Onondaga County Resource Recovery Agency

2019 ANNUAL REPORT ON RECYCLABLES RECOVERED

This report is submitted pursuant to:

NYSDEC Permit Number 7-3142-00028/00002-0 Certificate to Operate Onondaga County Resource Recovery Facility;

NYSDEC Permit Number 7-3156-00047/00001-0 Permit to Construct and Operate the OCRRA Landfill;

NYSDEC Permit Number 7-3148-00048/00001-0 Solid Waste Transfer Station-Ley Creek; and

NYSDEC Permit Number 7-3142-00036/00001-0 Solid Waste Transfer Station-Rock Cut Road.

Period reported: January 1, 2019 through December 31, 2019
Date: March 1, 2020
Planning Unit: **County of Onondaga** including the City of Syracuse, excluding the Town and Village of Skaneateles
Contact Person: Ms. Dereth Glance, Executive Director, OCRRA
100 Elwood Davis Road North Syracuse, NY 13212-4312

1. 2019 Recycling Data

OCRRA (Onondaga County Resource Recovery Agency) is a non-profit public benefit corporation charged with managing solid waste in Onondaga County (with the exception of the Town and Village of Skaneateles). This includes proper disposal of Municipal Solid Waste (MSW) and recycling. Since beginning operations in 1990, OCRRA has overseen the recycling of 12 million+ tons of material.

In 2019, **36,974 tons** of materials were collected from households through the blue bin curbside recycling program; there are approximately 180,000 households in the OCRRA Service Area, and a population of approximately 457,000.

In 2019, **468,456 tons** were recycled through mandatory and voluntary recycling efforts (both residential and commercial) in the community, for a **total recycling rate of 55%** (see Table 1). OCRRA also met permitting requirements for the Waste-to-Energy (WTE) facility set forth by the NYSDEC to maintain a 40% processible recycling rate[1], by reaching 40%, or comprising 183,989 tons (see Table 2).

OCRRA inventories and records recycling tonnages of all material recycled through the curbside program. Data collected from private commercial entities, as well as public and private institutions, are provided on a voluntary basis and are not audited by OCRRA.

Table 1 shows the total recycling and trash generation for 2019 in OCRRA's service area. In addition to the "mandatory recycling materials," meaning items that could be otherwise processed at the WTE Facility such as old corrugated cardboard (OCC), old newspaper (ONP), containers, paper, etc., this total also includes the "voluntary recycling materials," meaning items that could not otherwise be processed at the WTE Facility such as yard waste, sludge, construction debris, etc.

---

[1] The processible recycling rate, as defined by NYSDEC, considers only those materials recycled that could have otherwise been disposed of at the Waste-to-Energy facility. For example, it does not include yard waste, which is an unacceptable waste at the Waste-to-Energy facility.

Table 2 shows totals for only the "mandatory recycling materials," mentioned above. In Table 3, an estimated breakdown of tonnage by material is displayed, and finally, Table 4 shows greenhouse gas emission equivalents that were avoided by recycling in Onondaga County in 2019.

Table 1 - 2019 Total Mandatory and Voluntary Recycling and Municipal Solid Waste		
Recycling	**Tons**	**Percent of Total Waste**
Curbside Recycling (Primarily Residential)	36,974	
Commercial Recycling (Primarily Business)	431,482	
Total Recycling	**468,456**	**55%**
Solid Waste		
OCRRA Municipal Solid Waste (MSW)	290,600	
Less MSW Ferrous & Nonferrous Recycling[1]	-13,286	
OCRRA Construction & Demolition Debris (C&D)	68,706	
Other Waste[2]	35,792	
Total Solid Waste	**381,812**	**45%**
Total Voluntary Recycling and Solid Waste:	**850,268**	

[1]Ferrous and nonferrous metals that are recovered from MSW at the Waste-to-Energy Facility and recycled are subtracted to avoid double counting.
[2]Includes biosolids currently being sent to a landfill.

Table 2 - 2019 Total Mandatory Recycling and Solid Waste[1]		
Processible[2] Recycling	**Tons**	**Percent**
Curbside Recycling (Primarily Residential)	36,974	
Processible Commercial (Primarily Business)	147,015	
Total Processible Recycling	**183,989**	**40%**
Municipal Solid Waste (MSW)		
OCRRA Municipal Solid Waste	290,600	
Less MSW Ferrous & Nonferrous Recycling[3]	-13,286	
Total MSW	**277,314**	**60%**
Total Mandatory Recycling and Solid Waste:	**461,303**	

[1]Sources for these data include: recycling companies, retail and commercial firms, and governmental organizations which voluntarily report to OCRRA. Reported data have been adjusted to eliminate known double-counting. For example: If Generator A ships 500 tons of scrap metal to Recycler B and both organizations report 500 tons to OCRRA; OCRRA credits the system-wide total with 500, not 1,000 tons.
[2]Processible materials are those which could have been disposed of at the Waste-to-Energy Facility.

