delaware residents. These resources provide valuable information and keep the personal touch that has helped to establish DSWA as a leader in the environmental community.

8.0 Recommendations

8.1 Current Recommendations

The RPAC's recommendations to the Governor and the General Assembly include the following steps to support our efforts to increase the recyclables diversion rate:

(1) Lead by example – mandate recycling in all state government facilities, including public schools and libraries, the courts system, and the legislature.

- Many government facilities lack effective recycling programs. With the commercial recycling requirement in effect January 1, 2014 and with government offices falling under the jurisdiction of the commercial recycling requirement, appropriate measures should be taken to ensure recycling is provided at all government facilities.
- Require all government facilities to undergo a no-cost, onsite waste assessment by DNREC-SHWMS
- Survey the status of all government offices and perform a needs analysis to determine what offices are in compliance, what offices are not and what offices are somewhat compliant
- Require all state agencies to submit a report on the status of recycling collection availability at their offices including a synopsis of how recyclables are collected inside of buildings
- General Assembly pass a resolution to require comprehensive recycling in all state government facilities, including public schools, libraries, courts and the legislature.
- Judiciary, Department of Justice, Office of the Treasurer, Office of Insurance Commissioner and Office of Auditor of Accounts issue directives to each of their staffs to require comprehensive recycling in all of their offices.
- Consult DNREC-SHWMS on the implementation or expansion of state office recycling programs

(2) Re-allocate funding to the Universal Recycling Grants and Low Interest Loan Program – this highly successful program supported ongoing efforts to implement, expand, evaluate and promote economically and environmentally sustainable practices through encouraging recycling behavior throughout the state.

DNREC's Recycling Grants and Low Interest Loan Program (the Program) will no longer be able to offer grants to our schools, businesses and communities due to the State Legislature appropriating almost all remaining funds during FY 2016. The Program was self-funded through the \$0.04 bottle bill recycling fee which was sunset on December 1, 2014. The Grant funds were projected to carry the Recycling Grants Program through 2020 to ensure compliance with the State's Universal Recycling Law.

- In June, 2016, the Legislature reallocated \$5 million of the Program’s funding. In doing this, the Legislature has effectively denied future opportunity to our schools, businesses and communities in furthering recycling in Delaware. RPAC, in the strongest terms, requests refunding of this important and critical program to support and build on the successes that Delaware has achieved in recycling and waste diversion. We are a leader among states and are 10 percentage points ahead of the national average in diverting waste to recycling. This creates jobs and a sense of well-being and accomplishment amongst Delaware citizens that our public and private spaces are clean and free of trash and litter and that our State, the First State, is and shall remain first in recycling in the nation.

(3) Legislators should actively promote recycling by:

- Including information provided by RPAC in their newsletters and distributing it in public meetings
- Conducting quarterly or as-needed information briefings to key legislators and staff ensuring members are informed in a timely way on the changing and evolving state of recycling locally, regionally and nationally
- Inviting Legislators and staff to monthly RPAC meetings
- Offering Legislators and staff opportunities to participate in DNREC and RPAC educational opportunities (i.e., invite select staff to onsite waste assessments in their respective districts)
- Co-hosting with the Legislature, a “meet and greet” event so that RPAC and the Legislators become acquainted with each other, each has the others correct contact information and to build a collegiality bridge and communications conduit for ease of communicating back and forth on recycling efforts in Delaware
- Utilizing and optimizing electronic and web based media to leverage information sharing that include use of e-invites, email blasts, e-newsletters, Facebook and other platforms. This will increase the immediate, rapid sharing of information that will keep the Legislature informed on news events and other recycling happenings throughout the state

(4) Strengthen organics diversion – Employ the recommendations of the Organics Recycling Task Force that will result in long term, viable solutions for organics diversion in Delaware.

- Organic waste, which includes food waste, is a significant and valuable part of the waste stream comprising approximately 25% of landfill waste. The closing of the both of the state’s composting facilities, Wilmington Organic Recycling Center and Blue Hen Organics, is projected to result in an approximately 10,000 ton reduction in the state’s total diversion rate as well as eliminate the potential for any additional increase in organics diversion in the near term. This will have a direct impact on meeting the state’s established diversion goals. RPAC will receive a final report from the Organics Waste Recycling Task Force and its recommendations on how best to re-establish and expand organics in the state by mid-2017.
- For more info: <http://www.dnrec.delaware.gov/dwhs/SHWMB/Pages/ORGANIC-WASTE.aspx>.

APPENDICES

Appendix A. Universal Recycling Law

Delaware Code TITLE 7 Conservation

Natural Resources

CHAPTER 60. ENVIRONMENTAL CONTROL

Subchapter III. Solid Waste Recycling

§ 6051. Findings; intent.

In furtherance of the determination long established in § 6450 of this title that "the reduction of solid waste disposal and recovery of usable materials from solid waste are matters of extreme importance in minimizing the environmental impact of solid waste disposal through landfilling" and that it "is in the public interest to develop a comprehensive statewide system of recycling and resource recovery which maximizes the quantity of solid waste materials which can be recovered, reused or converted to beneficial use" the General Assembly hereby makes the following findings and declares the following intent with respect to the establishment of this subchapter. In order to establish a comprehensive statewide system of recycling, wherein recycling is maximized and the necessary economies of scale are realized, every residence and business must have access to recycling programs that are both convenient and cost effective. It is the intent of the General Assembly, in full recognition that the establishment of a comprehensive statewide recycling program has long been sought, that said program shall be accomplished by modification of the existing beverage container law and the establishment of universal recycling inclusive of the prescribed recycling programs, requirements and goals that follow. As such, liberal interpretation in favor of accomplishing the stated goals and objectives shall be exercised.

[77 Del. Laws, c. 275, § 1.](#);

§ 6052. Definitions.

Notwithstanding any definitions in Chapter 60 or 64 of this title to the contrary, the following words and phrases shall have the meaning ascribed to them in this subchapter unless the context clearly indicates otherwise.

- (1) "Authority" means the Delaware Solid Waste Authority.
- (2) "Beverage" means any mineral waters (but not including naturally sparkling mineral waters), soda waters or any other carbonated beverage not containing alcohol that is commonly known as a "soft drink" and any beer, ale or other malt beverage containing alcohol.
- (3) "Beverage container" means any airtight non-aluminous container containing less than 2 quarts of a beverage under pressure of carbonation.
- (4) "Dealer" means any person who engages in the sale of beverages in beverage

containers to a consumer and shall include groups of retailers or retail chains.

(5) "Multi-family" means 3 or more attached structures, such as condominiums or apartments, generally intended for occupancy by individuals or families and where centralized community trash disposal and collection services are typically provided.

(6) "Municipal solid waste" means wastes such as durable goods, nondurable goods, containers and packaging, food scraps, organic yard waste and miscellaneous inorganic waste from residential (i.e. household), commercial, institutional and industrial sources such as appliances, automobile tires, old newspapers, clothing, disposal tableware, office and classroom paper, wood pallets, and cafeteria wastes. Municipal solid waste does not include solid wastes from other sources such as construction and demolition debris, auto bodies, municipal sludges, combustion ash and industrial process wastes.

(7) "On-premises sales" means sales transactions in which beverages are purchased by a consumer for immediate consumption within the area under the control of the dealer.

(8) "Organic yard waste" means plant material resulting from lawn maintenance and other horticultural gardening and landscaping activities and includes grass, leaves, prunings, brush, shrubs, garden material, Christmas trees and tree limbs up to 4 inches in diameter.

(9) "Recyclable material" or "recyclables" means any material or group of materials that can be collected and sold or used for recycling.

(10) "Recycling" means the process by which solid wastes are separated for use as raw materials, products or replacement of products, including the reuse of organic yard waste, but does not include the incineration of materials for energy.

(11) "Residential waste" means the solid waste generated in occupied single-family and multi-family structures. Also referred to as "household waste".

(12) "Single stream" means a system in which all fibers (including but not limited to paper, cardboard, etc.) and containers (including but not limited to plastic, glass and metal) are commingled for collection into 1 container instead of being sorted into separate commodities and multiple containers.

(13) "Single-family" means either a detached structure (i.e. a house) surrounded by open space or attached structures, such as town or row homes, generally intended for occupancy by a family and where individual trash collection services are typically provided for each structure.

(14) "Source-separated" means recyclable materials, including single stream recyclables, are segregated at the point of generation and kept apart from the waste stream by the generator thereof for the purpose of collection and recycling.

[61 Del. Laws, c. 503, § 1](#); [63 Del. Laws, c. 385, § 1](#); [67 Del. Laws, c. 341, § 1](#); [71 Del. Laws, c. 74, § 2](#); [77 Del. Laws, c. 275, § 1](#);

§ 6053. Universal recycling.

The goal of universal recycling is to create an economy of scale wherein a dramatic increase in

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Delaware's diversion of recyclables occurs in the most cost effective manner achievable while simultaneously creating job opportunities and significantly reducing Delaware's rate of waste disposal.

Universal recycling shall be implemented in accordance with the following provisions:

(1) Effective no later than September 15, 2011, the Authority shall cease providing curbside recycling services, including yard waste collection, and all persons providing solid waste collection services in the State shall also provide:

a. Single-stream curbside recycling collection services to all of their Delaware single-family residential customers, including delivery of a container for the purpose of storage and collection of recyclables that is adequately sized for the customers use such that recycling is encouraged and disposal of recyclables is discouraged; and the recyclables collection service shall be provided at a frequency of not less than once every other week.

b. Source-separated recycling collection services to dealers who provide on-premise sales, including delivery of a recyclables container that is adequately sized for the premise being served and a frequency of recyclables collection that shall preclude the recycling containers from overflowing and otherwise causing a nuisance.

c. All single-family residential and on premise sales customers with a single charge for the collection of waste and recyclables on their "waste services" bill that is inclusive of the combined waste and recycling collection service costs. Local governments that do not presently bill separately for the costs of waste collection are exempt from this requirement.

d. Notification to all customers that the single-stream recycling service will be provided and instructions on participation prior to September 15, 2011.

(2) Effective no later than January 1, 2013, all persons providing solid waste collection services in the State shall provide:

a. Single-stream recycling collection services to all of their Delaware multi-family, residential customers, including providing the multi-family complex with an appropriately sized and centrally located recyclables collection container or containers for the complex being served and ideally in the same proximity as the complexes waste disposal containers. Local governments may require multi-family complex owners to provide their own recyclable collection containers consistent with local requirements.

b. Notification to the multi-family complex management that the single-stream recycling service, including instructions on participation, will be provided.

c. A frequency of recyclables collection that shall preclude the recycling containers from overflowing and otherwise causing a nuisance.

d. Written justification to the Department for not providing multi-family, recycling collection services where the physical constraints of the site prevent the placement of both trash and recycling containers. Exclusion from multi-family recycling is subject to Department review and approval.

(3) Owners of multi-family complexes must, at least once per calendar year, provide residents with instructions on participating in the complex's recycling program.

(4) The Recycling Public Advisory Council shall issue a report to the Governor and the General Assembly no later than November 1, 2012, with recommendations regarding the implementation of universal recycling in the commercial sector. It is the express requirement of this legislation that universal recycling be adopted by the commercial sector and that all commercial businesses actively participate in a comprehensive recycling program no later than January 1, 2014.

(5) Persons who choose to transport and deliver the solid waste and recyclables generated on their own property for proper disposal or to a recycling facility of their choice respectively shall not be affected by this subchapter and may continue in this practice.

(6) Nothing shall impair the ownership of recyclable materials by the generator unless and until such materials are placed at curbside or similar location for collection and recycling, and nothing in this chapter shall be construed to prevent any person from collecting, transporting, processing, and marketing recyclable materials in competition with other persons in the same business, including the Authority, provided that the requirements of this subchapter are satisfied.

(7) Persons engaging in the collection, transportation, processing, or marketing of source separated recyclable materials shall conduct such activities in a manner that the source separated recyclable materials enter the marketplace and are otherwise not disposed via a landfill or by incineration.

[77 Del. Laws, c. 275, § 1.](#);

§ 6054. Delaware Recycling Fund.

(a) There shall be established in the State Treasury and in the accounting system of the State a special fund to be known as the Delaware Recycling Fund ("the Fund").

(b) The following revenue shall be deposited into the Fund:

(1) As specified in § 2912 of Title 30, the recycling fee on the sale of beverage containers;

(2) On the last day of each month, the State Treasurer shall credit the Fund with interest on the average balance in the Fund for the preceding month. The interest to be paid to the Fund shall be that proportionate share, during such preceding month, of interest to the State as the Fund's

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and the State's average balance is to the total State's average balance;

(3) Any other revenue appropriated or transferred to the account by the General Assembly; and

(4) Repayment of low interest loans.

(c) The Fund shall be used by the Secretary for the exclusive purpose of funding specific activities designed to enhance the State's recycling rate and the diversion of recyclables that would otherwise be land disposed. The Fund may be expended only:

(1) To fund the Recycling Grants and Low Interest Loan Program referenced in § 6055 of this title. Annual funding for the Recycling Grants and Low Interest Loan Program shall be dependent on revenue generated by the Fund;

(2) To pay the limited and reasonable cost of the Department and the Recycling Public Advisory Council to study, evaluate and report on the status and potential for recycling various components of the solid waste stream, with emphasis on those aspects of municipal solid waste and commercial waste necessary to achieve the diversion goals established in § 6056 of this title;

(3) To pay the Department's limited and reasonable costs for administering this subchapter. No greater than 10% of the revenue deposited into the Fund shall be used by the Department for administering this subchapter without approval of the Joint Finance Committee and shall include but not be limited to: promoting the Recycling Grants and Low Interest Loan Program, universal recycling, zero waste principles, development of reporting requirements and related recycling initiatives; and

(4) To pay the Division of Revenue for the costs of administering § 2912 of Title 30.

(d) The Department shall commence the Recycling Grants and Low Interest Loan Program in calendar year 2011 and offer the Program at least annually thereafter until 2014.

(e) The revenue from the Fund and its disbursement via the Recycling Grants and Low Interest Loan Program shall be subject to audit and the recipient of any such funding shall agree to the audit and cooperate with the auditor as a condition of receiving funding.

(f) No expenditures shall be made from the Fund for any grants or loans pursuant to § 6055 of this title without the approval by the Controller General and Director of the Office of Management and Budget of a plan for revenues and expenditures for the period between December 1, 2010, and September 15, 2011.

[77 Del. Laws, c. 275, § 1.](#);

§ 6055. Recycling Grants and Low Interest Loan Program.

(a) There is hereby established a competitive Recycling Grants and Low Interest Loan Program (the "Program") to assist persons engaged in the business of collecting, transporting, processing, or marketing recyclable materials with the implementation of:

(1) Source-separated recyclables collection and processing programs with emphasis on start-up costs for residential single-stream recyclables collection; and

(2) Start-up costs for initiatives which result in the recycling of solid waste materials which would otherwise be land disposed, with emphasis on commercial waste.

The Program shall be administered by the Department, and monies from the Program shall be paid based on approved grant and loan requests. The Department shall be entitled to disburse grant and loan monies for the documented costs of implementing the collection or processing of recyclable materials. The Department shall be entitled to adopt guidelines and procedures for administering the Program and determining eligibility for receipt of funding pursuant to § 6054 of this title. Such procedures shall include provisions for repayment of loans to the Department and may include a rebate program for costs based on, including but not limited to, a prorated share of household customers in a recycling program that may have been in existence prior to creation of this law. The Department shall solicit the commentary of the grant eligible stakeholders during development of the grant guidelines and procedures. The Program shall be funded by monies made available under the provisions of § 6054 of this title.

(b) The Recycling Public Advisory Council, after the receipt of comments by grant and loan eligible stakeholders, shall make recommendations annually to the Department regarding the programmatic priorities for awarding Program funds under this subchapter. The Recycling Public Advisory Council shall provide recommendations regarding the categories and priorities for grants and loans that reflect an informed and representative view of the most urgent and important areas where grant funding will provide the most benefit to the State balancing current needs with those of future generations.

(c) The Department shall review all grant and loan applications and award grants and loans taking into consideration the Recycling Public Advisory Council recommendations. In those cases where the Department's funding decisions differ significantly from the Recycling Public Advisory Council recommendations, the Department shall report to the Recycling Public Advisory Council the justification for such differences.