Table 7 - 2019 Estimated Recycling By Material		
MATERIAL	TONS[1]	PERCENT OF TOTAL[2]
Organic Wastes (excluding Paper)		
Food	95,409	20%
Yard Waste	5,293	1%
Wood	5,675	1%
Textiles	1,489	0.8%
Total Organic	**107,866**	**22.8%**
Plastics	**8,086**	**2%**
Metal		
Ferrous Metals, except MSW Ferrous	106,329	23%
MSW Ferrous and MSW Non Ferrous	13,287	3%
Non Ferrous Metals, except Aluminum and MSW Non Ferrous	11,022	2%
Aluminum	98	0.2%
Total Metal	**130,736**	**28.2%**
Paper		
Corrugated Cardboard	72,043	15%
Newspapers and Magazines	19,589	4%
Office / Mixed Paper	40,304	9%
Books	880	0.4%
Total Paper	**132,816**	**28.4%**
Sludge	**57,927**	**12%**
Other		
Glass	6,697	1%
Special and Hazardous Wastes	288	0.3%
Electronics and Batteries	5,738	1%
Appliances	224	0.3%
Miscellaneous	18,078	4%
Total Other	**31,025**	**6.6%**
TOTAL	**468,456**	**100%**

[1]Data reporting is voluntary and is not audited by OCRRA. Many businesses consider the tonnage and disposal of their special process wastes (the category "Special and Hazardous Wastes"), whether or not they are "hazardous", to be proprietary information. Therefore, the data concerning the recapture and recycling of waste, particularly in this category, may be underreported.

[2]Data may not equal 100% due to rounding.

Greenhouse Gas Avoidance

Recycling has many environmental benefits, including resource and energy savings due to avoidance of using virgin materials. The USEPA provides its WARM Model to allow users to estimate the amount of greenhouse gases (GHGs) saved due to recycling or composting. In the table below, the GHG emissions avoided for materials recycled in Onondaga County in 2019 has been calculated. In 2018, Onondaga County's recycling program **saved an estimated 821,792 metric tons of carbon dioxide equivalents** (MTCO$_2$E) from being emitted [2]. This is equivalent to **taking about 174,478 passenger vehicles off the road**.

Table 4 – 2019 Greenhouse Gas Emissions Avoidance					
Material[1]	Recycling / Composting Emission Factors[2] (MTCO2E per short ton)	Combustion Emission Factors[2] (MTCO2E per short ton)	Difference	Tons Recycled/ Composted	GHG Emissions Mitigated (MTCO$_2$E)
Food	(0.18)	(0.13)	(0.05)	95,409	-4,770
Yard Waste	(0.18)	(0.17)	(0.01)	5,293	-53
Wood	(2.47)	(0.58)	(1.89)	5,675	-10,726
Mixed Plastics	(1.03)	(1.26)	0.23	8,086	1,860
Mixed Metals[3]	(4.39)	(1.02)	(3.37)	130,736	-440,580
Corrugated Box	(3.14)	(0.49)	(2.65)	72,043	-190,914
Newspaper and Magazines	(2.71)	(0.56)	(2.15)	19,589	-42,116
Mixed Paper - Office	(3.55)	(0.49)	(3.06)	40,304	-123,330
Books[4]	(3.10)	(0.47)	(2.63)	880	-2,314
Glass	(0.28)	0.03	(0.31)	6,697	-2,076
Electronics/Batteries[5]	(0.79)	0.39	(1.18)	5,738	-6,771
TOTAL GHGs Mitigated					-821,792

[1]Some materials recycled were not included in this analysis due to a lack of equivalent emission factors: Sludge, Special and Hazardous Waste, Textiles, etc.

[2]GHG avoidance factors are taken from the USEPA's WARM Model, Version 15.0, updated May 2019: http://epa.gov/warm. Factors are based on recycling / composting vs. combustion.

[3]Mixed Metals include: Ferrous Metals, MSW Ferrous, Non Ferrous Metals, MSW Non Ferrous, Aluminum, and Appliances.

[4]Emission factor for textbooks was used for books.

[5]Emission factor for personal computers was used for electronics/batteries.

---

[2] Calculated using USEPA's Greenhouse Gas Equivalencies Calculator at http://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator.

Required Recycling

Onondaga County's local "Source Separation" (i.e. Recycling) Law was updated in 2011, and went into effect January 1, 2012. The original Source Separation Law, which mandated recycling of certain materials by all waste generators, was passed by the County Legislature in 1989.

The 2011 update:
- Clarifies requirements by simplifying language and spelling out specifics for businesses
- Requires haulers to provide recycling service to their customers
- Reinforces multi-tenant housing unit recycling requirements
- Requires that labeled recycling containers must be as easily accessible as trash cans

Below is a list of mandatory recyclables.

Table 5 – OCRRA Mandated Recyclables
• Office Paper and Discarded Mail
• Newspapers and Magazines
• Corrugated Cardboard, Brown Paper Bags, Paperboard, Pizza Boxes
• Milk and Juice Cartons, Gable-Top Cartons, Aseptic Cartons
• Glass Food and Beverage Containers
• Metal Food and Beverage Containers
• Aluminum Foil
• Aerosol Cans
• #1 and #2 Plastic Bottles
• #5 Plastic Dairy Containers
• Soft cover books

2. Markets, Trends and Material Recovery Facilities (MRF's)

Like other communities across New York State and the country, OCRRA has been hard hit financially by China's National Sword policy of ceasing to accept a wide variety of recyclable materials for reprocessing and remanufacture, particularly mixed paper grades, which, by weight, comprise 55% of sorted recyclables (see Appendix G). Under the MRF contract, the Agency received $123,000 in revenue from all materials recovered in 2017. In the wake of China's exit from the market in 2018, material values plummeted. In 2018, OCRRA paid more than $667,000 to the MRF; in 2019, OCRRA paid $1.8 million to the MRF. In 2020, there is a projected $2.5 million cost to OCRRA for the MRF to sort approximately 38,000 tons of residential recyclables. The Agency does not subsidize commercially-generated recyclables.

Market prices, particularly for mixed paper, have significantly reduced the Average Blended Value (ABV) of curbside recycling commodities, such that the value no longer covers the cost of processing the recyclables. The ABV is received from the sale of processed residential recyclable commodities. The costs of processing and marketing materials is generally constant, is independent of market conditions, but increases over time due to inflation from rising labor costs and capital investments. The ABV is a useful number to track the performance of the recyclable commodity market. Figure 1 depicts, on an average basis across the United States, the sharp decline in the ABV from $125 / ton at the end of 2016 to below $40 in the summer of 2019. Figure 2, on a broad scale, displays the drastic material value decline from 2015 to 2019 depicted by each commodity.

Figure 1 – U.S. MRF Average Blended Value (ABV) Per Ton Processed.
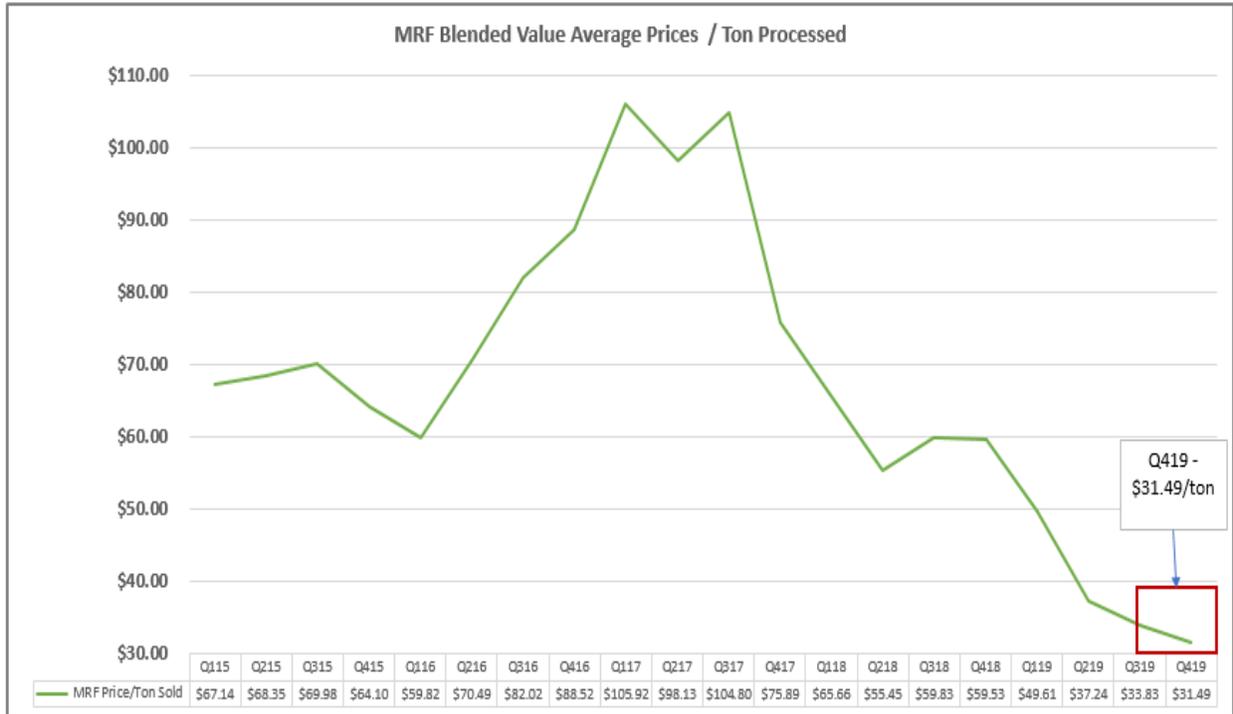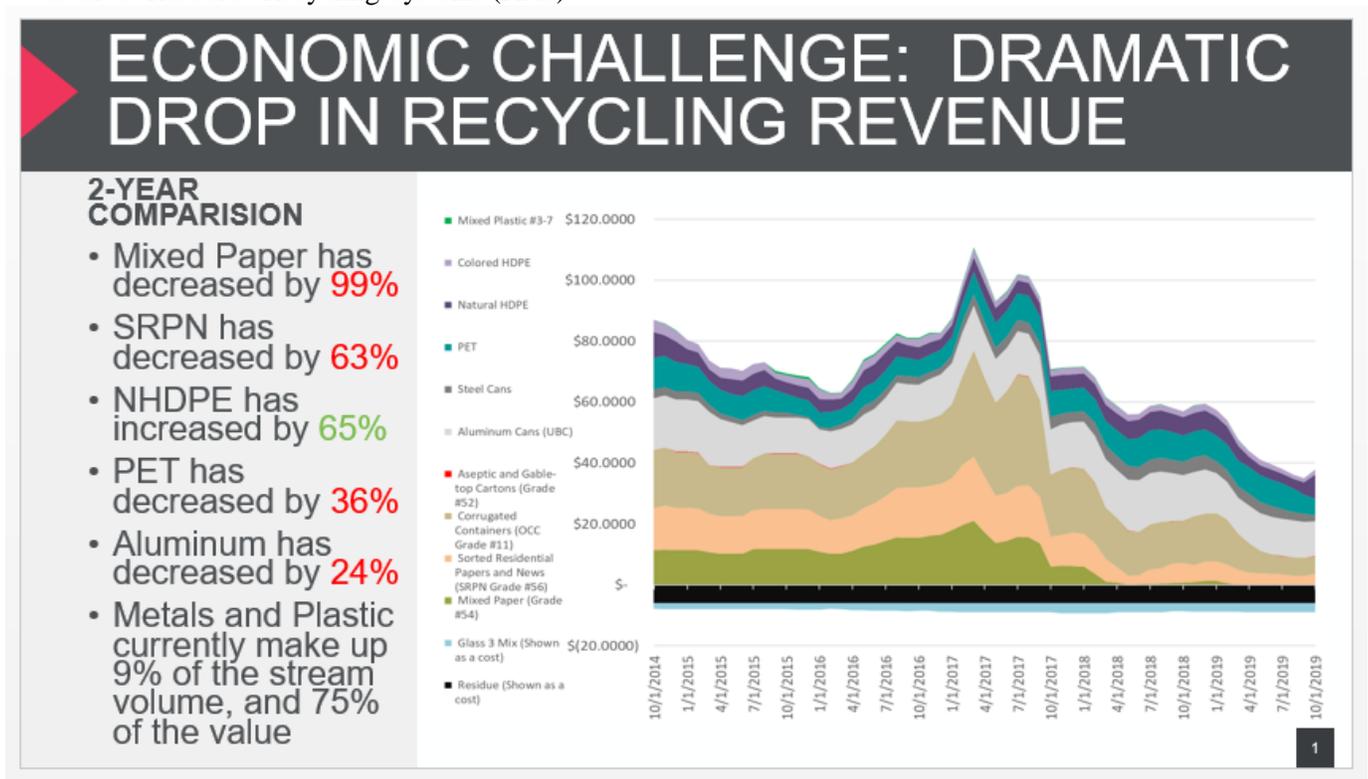Source: Waste Management – Recycle America.