(d) Any person providing solid waste collection services that is a recipient of a grant or low interest loan from the Delaware Recycling Fund shall not, as a result of implementation of universal recycling, increase rates charged for solid waste collection between such times as they make application for the grant until March 15, 2013.

[77 Del. Laws, c. 275, § 1.](#);

§ 6056. Adopting diversion goals and reporting requirements [Effective Dec. 1, 2010]

It is the intent of the General Assembly that implementation of the requirements of this subchapter reduce the amount of nonhazardous solid waste currently deposited in landfills in this State by

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maximizing the recovery of recyclable materials. In order to do so, it will be necessary for the State to embrace the Zero Waste Principles of designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not incinerate or bury them. In that spirit, the following Interim Waste Diversion Goals are established with the understanding that as more data and information regarding the implementation of universal recycling become available, the goals leading up to January 1, 2020 may be modified by the Department as circumstances dictate; however, the January 1, 2020, goals may not be modified without the approval of the General Assembly:

Table 1. Interim Zero Waste Diversion Goals (1)		
Date by which goal is to be achieved	Solid Waste Diverted from disposal	Municipal Solid Waste Diverted from disposal
January 1, 2015	72%	50%
January 1, 2020	85%	60%

(1) By weight

(1) In order to effectively measure the diversion rates being achieved, all persons, including persons who collect, process or market recyclables, with the exception of those specified in § 6053(5) of this title, must report to the Department on a calendar year basis, no later than February 15 of the following year, the type and quantity of recyclables managed, the method of recycling collection used (single or multiple streams), and the location of the recycling facilities used pursuant to reporting guidance developed by the Department and the Recycling Public Advisory Council. Said reporting guidance shall be developed pursuant to the solicitation of stakeholders responsible for reporting, shall take into account the need for confidentiality of the information reported and shall be finalized no later than December 1, 2010. The first recycling report shall cover calendar year 2011 and shall be due no later than February 15, 2012.

(2) In order to ensure that the waste diversion goals specified in Table 1 of this section above are achieved by the dates specified, the Department, in cooperation with the Recycling Public Advisory Council [RPAC], shall assess progress and recommend to the Governor and General Assembly any additional mechanisms necessary including but not limited to: which waste streams must be diverted from disposal; the parties responsible for ensuring the identified waste streams are diverted from disposal; the date by which the diverted waste streams must be diverted from disposal; implementation of Pay As You Throw; Extended Producer Responsibility; incentive based recycling; waste bans and related requirements. Such assessment shall be completed, inclusive of any draft legislation determined necessary, and submitted to the General Assembly no later than November 1, 2014, as part of the RPAC annual report.

[77 Del. Laws, c. 275, § 1.](#);

§ 6057. Beverage containers -- Findings, intent, prohibitions.

(a) The General Assembly hereby finds that beverage containers are a valuable recyclable material and a major source of non-degradable litter in this State and that the collection and disposal of this litter and solid waste constitutes a great financial burden for the citizens of this State; and that, in addition to this unnecessary expenditure of tax moneys, such litter unreasonably interferes with the enjoyment of life and property by our citizens; and that the practice of littering and disposal of a recyclable material is not compatible with previously adopted policies of the State in regard to proper use and protection of our natural resources.

(b) It is the intent of the General Assembly to increase recycling significantly, inclusive of

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beverage containers, thereby conserving valuable natural resources, removing the blight of litter on the landscape of the State caused by the disposal of beverage containers and other packaging, and reduce the increasing costs of litter collection and disposal.

(c) Prohibitions. -- No beverage shall be sold or offered for sale in this State:

- (1) In containers connected to each other with plastic rings or similar devices which are not classified by the Department as biodegradable, photodegradable or recyclable.
- (2) In a beverage container which is not recyclable or refillable.

[61 Del. Laws, c. 503, § 1](#); [64 Del. Laws, c. 57, § 1](#); [67 Del. Laws, c. 341, § 2](#); [77 Del. Laws, c. 275, § 1](#);

§ 6058. Establishment, composition and responsibility of the Recycling Public Advisory Council.

(a) There is hereby established a Recycling Public Advisory Council (the "Council"). The Council shall be composed of 16 members who shall be appointed by the Governor as follows:

- (1) One member from the Department;
- (2) One member from the Authority;
- (3) One member representing county governments, with such member being recommended by the Delaware Association of Counties;
- (4) One member representing municipal governments, with such member being recommended by the Delaware League of Local Governments;
- (5) One member representing the recycling industry;
- (6) One member representing the waste hauling industry;
- (7) Two members, 1 representing the soft drink industry and 1 representing the alcohol beverage industry, representing the beverage industry;
- (8) One member representing the Delaware State Chamber of Commerce;
- (9) One member representing the Delaware restaurant industry; and
- (10) Five members representing community-based or public-interest groups.
- (11) One member representing the Delaware Food Industry Council.

(b) Members of the Council, except for those appointed pursuant to paragraphs (a) (1) and (2) of this section above, shall serve for terms up to 3 years and may not serve more than 2 consecutive terms but may again serve after 1 year off of the Council. Members shall be appointed for staggered terms so that no more than 5 appointments shall expire in any 1 calendar year. Members may be reimbursed for travel to and from meetings. The Governor shall appoint a Chairman from among the 16 members. Actions of the Council shall be approved by a majority

vote of the Council. At least 9 members of the Council shall constitute a quorum. The Council may adopt bylaws as it deems appropriate to serve the purposes of this subchapter.

(c) The Recycling Public Advisory Council shall:

(1) Advise the Department and the Authority on all aspects of recycling;

(2) Advise the Department in developing criteria for the Recycling Grants and Low Interest Loan Program and selection of applications as well as provide an annual assessment of the revenue needed to satisfy the grant requirements;

(3) Maintain, in conjunction with the Department and the Authority, a methodology for measuring recycling rates;

(4) Provide advice and recommendations regarding the recycling outreach and education programs conducted by the Authority and/or the Department;

(5) Report to the Governor and the General Assembly annually by November 1 of each year on the status of recycling activities in Delaware. Said report shall include, but not be limited to the following:

a. Status of attainment of the recycling goals specified in § 6056 of this title;

b. An accounting of the recycling grants and loan program and any recommendations for future funding of the grants and loan program;

c. An assessment of the activities of both the Department and the Authority in achieving the recycling goals specified in § 6056 of this title;

d. An objective, auditable accounting of recycling rates for total solid waste, municipal solid waste, and residential solid waste;

e. Such other recommendations as the Council shall deem appropriate; and

f. Use the definitions of "recycling" and "municipal solid waste" as stated by

the United States Environmental Protection Agency in its document EPA530-R-97-011 dated September 1997. The Council shall be able to adopt changes to these definitions.

(6) Council. [77 Del. Laws, c. 275, § 1.](#);

§ 6059. Enforcement, civil and administrative penalties.

(a) Whoever violates this subchapter, or any rule or regulation promulgated there under, or any order of the Secretary, shall:

(1) For the first conviction, be fined not less than \$100 nor more than \$500 for each day of violation;

(2) For each subsequent conviction for the same offense within a 10-year period, be fined not less than \$500 nor more than \$1,500 for each day of violation;

(3) In the Secretary's discretion, the Secretary may endeavor by conciliation to obtain compliance with all requirements of this subchapter. Conciliation shall be giving written notice to the responsible party:

- a. Specifying the complaint;
- b. Proposing a reasonable time for its correction;
- c. Advising that a hearing on the complaint may be had if requested by a date stated in the notice; and
- d. Notifying that a proposed correction date will be ordered unless a hearing is requested.

If no hearing is requested on or before the date stated in the notice, the Secretary may order that the correction be fully implemented by the proposed date or may, on the Secretary's own initiative, convene a hearing, in which the Secretary shall publicly hear and consider any relevant submission from the responsible party as provided in § 6006 of this title.

Any person whose interest is substantially affected by any action of the Secretary may appeal to the Environmental Appeals Board, in accordance with § 6008 of this title.

Appendix B.
Recycling Public Advisory Council Members

Brock J. Vinton II, RPAC Chairman – Representing community-based or public-interest group
Citizens Solid Waste Solutions Commission

Paul R. Bickhart – Representing the recycling industry Recycling Express of Delaware, Inc.