	Q115	Q215	Q315	Q415	Q116	Q216	Q316	Q416	Q117	Q217	Q317	Q417	Q118	Q218	Q318	Q418	Q119	Q219	Q319	Q419
MRF Price/Ton Sold	$67.14	$68.35	$69.98	$64.10	$59.82	$70.49	$82.02	$88.52	$105.92	$98.13	$104.80	$75.89	$65.66	$55.45	$59.83	$59.53	$49.61	$37.24	$33.83	$31.49

Figure 2 – Per Ton Recycling Revenue Trends by Commodity.
Source: Resource Recycling Systems (RRS).

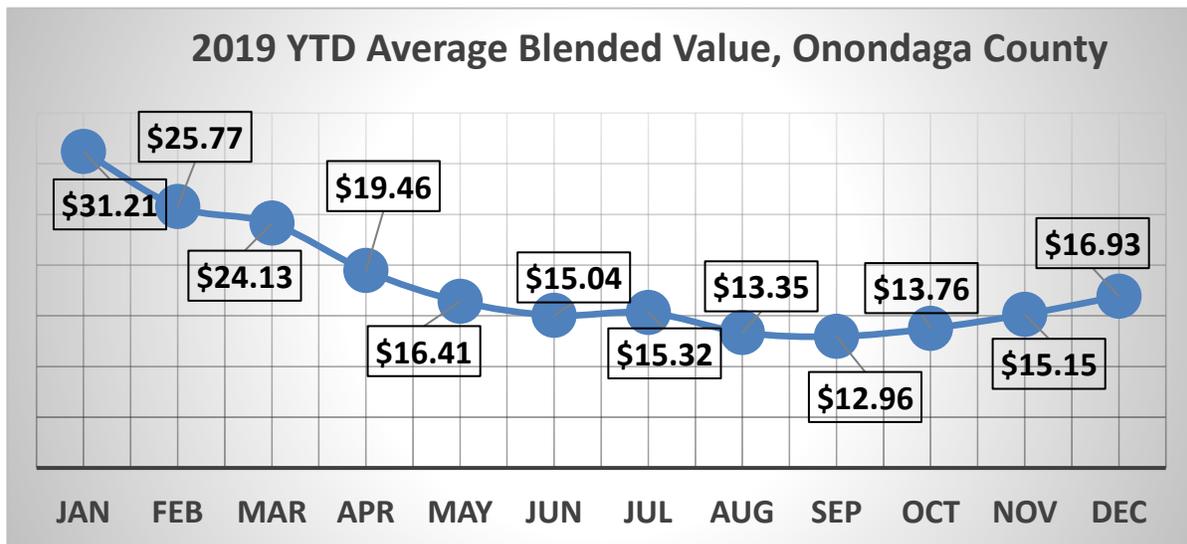## MRF Contract

For nearly 30 years, OCRRA has contracted with a local material recovery facility (MRF), that is owned and operated by Waste Management Recycle America, (WM-RA), to sort, bale and market the residential recycling material that is collected curbside by private haulers, municipal haulers and municipalities with private hauling contracts. There is no such contract arrangement for commercial materials, which is primarily commercial cardboard and office paper. The contract has been structured such that OCRRA pays a fee to WM-RA to perform the sorting, baling, marketing and transport of the recycled materials and shares in revenues created by material sale (if any). Depending on market conditions through the years, this contract has either cost or generated OCRRA revenue. In 2019, OCRRA paid $1,813,969 to the MRF.

Through this contract, OCRRA enabled private sector and municipal haulers to deliver residential recyclables to WM-RA at a tip fee of $0, thus providing an incentive for recycling to meet the County Source Separation Law and NYSDEC WTE permit requirements.
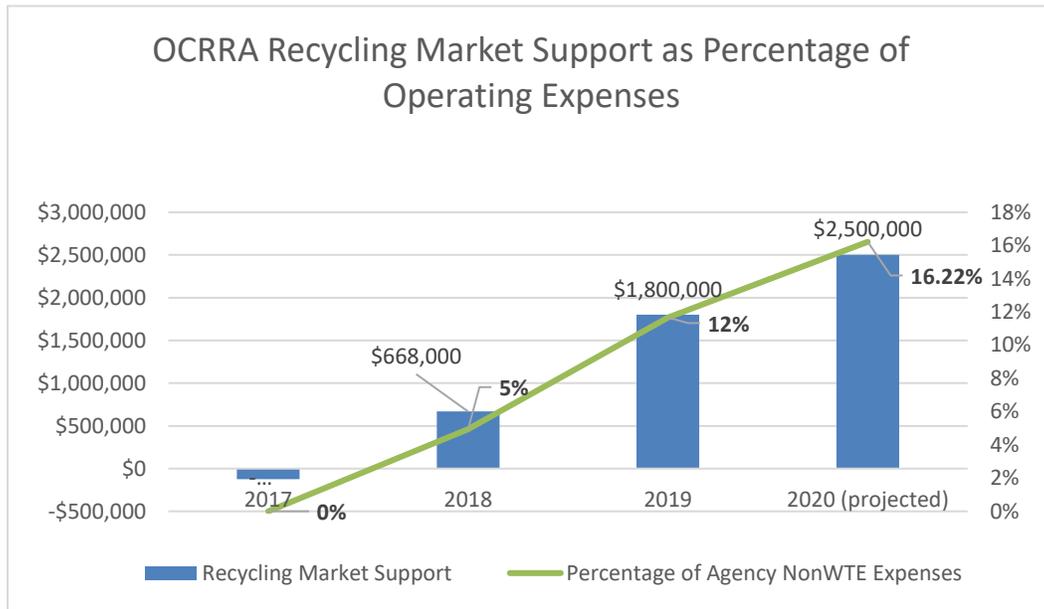
Figure 3 below indicates the decrease on a per ton basis of the average blended value of residential curbside recyclables as tracked during 2019. Such average blended per ton values are a weighted average based upon: 1) a predetermined percentage by weight of each commodity in curbside recycling, and 2) the market value for each commodity. Such average blended values are at record lows in the wake of China's National Sword policy, which is further discussed below.

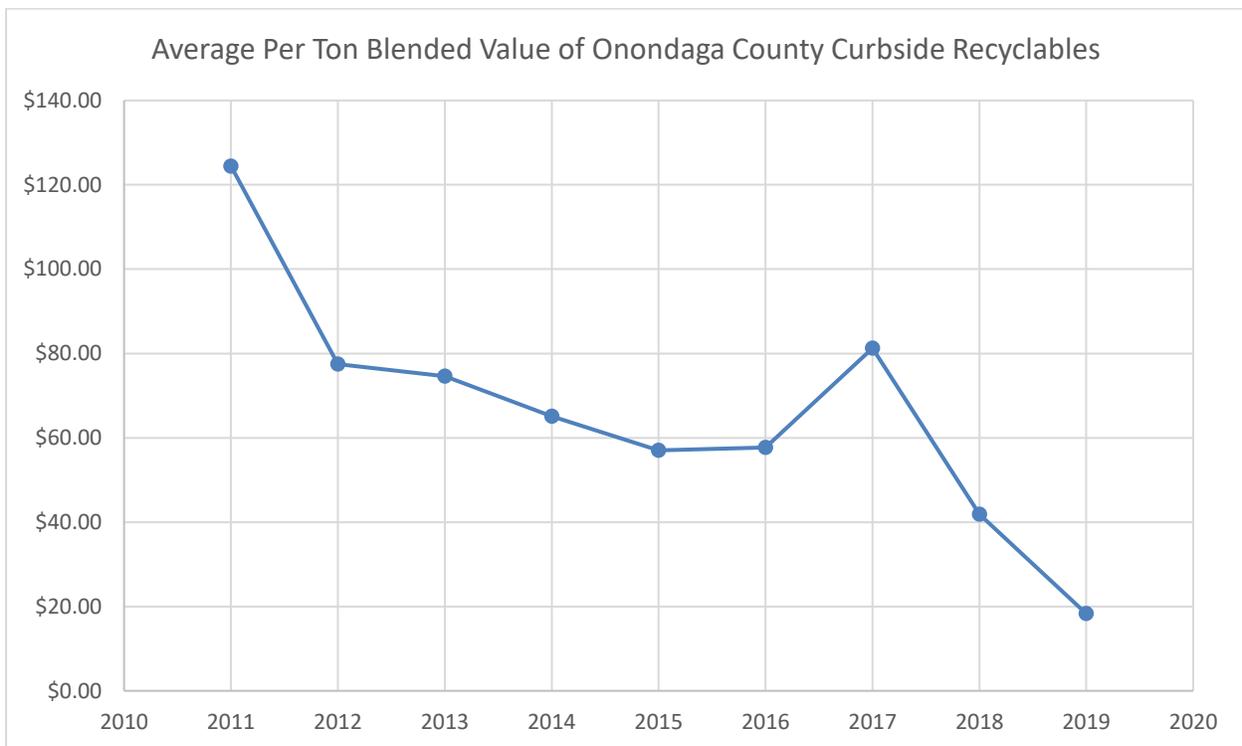Figure 3 – 2019 Declining Average Blended Value Per Ton of Blue Bin Commodities in Onondaga County