Michael D. Parkowski – Representing the Delaware Solid Waste Authority Chief of Business and
Governmental Services, Delaware Solid Waste Authority

Richard C. Cecil – Representing the Delaware Association of Counties Executive Director,
Delaware Association of Counties

Marianne Cinaglia – Representing community-based or public-interest group Delaware
Environmental Alliance for Senior Involvement

Marjorie A. Crofts – Representing the Dept. of Natural Resources and Environmental Control
Director, Division of Waste and Hazardous Substances

George Danneman – Representing the soft-drink industry Delaware Beverage Association

Wendy Turner – Representing community-based or public-interest group Educator, Brandywine
School District

Vacant - Representing the alcohol beverage industry

Charles Campbell-King– Representing community-based or public-interest group Delaware
Department of Technology and Information

Robert A. Ziegler – Representing the Waste hauling industry Republic Services

Brian Nixon – Representing the Delaware Chamber of Commerce Invista

Adam Webster – Representing the restaurant industry Grotto Pizza

Coralie Pryde – Representing community-based or public-interest group League of Women Voters

Julie Miro Wenger – Representing the Delaware Food Industry Council

Stan Mills – Representing the Delaware League of Local Governments Commissioner, City of
Rehoboth Beach

Appendix C. *DSM Measurement Report*

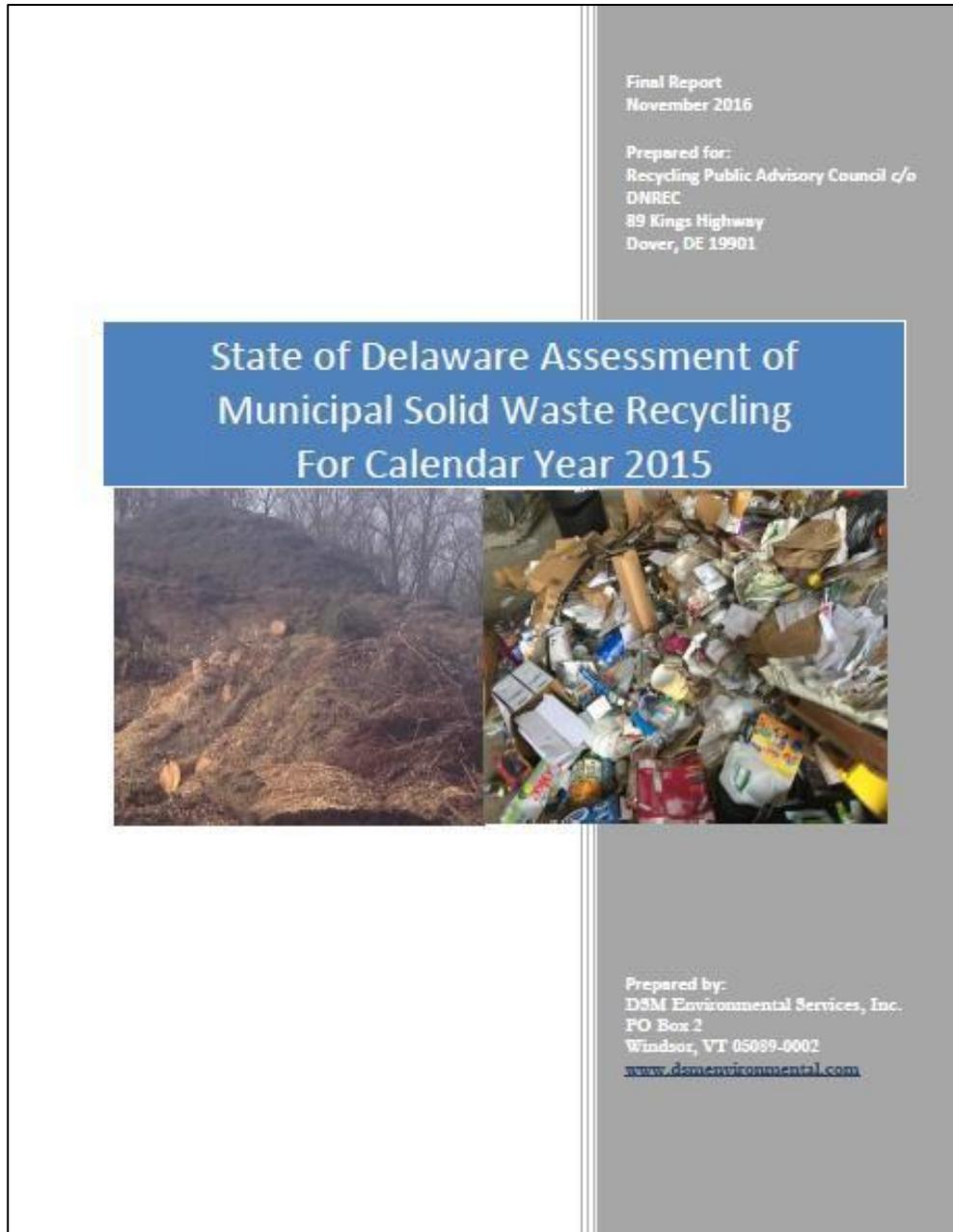


FIGURE 1: COMPARISON OF MATERIAL RECYCLED, CY 2010 – 2015 (TONS BY MATERIAL)