During the past decade, most of the demand for recycled material came from China. In 2018, China initiated their National Sword policy to drastically reduce material imports and put quality restrictions on imports of recycled material. As a result, the market prices for recycled material dropped precipitously. Payments to WM-RA went up to nearly $670K in 2018 and exceeded $1.8 million in 2019. In 2019, OCRRA had a contract with WM-RA in which the per-ton cost of sorting curbside recycling was not-to-exceed $49 / ton. The contractual per ton not-to-exceed cost increased to $65 / ton in 2020; which will result in projected MRF processing costs of $2.5 million paid by OCRRA to support curbside recycling. OCRRA's recycling costs now comprise 16.22% of the Agency expenses, excluding WTE fixed costs. These cost impacts are summarized in Figure 4.

Figure 4 – OCRRA Costs and Percentage of Total Agency Operating Budget for Recycling

OCRRA Recycling Market Support as Percentage of Operating Expenses

The average blended per ton value of Onondaga County curbside residential recyclables on a multi-year basis is presented in Figure 5 below. The trend line indicates the generally declining value of these materials on an aggregated basis; mixed paper and corrugated cardboard are the major driver of the average blended value calculation, as they comprise more than 50% of curbside recyclables by weight.

Average Per Ton Blended Value of Onondaga County Curbside Recyclables

Emerging Trends

There are multiple factors that can contribute to a reduction or an increase in recycling rates, including the following:

- The **decrease in newspaper and magazine** use due to continued growth of online news options, resulting in fewer subscriptions and therefore fewer papers printed.[3] Not only is the amount of papers printed decreasing, but so is the actual size of newspapers. There are less pages printed due to less advertising (because of a loss in readership), as well as a drop in classified pages as more people use online sites to sell items, services or search for jobs.

- **"Thinwalling"**, also a global trend, is where the materials used to create certain packaging, such as plastic water bottles, aluminum cans, and fiber packaging, are thinner and therefore weigh less. On an aggregated basis, the "loss" in material is significant.

- In the future, the trend of **smaller electronic products** could result in less recycling tonnage; a smart phone combines the functions of a telephone, video camera, still camera, watch, music player and more. This reduces the number of products in our homes and subsequently in the waste stream.[4]

- **Plastic bags are being banned** far and wide, including state-wide in New York, starting in March 2020.

- Increasing momentum for **Extended Producer Responsibility** legislation for product packaging as a long term strategy to buffer local municipalities from the volatility of global commodity markets by requiring manufacturers to assume responsibility for recovering and recycling the product packaging they introduce into the market place, and promoting upstream, engineered solutions to material recovery.

- **Zero Waste**: Many towns/villages/cities are ascribing to zero waste goals. This means that there is a conscious effort to reduce waste, reuse more and recycle just about everything leftover.

- **Organics Bans**: Some states have implemented mandatory food waste composting and banned all organics from landfills.[5] New York regulations are currently being developed.

- The use of **carts for trash and recycling** is a trend nationally and a few haulers in Onondaga County have chosen to embrace it as well. The use of carts could increase recycling and reduce litter.

- Increase of the use of robotics, and technology improvements, at material recovery facilities, to automate and advance the efficiency of sorting, in order to improve quality of recyclables.

Some of these trends result in less material generation. So, while there may be a significant net decrease in the available material for recycling, these trends do represent an overall environmental benefit due to waste reduction.

---

[3] deThomas, D. The Shape of MRFs to Come. Resource Recycling, Dec 2011.

[4] http://waste360.com/blog/circular-file-less-less

[5] http://compostingcouncil.org/landfill-bans-on-organics/

Extended Producer Responsibility

Many states, including New York, have begun passing legislation requiring manufacturers to take responsibility for the end-of-life management of their unwanted products and product packaging, which relieves local municipalities of the responsibility of recovery and proper disposal / recycling, including the associated costs. There are over 110 such EPR laws in the US. NY State's EPR laws include the following:

- Rechargeable Batteries
- Electronics
- Mercury Thermostats
- Pharmaceuticals (passed in 2018; anticipated to go into effect in 2020)
- Paint; passed in 2019 session and signed by the Governor 12/19

Bottle redemption laws are also a form of EPR, which is also known as "Product Stewardship." In the wake of the devastating financial impact caused by China's National Sword campaign, several states, including Connecticut, Maine, Indiana, Washington and Vermont, are also now evaluating an EPR approach for all packaging and printed paper.

Currently, there are other EPR laws proposed in NY State for the following materials:

- **Product Packaging**

  A9790 (Englebright)

  S7718 (Kaminsky)

- **Primary Batteries**
  A04105 (Englebright):, same as S02610 (Metzger): – Referred to Environmental Conservation

- **Solar Panels**
  S00942 (O'Mara): – Referred to Environmental Conservation

- **Carpet and Mattresses**
  2020 Executive Budget Bill, Sub Section SS.