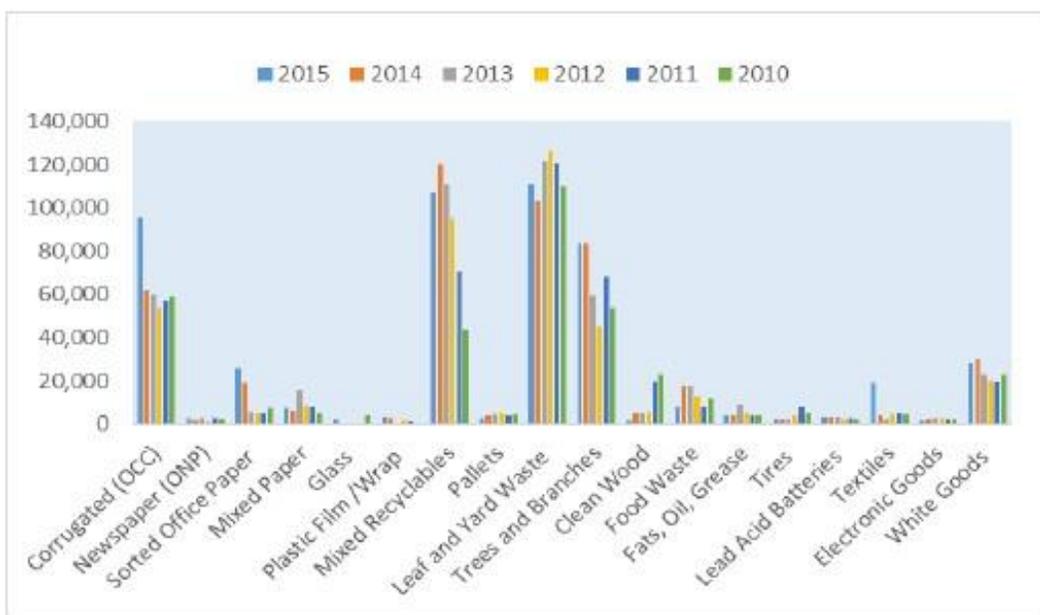


TABLE 2: COMPARISON OF MSW MATERIALS RECYCLED IN DELAWARE, CY 2015, 2014, 2013 AND 2012

Material Category	CY 2015			CY 2014			CY 2013			CY 2012			Difference, 2015 - 2014			
	All Other (Tons)	DSWA (Tons)	Total (Tons)	All Other (Tons)	DSWA (Tons)	Total (Tons)	All Other (Tons)	DSWA (Tons)	Total (Tons)	All Other (Tons)	DSWA (Tons)	Total (Tons)	All Other (Tons)	DSWA (Tons)	Difference (%)	Total (Tons)
Paper, Paper Packaging																
Corrugated (OCC)	90,285		90,285	61,449		61,449	59,684		59,684	53,288	252	53,540	28,836		47%	28,836
Newsprint (ONP)	2,733		2,733	1,747		1,747	2,824		2,824	909		986	986		56%	986
Sorted Office Paper (1)	25,576		25,576	18,691		18,691	7,981		5,775	5,001		5,001	6,885		37%	6,885
Mixed Paper (2)	6,911		6,911	5,840		5,840	13,122		15,328	8,174		8,174	1,071		18%	1,071
Subtotal:	125,506	0	125,506	87,727	0	87,727	83,611	0	83,611	67,372	252	67,624	37,779	0	43%	37,779
All Other Packaging																
Glass	2,136		2,136	4		4	170		170	322		332	2,132		53304%	2,132
Plastic Film / Wrap (3)	3,008		3,008	2,660		2,660	601		601	1,452		1,452	348		13%	348
Retail Bags (4)	228		228	251		251							(23)		-9%	(23)
Plastic Containers	129		129	97		97	118		118	30		30	32		33%	32
Polystyrene Packaging (5)	96	12	108	73	12	85							23		27%	23
Aluminum Cans (6)	490		490	2,514		2,514	2,277		2,277	696		696	(2,024)		-81%	(2,024)
Pallets	2,940		2,940	3,828		3,828	4,278		4,278	4,714		4,714	(888)		-23%	(888)
Mixed Recyclables (7)	106,933		106,933	119,791		119,791	110,799		110,799	33,079	62,211	95,290	(12,858)		-11%	(12,858)
Subtotal:	115,961	12	115,973	129,218	12	129,230	118,243	0	118,243	40,293	62,211	102,514	(13,257)	0	-10%	(13,257)
Vehicle Waste																
Tires (8)	2,301		2,301	1,865		1,865	2,226		2,226	3,110	951	4,061	436		23%	436
Lead Acid Batteries	3,164		3,164	2,984		2,984	3,472		3,472	2,052		2,052	180		6%	180
Oil Filters	203		203	443		443	452		452	379		379	(240)		-54%	(240)
Subtotal:	5,668	0	5,668	5,292	0	5,292	6,150	0	6,150	5,541	951	6,492	376	0	7%	376
Special Wastes																
Carpet	19		19	98		98	140		140	98		98	(79)		-80%	(79)
Textiles (9)	16,720	17	16,737	3,772		3,772	2,188		2,188	4,284		4,284	12,948	17	344%	12,965
Mattresses	41	142	183	146	79	225							(105)	63	-19%	(42)
Flourescent Bulbs	68		68	16		16	19		19	15		15	52		325%	52
Electronic Goods	532	899	1,431	669	1,417	2,086	903	1,717	2,620	839	1,933	2,772	(137)	(518)	-31%	(655)
Other Batteries	18	54	72	250	61	311	16	71	87	3	44	47	(232)	(7)	-77%	(239)
Subtotal:	17,399	1,112	18,510	4,951	1,557	6,508	3,266	1,788	5,054	5,239	1,977	7,216	12,447	(445)	184%	12,002
Organic Wastes																
Fats, Oil, Grease	3,565		3,565	3,640		3,640	8,802		8,802	5,103		5,103	(75)		-2%	(75)
Food Waste	8,509		8,509	17,381		17,381	17,626		17,626	12,701		12,701	(8,872)		-51%	(8,872)
Leaf and Yard Waste	110,690		110,690	103,356		103,356	121,514		121,514	126,463		126,463	7,334		7%	7,334
Trees and Branches	83,383		83,383	83,727		83,727	59,125		59,125	44,888		44,888	(344)		0%	(344)
Clean Wood	1,318		1,318	5,146		5,146	4,756		4,756	5,410		5,410	(3,828)		-74%	(3,828)
Subtotal:	207,466	0	207,466	213,250	0	213,250	211,823	0	211,823	194,565	0	194,565	(5,784)	0	-3%	(5,784)
Metals																
White Goods	24,573		24,573	29,420	395	29,815	22,178	790	22,968	19,454	458	19,912	(4,847)	(395)	-18%	(5,242)
Subtotal:	24,573	0	24,573	29,420	395	29,815	22,178	790	22,968	19,454	458	19,912	(4,847)	(395)	-18%	(5,242)
Other																
Mixed Plastics (10)	1,667		1,667	2,423		2,423	2,645	6	2,651	3,965		3,965	(756)		-31%	(756)
Subtotal:	1,667	0	1,667	2,423	0	2,423	2,645	6	2,651	3,965	0	3,965	(756)	0	-31%	(756)
Total	498,239	1,124	499,363	472,281	1,964	474,245	447,916	2,584	450,500	336,429	65,849	402,288	25,957	(840)	5%	25,118

TABLE 2 NOTES:

- (1) Sorted Office Paper: Figures may include mixed paper.
- (2) Mixed Paper: All mixed paper reported was included as MSW even in cases where processors did not reveal sources.
- (3) Plastic Film/Wrap: Prior to 2014 this category also included retail bags in the total. Note that Plastic Film/Wrap reported in 2014 was adjusted up by 1,903 tons in this 2015 report to correct a reporting error in the 2014 report.
- (4) Retail Bags: This category was new for 2014 and includes only plastic retail bags.
- (5) Polystyrene Packaging: This category was added in 2014 to disaggregate PS recycling from other types of plastic packaging. It is included in the total for 2013, but under mixed plastics.
- (6) Aluminum Cans: Primarily aluminum cans but may include other aluminum containers reported by scrap metal recyclers.
- (7) Mixed Recyclables: Single stream material collected from municipal curbside recycling programs, and collected by subscription haulers from both households and businesses. This is reported incoming tonnages from Delaware, and therefore residue has not been subtracted from the totals reported. See discussion of residue in the section below entitled *Other Packaging Waste*.
- (8) Tires: Tires reported are tires used for engineering and landscaping purposes. Tires reported used for Tire Derived Fuel (TDF) as not included in this report.
- (9) Textiles: Used clothing (including shoes) exported for recycling or reuse, or reused within Delaware. The end uses change based on the condition and changing markets. No breakdown of the actual end use is available.
- (10) Mixed Plastics may include plastic packaging and other waste plastic generated by manufacturers but sent off site, but reported as mixed plastics by the recycler. Roughly 50% are estimated to qualify as “MSW recycling” consistent with the estimates made in prior years.
- (11) Totals may not add up due to reporting in whole numbers but calculating to one decimal point.

As illustrated by Table 2 total recovery increased by roughly 25,000 tons. That increase was made up predominantly by paper materials and textiles. This increase is the result of a combination of factors, as described by material category below, but primarily is the result of increased commercial recycling activity stimulated by the Universal Recycling Law, yard waste bans, improvement in the economy, and better reporting due to the mandatory reporting law.

Summary

Figure 2, below illustrates the breakdown of MSW materials recovery, by material type, for Delaware for 2015, including DSWA recycling activity. Figure 2 emphasizes the important role of fiber recycling, single stream recycling and leaf and yard waste composting in materials recycling in Delaware

FIGURE 2: MATERIALS RECOVERY BY GENERAL MATERIAL CATEGORY INCLUDED IN EPA DEFINITION OF MSW RECYCLING (STATE OF DELAWARE, CY 2015)

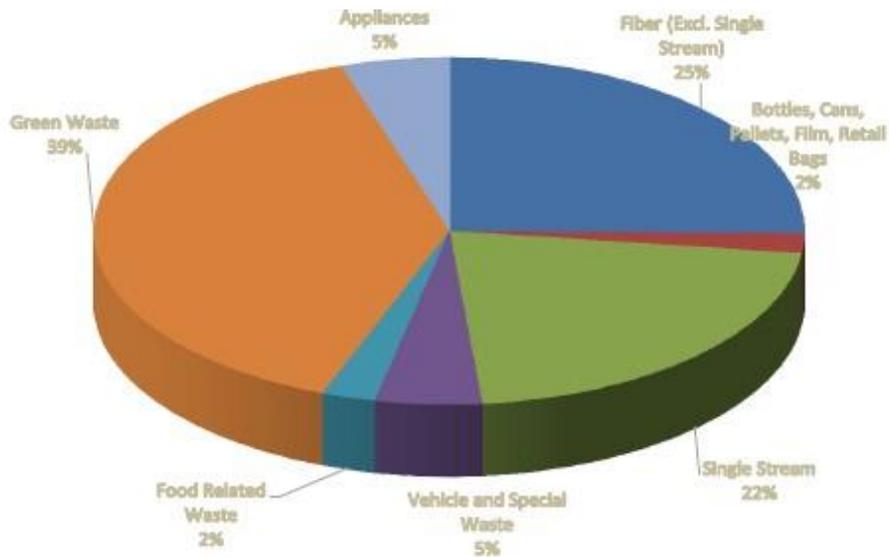


TABLE 3: ESTIMATE OF RESIDENTIAL VS. COMMERCIAL MSW RECYCLING ACTIVITY (CY 2015)