Under an EPR approach, material recovery is managed by product manufacturers. Program costs are paid through the purchase of the product, not through a taxing structure.

According to Scott Cassell, Chief Executive Officer of the Product Stewardship Institute, "The collapse of recycling markets following China's policy to restrict imports of recyclable materials has made it clear that communities are unfairly burdened by an inefficient and costly waste management system."

2019 Waste Quantification & Characterization

In the spring and fall of 2019, a Waste Quantification & Characterization (Q&C) study was performed to measure the composition of curbside recyclables and Municipal Solid Waste (MSW), brought to the Waste-to-Energy plant operated by Covanta Energy. Samples from these streams were sorted into more than 60 categories, and the results will be used to inform policy decisions concerning the list of mandatory recyclables, as well as provide areas of strategic focus for public education.

According to the findings of the study, the majority of mandatory recyclable materials are indeed being recycled. However, approximately 7.2% of MSW is potentially recyclable fiber (cardboard (5%), office paper (0.7%), newspaper (1.0%) and magazines (0.5%)) and 21% is food waste. These constitute the largest volume by far of potentially recyclable material that ends up in the trash.

Another key finding of the Waste Q&C was that much of the glass found in the typical curbside recycling bin (14.7%) was beverage containers such as wine bottles (6.3%), liquor bottles (3.0%) and non-alcoholic

beverage containers such as ice tea bottles (5.4%). None of these bottles currently have a deposit; they are not included in the New York State Bottle Bill. If the Bottle Bill were to be expanded to include wine and liquor bottles, it would have a significant positive impact on recycling, as bottles that have a deposit are recycled at a much higher rate than those without one. When left in the blue bin, glass is typically used for daily cover and engineering purposes in a landfill. Bottles that are recovered through the deposit Bottle Bill are remanufactured into new glass containers.

3. 2019 Recycling Program Costs

OCRRA manages the solid waste and recycling program for 33 municipalities in Onondaga County. Each municipality is unique in its solid waste collection. Some provide waste and recyclables collection through their own public employees, some contract with private waste hauling firms to provide services for their residents, and still others require residents to arrange for disposal and recycling by contracting with a private hauler or bringing their MSW and recyclables to an OCRRA transfer station.

OCRRA is not funded by taxes. The trash tipping fee revenue and energy revenue from sale of electricity generated by the WTE plant provide the bulk of the financing for recycling program components essential to achieving the mandated recycling rate. OCRRA applies for New York State grants through competitive applications as well. Program costs include OCRRA's comprehensive public education program which consists of radio, TV, web and print media campaigns; on-site visits to businesses, schools and apartment complexes by a staff of recycling professionals offering technical assistance; classroom presentations on recycling and environmental stewardship; and numerous brochures and educational materials. OCRRA received $1,258,005 in state grants in 2019, in connection with reimbursement of Household Hazardous Waste collection expenses, compost equipment, and curbside blue bin purchases, and the three-year recycling advertising and educational grant.

OCRRA's recycling program covers costs necessary to assure waste haulers a zero tip fee at the private sector Material Recovery Facility (MRF) for residential recyclables during poor commodity market conditions. OCRRA also manages a transfer station that allows for the drop-off of blue bin recyclables at no cost. The transfer station is also a drop-off point for additional materials such as scrap metal, small appliances, mercury thermostats, mercury thermometers, fluorescent lamps and household batteries.

During 2019, OCRRA's Recycling Program managed:

- Two yard waste compost sites.
- A commercial and institutional food waste composting program at the Amboy Compost Site (open year-round);
- A year-round Monday-Friday appointments for residents to drop off Household Hazardous Waste (HHW);
- A free "Shred-O-Rama" event, in which mobile shredding trucks shredded household confidential papers on-site and then recycled the clean shredded paper;
- Year-long household battery collection at local drop-off points and a curbside collection in July;
- A mercury thermometer and thermostat exchange program; and
- Special services and programs for businesses, schools and apartment building managers and owners.

Direct program costs in 2019 (unaudited) associated with the recycling services are as follows:

Table 7 –RECYCLING COSTS		
PROGRAM	**2019 EXPENSE**	**2018 EXPENSE**
Recycling Personnel *	$724,377	$656,929
Material Recovery Facility (MRF) Fees	$1,808,223	$667,920
Public Education - Outside Service	$436,488	$281,911
Composting**	$292,115	$256,507
Household Hazardous Waste (HHW) Collection	$91,862	$97,387
Blue Bin Expense	$192,980	$124,832
Other Recycling Programs	$255,825	$159,227
Total Cost	**$3,801,870**	$2,244,713

*Includes all permanent compost personnel.
** Includes all temporary personnel.

3. Public Education, Program Outreach and Enforcement

OCRRA continues to invest in a high-profile effort to ensure that residents, businesses and institutions understand and follow the local law mandating source separation of recycling.

Recycling Team

OCRRA employs a professional recycling team engaged in spreading the recycling message and bringing technical assistance to residents, schools and businesses in Onondaga County. In 2019, the Recycling Specialists visited hundreds of local businesses, apartment complexes and schools to offer assistance in designing effective recycling programs as well as to offer free recycling containers and decals.