Material Category	Residential (tons)	Commercial (tons)	Total MSW (tons)
Paper			
Corrugated (OCC)	759	89,526	90,285
Newspaper (ONP)	0	2,733	2,733
Sorted Office Paper	0	25,576	25,576
Mixed Paper	14	6,897	6,911
Subtotal:	773	124,733	125,506
Packaging			
Glass (1)	0	2,136	2,136
Plastic Film / Shrink Wrap	0	3,008	3,008
Retail Bags (2)	228	0	228
Plastic Containers	0	129	129
Polystyrene Packaging	11	97	108
Aluminum Cans	441	49	490
Mixed Recyclables (3)	77,428	29,506	106,933
Mulched Pallets	0	2,940	2,940
Subtotal:	78,108	37,865	115,973
Green Waste			
Leaf and Yard Waste (4)	99,621	11,069	110,690
Trees and Branches (5)	41,692	41,692	83,383
Clean Wood	0	1,318	1,318
Subtotal:	141,313	54,079	195,392
Food Related Wastes			
Food Waste (6)	0	8,509	8,509
Fats, Oil, Grease (7)	0	3,565	3,565
Subtotal:	0	12,074	12,074
Vehicle Waste (8)			
Tires	1,841	460	2,301
Lead Acid Batteries	2,531	633	3,164
Oil Filters	162	41	203
Subtotal:	4,534	1,134	5,668
Special Wastes			
Textiles (9)	16,687	50	16,737
Electronics	972	459	1,431
Mattresses	183	0	183
Carpet (10)	0	19	19
Florescent Bulbs	0	68	68
Other Batteries (11)	65	7	72
Subtotal:	17,906	604	18,510
Metals			
White Goods	22,116	2,457	24,573
Subtotal:	22,116	2,457	24,573
Other			
Mixed Plastics	0	1,667	1,667
Subtotal:	0	1,667	1,667
Total:	264,750	234,613	499,363

TABLE 3 NOTES (NUMBERS MAY NOT ADD DUE TO ROUNDING):

- (1) Glass is allocated by the reporting entity.
- (2) Retail bags are assumed to be 100% residential.
- (3) Single stream recycling through Newark and other municipalities assumed to be 100% residential. All other single stream recycling reported was estimated as residential and commercial by the reporting entity including haulers and processors. The total tons include residue.
- (4) Leaf and Yard waste allocations were made using newly allocated percentages consistent with the 2014 State of Delaware Yard Waste Study, 90% residential and 10% commercial. Note that, as described in this report 5,634 tons of yard waste reported as diverted was deducted because it was not composted or mulched, therefore cannot be included in the MSW recycling rate
- (5) Trees and branches waste allocations were made using newly allocated percentages consistent with the 2014 State of Delaware Yard Waste Study, 50% residential and 50% commercial.
- (6) Food Waste includes food reported as donated.
- (7) Fats, Oil, Grease is assumed to be 100% commercial consistent with past reports.
- (8) All vehicle wastes recycled are assumed to be 80% residential and 20% commercial. This is consistent with past reporting
- (9) All textiles are considered residential unless they are included in industry reports, consistent with past reporting. The documented source of textiles is unknown, however DSM assumes most textiles came from residential sources. Also textiles reused are excluded under EPA but included here since reuse versus recycling cannot be determined.
- (10) Carpet was reported from commercial sources by the recycler.
- (11) Other Batteries are assumed to be 90% residential and 10% commercial.

Appendix D. Outreach Examples

Figure D.1 – “Delaware Recycles” Logo, used to unify and brand outreach efforts



Figure D.2 – Website: www.recycling.delaware.gov



What's New

All commercial businesses in Delaware must take part in a comprehensive recycling program. Universal, comprehensive recycling is required by Delaware state law. This includes for profit and not-for profit retail and wholesale stores, offices, food service establishments, warehouses, and other manufacturing, industrial, or processing activities. And it includes institutions such as social, charitable, educations, health care, professional, and government services. Waste haulers are required to provide single-stream recycling collection to both single and multi-family residential customers, and most bars and restaurants. The goal of the Universal Recycling Law is to maximize the convenience of recycling and minimize the amount of trash disposed in Delaware. Recycling keeps raw materials in the manufacturing sector, creates jobs, and promotes sustainability.

More Information

- [14th Annual Report of the Recycling Public Advisory Council \[PDF\]](#)
- [Recycling Info by Topic](#)
- [Contact Us](#)
- [DSWA List of Residential Waste Haulers](#)
- [What's Recyclable in Delaware](#)
- [Universal Recycling Legislation](#)
- [Bottle Fee Info for Retailers](#)
- [Yard Waste Information](#)
- [How to Recycle Guide \[PDF\]](#)



Figure D.3 – Facebook Page: www.facebook.com/delawarerecycles



Figure D.4 – How to Recycle Guide - 2014

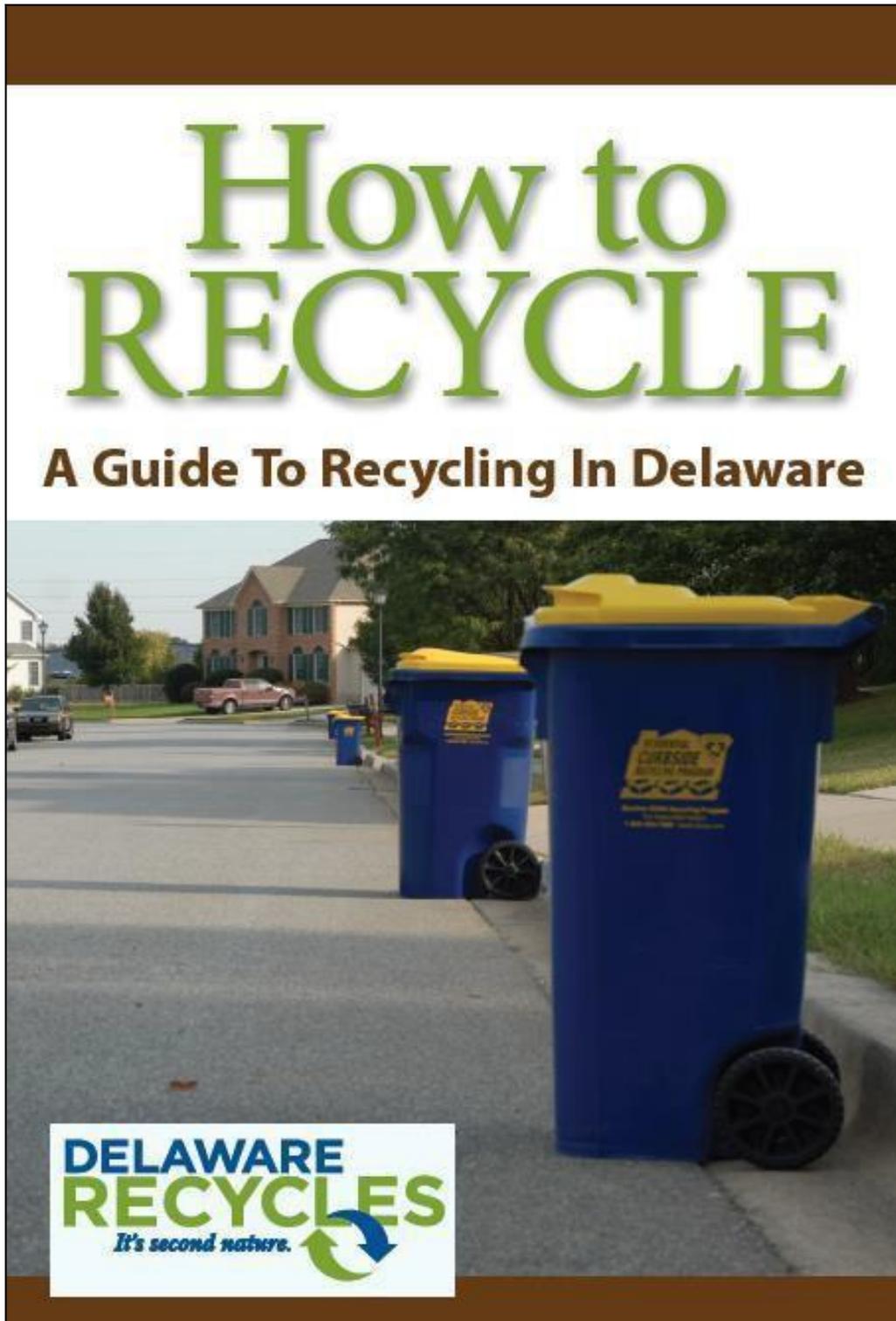


Figure D.5 – Composting Brochure



Appendix E. Background of Recycling Efforts in Delaware

The State of Delaware first began promoting recycling in 1975 with the passage of the Delaware Solid Waste Authority's enabling legislation. This led to the opening of the Delaware Reclamation Plant, which held the title of the largest recycling/reclamation project in the world for nearly 11 years. About 2.5 million tons of municipal solid waste and 0.5 million tons of sewage sludge were processed through this plant. This facility was shut down in 1993 and the plant was modified to operate as the Delaware Recycling Center which processes and markets all the recyclables from the 'RECYCLE DELAWARE' Drop-Off Program.

The next major milestone was the implementation of the Beverage Container Law in 1979 designed to prevent roadside littering.

In 1990, the statewide drop-off recycling program, known as 'RECYCLE DELAWARE', was established by the Delaware Solid Waste Authority. The DSWA 'RECYCLE DELAWARE' centers peaked at 170 sites collecting approximately 34,000 tons per year of recyclables and as of this year (2014) are down to 75 sites collecting approximately 19,000 tons per year. Recyclables collected include brown, green and clear glass bottles, plastic bottles, newspaper and magazines, aluminum and steel cans (including aerosols), textiles, motor oil and oil filters, corrugated cardboard, and household batteries (the batteries are not recycled, but disposed of properly).

Despite these recycling milestones, Delaware's former Governor, Thomas Carper, received frequent letters and phone calls from Delaware residents requesting implementation of curbside collection of recyclables. These requests spurred Governor Carper to call a meeting in late 1998 with representatives of the DNREC, the Delaware Economic Development Office (DEDO) and the DSWA to discuss the feasibility of implementing curbside collection of recyclables in Delaware. The result of this meeting was the issuance of Executive Order No. 60 establishing the Citizens' Work Group on Recycling to evaluate recycling in Delaware. The work group would also recommend ways to increase recycling in Delaware.

In the spirit of conservation and pursuant to the report "A Course of Action to Increase Recycling in the State of Delaware," which was developed by and contained the recommendations of the Citizens' Work Group on Recycling, Governor Thomas R. Carper signed Executive Order Eighty-Two (82) which:

1. Established the goal of a thirty (30) percent diversion rate for recyclables from Delaware's residential solid waste stream.
2. Required the Department of Natural Resources and Environmental Control (DNREC), Division of Air and Waste Management (DAWM) to work in concert with the Delaware Solid Waste Authority (DSWA) and the Recycling Public Advisory Council (RPAC) to:
 - a) develop a method for measuring recycling,
 - b) establish a recycling grant program,
 - c) establish a public outreach and education program aimed at educating the general public and students on the value of recycling as well as to increase the recycling rate, provide technical assistance to local entities to increase the recycling rate, and provide administrative support to the RPAC.
3. Established the nine (9) member RPAC and tasked the RPAC with:
 - a) advising DNREC and DSWA on all aspects of recycling,

- b) advising DNREC on developing grant criteria,
- c) advising DNREC and DSWA on outreach activities to increase recycling, and
- d) developing an annual report due on December 1st of each year detailing the status of recycling activities within Delaware.

Governor Minner appointed the members of the RPAC early in her Administration and the first RPAC meeting was held on February 27, 2001. DNREC also hired an Environmental Scientist and a Community Relations Officer to assist the Council. The Environmental Scientist aided the Council in developing the method for measuring recycling and provided recycling technical assistance to Delaware's communities and local governments.

The RPAC contracted a study on residential curbside recyclables collection in New Castle County. The final report, titled "Evaluation of Enhanced Residential Waste and Recyclables Collection and Processing for New Castle County" was published in 2003 by DSM Environmental Services, Incorporated. The report concluded that curbside collection of recyclables could be done at least as, if not more, cost effectively than trash if the system is properly designed.

In early 2006, Senate Bill 225 (SB 225) was introduced in the Delaware Senate. It established a framework for a statewide curbside recycling system, established a Recycling Fund to help pay for recycling programs, banned yard waste from disposal (providing for development of yard waste management facilities), established statewide recycling goals, and established the RPAC. The Governor's Office, DNREC, DSWA, and the RPAC all supported SB 225. The Bill did pass the Senate with amendments but it was tabled in the House of Representatives.

In October of 2005, DNREC Secretary, John Hughes, established the Solid Waste Management Technical Working Group (SWMTWG) pursuant to a directive from Governor Minner. It was comprised of individuals with technical backgrounds, financial backgrounds, and/or experience with municipal solid waste management systems and technologies. The SWMTWG was tasked to perform a feasibility review of municipal solid waste management alternatives and to recommend a program or programs that would best serve Delaware's municipal solid waste management needs. In April of 2006, the SWMTWG produced a report that recommends the state implement effective source reduction and recycling programs and building a processing facility.

The Citizens Solid Waste Solutions Commission (CSWSC), an organized group of environmentally conscious citizens, also produced a report in 2006. They called for more convenient and cost-effective recycling programs, better processing facilities for recyclables and discards, opposition to incineration, and a more focused recycling agency than the DSWA. They argued that recycling is an issue of resource management rather than one of waste disposal.

The City of Wilmington initiated a single-stream curbside recycling trial for over 6,000 households in the summer of 2006. The City partnered with RecycleBank, a recycling company based in Philadelphia, to provide the service. RecycleBank provided wheeled recycling containers, retrofitted Wilmington's trucks to service the containers and weigh the material, and provided various data reports, and provided outreach and education about the program. Through the RecycleBank program, participating households earned up to \$35 per month in RecycleBank Dollars which could be redeemed at stores of the customer's choosing. The incentive encouraged residents to recycle and helped Wilmington to divert waste from the landfill. The recycling rate in Wilmington's trial areas went from almost zero to about 35% in about six months. In 2007 the program was expanded citywide.

In September of 2006 Governor Minner signed Executive Order 90, which replaced Executive Order 82 and re-established the RPAC. Executive Order 90 increased the membership of the RPAC by two public members. It also increased the former recycling diversion rate goal from 30% of residential solid waste to 51% of municipal solid waste.

The Cherry Island Landfill permit was renewed in 2006 with language that required the DSWA to ban yard waste from entering the landfill no later than January 1, 2007. After dozens of community meetings, a legislatively mandated delay in the ban, and the opening of three community yard waste demonstration sites, DNREC and the DSWA began enforcement of the ban on January 24, 2008.

House Bill 159 (HB 159) was introduced in 2007 and would have encouraged recycling via a comprehensive recycling grants program while discouraging disposal via a \$3 per ton assessment on landfilling. In May of 2008, HB 159 passed in the House of Representatives but was defeated in the Senate in June of 2008.

Starting in January of 2008, Kent County provided single-stream recyclables collection to residents serviced in their trash districts. This increased the number of Delaware households participating in recycling by over 11,000.

In early 2008, the DSWA converted their recyclables collection programs to single-stream. Participants no longer needed to separate traditional recyclables (i.e. glass bottles, cans, plastic bottles, mixed papers) by material type. As a result, recycling became more convenient and easier for people to participate. Other entities, including some waste haulers, also began to offer single-stream recyclables collection service.

In June of 2009, House Bill 201 was passed by the General Assembly on the last day of session. It essentially repealed the Delaware Beverage Container Law (or Bottle Bill), and removed the deposit and redemption system related to beverage containers. Governor Markell vetoed House Bill 201 in July of 2009, on the grounds that it would have a negative impact on recycling and offered no viable alternative.

In December of 2009, Peninsula Compost Company, LLC completed construction of the Wilmington Organic Recycling Center near the Port of Wilmington. This composting facility is approved to accept and process up to 160,000 tons of yard waste, wood waste, food waste, hatchery waste, and animal bedding into compost annually. (See October 2014 statement)

In February 2010, Governor Markell signed Executive Order 18. This Executive Order set goals in the following categories for the executive branch of state government: energy conservation/efficiency, LEED green building practices, renewable energy, reduced transportation impacts, recycling diversion (75%), and environmentally preferable purchasing.

In April 2010, the DSWA updated its Statewide Solid Waste Management Plan (SSWMP). The SSWMP calls for many waste reduction strategies, several of which required action from government and businesses.

In May 2010, Blue Hen Organics opened a 46-acre composting facility in Frankford to the general public. This facility is approved to accept and process 57,000 tons of yard waste, wood waste, food waste, hatchery waste, and chicken litter into compost annually.

On June 8, 2010, Senate Bill 234 (the Universal Recycling Law) was signed into law. This legislation passed after significant input from many stakeholders and coordination from the Governor's Office. It transitioned Delaware out of a flawed beverage container deposit system into a comprehensive recycling system. It also legislatively created a reformed RPAC.

On January 1, 2011, the Central Solid Waste Management Center (Sandtown Landfill) and the Southern Solid Waste Management Center (Jones Crossroads Landfill) stopped accepting yard waste mixed with trash. DSWA and DNREC agreed to permit conditions that restricted yard waste in July of 2010. All three DSWA landfills now ban yard waste.

By September 15, 2011, all single-family households with household trash collection, and many bars and restaurants, were provided with single stream, curbside recycling collection services.

In December, 2011, DSWA's Board of Directors approved staff to enter into agreements with the recycling company ReCommunity (to recycle municipal solid waste recyclables) and with Revolution Recovery (to recycle construction and demolition recyclables) at the Delaware Recycling Center (DRC) in New Castle.

In January, 2012, the DSWA, in partnership with Dart Container Corporation, began a pilot program to collect clean, #6 polystyrene foam (i.e. Styrofoam) for recycling at the DRC in New Castle. The program expanded to a second collection location at the Milford Transfer Station in February, 2012.

On March 1, 2012, Blue River Resources, LLC was granted a permit to operate a materials recovery facility (MRF) to separate paper, cardboard, plastic, metal, and glass for recycling. The facility is permitted to accept approximately 216,000 tons of recyclable waste materials per year. As of October 2012, the new MRF was 75% operational.

On March 17, 2012, non-profit organization Eden Delmarva launched the REPLENISH project with DNREC's assistance. The Sussex County-based project encourages the recovery of organic materials from 23 local restaurants to produce compost that is used at local farms. The compost fertilizes locally grown produce, which is then marketed back to the restaurants. In April 2012, Revolution Recovery began accepting construction and demolition materials for recycling at its 42,000-square foot facility at the DRC.

In May 2012, the DSWA announced a 20-year agreement with ReCommunity to operate an automated materials recycling facility (MRF) at the DRC. State-of-the art sorting equipment will be housed in an existing building, and will process recyclable aluminum, plastics, paper, cardboard, tin and glass collected from throughout Delaware.

Spring and summer 2012 showed increased activity and awareness of recycling issues within the General Assembly. Senate Joint Resolution 8 established a strategy committee to study carpet recycling, and to report back to the General Assembly with a 10-year carpet recycling strategic plan. Senate Resolution 24 called for DSWA, DNREC, and the Zero Waste Working Group develop a plan and proposed legislation to address single-use plastic shopping bags by January of 2013. Between May 1, 2012 and April 1, 2013 the multi-family grants were completed. The grants funds awarded were for the capital costs of providing multi-family collection equipment and outreach and education materials.

In June of 2013 the grant contracts awarded during the third cycle of grant funding were signed.

This grant cycle focuses on commercial recycling and awarded nearly \$1.4 million to a mix of fifteen different municipalities, waste haulers, private businesses and not-for-profit entities.

On May 3, 2013 Carpet Recycling Strategy Committee issued its report called for under Senate Joint Resolution No. 8. In summary, the report concluded the Committee was unable to reach consensus on recommendations on how to increase carpet recycling in Delaware with a goal of having 100% of all carpet removed in Delaware be diverted to carpet recycling. When the full Recycling Public Advisory Committee (RPAC) reviewed this report, it suggested that Delaware revisit the status of carpet recycling in another two years. At this point, Delaware will have better data on carpet diversion and recycling due to the reporting requirements in the Universal Recycling Law and the RPAC will be moving its efforts from residential solid waste to construction and demolition waste.

Between July 2012 and January 2013 the Zero Waste Working Group, which included members that represented industry, retailers, DSWA, DNREC, recyclers, and several environmental groups, met monthly to discuss and to present draft legislation that would lead to more effective plastic bag management in Delaware. The group did achieve consensus on a number of points including: fugitive plastic bags are a problem for infrastructure and wildlife in Delaware and education will be a part of any plan to reduce plastic bag waste. However, the group had divergent views and did not agree on any legislative recommendations. Some members independently lobbied to introduce a bill to continue the At-Store recycling program. This bill passed the House last legislative session and is expected to be introduced to the Senate this coming session.

Between November 1, 2012 and October 31, 2013 nineteen outreach and education training events were held throughout the state in reference to grant opportunities, the implementation of commercial recycling and general recycling outreach and education. For a detailed list of these events see Table 7 in section 6 of this report.

On August 29, 2013 ReCommunity held its grand opening ceremony. The opening of a state-of-the-art Materials Recovery Facility marks a recycling milestone for the State of Delaware. With the opening of this facility Delaware now possesses the capability to separate and market its own recyclables. As a result, not only are the profitability of these valuable resources maximized, dozens of valuable local jobs are also created in the process, and \$15 million in construction costs were added to the local economy. This chapter in Delaware's recycling history is possible as a result of the high diversion of recyclables afforded by the state's Universal Recycling law. ReCommunity and DSWA should be commended for their partnering efforts. On January 1, 2014 the requirement for the commercial sector to implement comprehensive recycling programs began.

In March of 2014 the grant contracts for the fourth round of grant funding were signed. This cycle primarily funded recycling dumpsters, school dishware conversion, balers and outreach and education expenses. The awardees were a mix of municipalities, waste haulers, private businesses, schools and not-for-profit entities.

In May 2014 RPAC issued a letter to the Members of the 146th General Assembly enumerating several reasons why the legislature should consider requiring DNREC to close the Polly Drummond yard waste demonstration site. The letter cited substantive costs to maintain the site, impact to DNREC grant funds, statewide equity, and the fact that the site negatively impacts private management of this waste stream as sound reasons for closure.

On September 26, 2014 Revolution Recovery, a construction and demolition (C&D) waste recycler

located at DSWA's Delaware Recycling Center in New Castle, Delaware, celebrated their grand opening. Revolution Recovery's presence in Delaware affords the opportunity to recycle C&D waste, as opposed to dispose of it, at pricing that is competitive with disposal. By doing so, Revolution Recovery contributes to both the states waste diversion rate by recycling a portion of the C&D waste stream and the state's employment rate by creating jobs.

On October 20, 2014 Peninsula Compost Company, LLC was issued a Secretary's Order requiring closure of its recycling facility. Peninsula Compost Company has placed an undue burden on the quality of life of residents in the City of Wilmington, parts of the City of New Castle and part of New Castle County – particularly those living in close proximity to the facility due to frequent uncontrolled odors. The company has been unable to maintain compliance with DNREC's Beneficial Use Determination permit and therefore required to close. The absence of a composting facility in northern Delaware will negatively impact the state's diversion rate going forward unless and until an alternative outlet for organics is made available.

In March of 2015 Blue Hen Composting closed its doors to accepting compostable materials due to concerns over odors and will cease all composting activity by April 2016.

In June of 2015, in response to the closure of both of Delaware's composting facilities, members of 148th General Assembly issued Senate Concurrent Resolution 35 establishing the Organics Recycling Task Force. This group is charged with evaluating effective and efficient ways to recycle organic waste within Delaware, meeting monthly and presenting its findings to the Delaware House and Senate Natural Resources Committees and the Governor by March 1, 2016.