When needed, OCRRA Enforcement Officers supplement the efforts of the Recycling Specialists. An enforcement officer calls on businesses and apartment buildings when it is determined that other approaches have not resulted in compliance. Each enforcement officer spends a significant portion of the week inspecting loads of solid waste at OCRRA's Waste-to-Energy facility to ensure that those containing recyclables are issued warnings and/or notice of violations. Recycling Specialists visit waste generators that may be in violation to determine the source of the problem and assist in designing a recycling program which will capture the mandated recyclables, before any fines are sought. Additionally, all members of OCRRA's recycling team are members of the New York State Association for Reduction, Reuse and Recycling (NYSAR[3]).

Highlights of the 2019 OCRRA Recycling Program:

Again in 2019, OCRRA's award-winning recycling programs demonstrated sound environmental solutions, excellent public participation and quality disposal and recycling services for the residents of Onondaga County, including:

- The community recycled over 450,000 tons of material in 2019, for a 55% recycling rate, resulting in waste disposal costs savings of over $44 million, while also avoiding over 800,000 metric tons of carbon dioxide.

- $1,258,005 in state grants were received in 2019, in connection with reimbursement of Household Hazardous Waste collection expenses, compost equipment, curbside blue bin purchases and the three-year

recycling advertising and education grant.

- OCRRA's Earth Day Litter Cleanup was held on Friday, April 24, and Saturday, April 25. More than 6,000 volunteers from 300 groups participated; **60,000+ pounds of litter were collected**; more than 2.5 million pounds of litter collected since 2003; one of the largest Earth Day litter collection events in the country.

- Over 44 tons of paper from 2,416 residents were shredded and recycled as part of a July "Shred-o-Rama" event at the NYS Fairgrounds. Since the Agency started this program in 2004 to help local residents prevent identity theft, over 1.3 million pounds of confidential personal documents have been recycled.

- OCRRA partnered with Covanta to host a mercury collection event in August. Thanks to over 140 residents, 188 mercury thermometers and 112 mercury thermostats were collected; **636 grams of mercury prevented from entering the environment**, which is comparable to recycling 150,000+ compact fluorescent light bulbs. Residents can recycle mercury thermometers and thermostats year-round at OCRRA's Ley Creek Drop-Off Site and get a $5 Home Depot Gift Card from Covanta and a replacement thermometer.

- OCRRA's pioneering food scrap composting service processed over **6,700 tons of food scraps** in 2019 from commercial and institutional generators. This included thousands of pounds of cafeteria food scraps separated daily by 7,000 local school children. After a 90-day processing period, this material was among the 4,500 yards of compost that was utilized to restore the habitat along the western shoreline of Onondaga Lake, as well as in other commercial and residential applications.

- OCRRA continued its compost bagging collaboration with Arc of Onondaga. Arc assists individuals with developmental disabilities to achieve their fullest potential. Thousands of bags of OCRRA's STA-certified compost were sold through a network of 30+ lawn and garden retail outlets, helping to return valuable nutrients to local soils.

OCRRA Communications

The Onondaga County community maintains an excellent recycling rate. Employing frequent and consistent communication from OCRRA is necessary to remind current residents of what is recyclable, to

alert those who recently moved to the area of the recycling rules and to inform the public of special collection events.

To keep the public abreast of the recycling program, OCRRA continued its extensive public communication program throughout 2019, investing resources into direct public education through TV, web and print media. OCRRA's public message promotes the "why" of recycling and the difference one person can make in preserving natural resources for future generations. This campaign was based on community surveys which asked what messages would resonate. It uses the slogan "Save the World a Little Each Day," demonstrating that the simple act of recycling can help the environment in a meaningful way. This campaign also emphasizes the OCRRA website as a community resource. For examples of the ad campaign, please visit: https://ocrra.org/news-and-events/media/ad-campaign.

The Agency's comprehensive website, (www.OCRRA.org), provides enhanced search features to allow users to quickly find recycling options for their unwanted items, along with waste reduction and reuse tips for those items, when appropriate. It also allows users to make online reservations for household hazardous waste drop off, and purchase both compost passes and trash disposal stickers online. Additionally, it houses a recycling supply order form, which allows businesses, schools and apartment buildings to order free recycling containers and decals with a few simple clicks (see: https://ocrra.org/order-supplies/).

In addition to paid media advertising, OCRRA continues to publish its quarterly newsletter (see: https://ocrra.org/about-us/newsletter/) which contains articles written by OCRRA staff that highlight special recycling events, stand-out businesses and schools as models of excellence, and inform the public about specific recyclable materials. OCRRA distributed the newsletter as an insert in the Onondaga County Eagle Newspapers and in the Sunday Post-Standard. The newsletter also reaches the public through Onondaga County libraries, government offices (villages and town clerks) and special events. In total, more than 100,000 households receive the newsletter on a quarterly basis.

One of OCRRA's most effective means of communication is email. Through a web-based system, emails covering various recycling topics and upcoming events are regularly sent to nearly 8,000 people. In addition to this primary contact list, OCRRA has the ability to create smaller sub-lists and send emails to select groups of people (such as compost site users or school teachers). Email blasts are an inexpensive and effective way of reaching thousands of people and are growing in popularity as the email address list grows each year.

OCRRA also continued its social media presence with its Facebook page, and a YouTube channel in 2019, allowing people to actively engage in discussion about recycling and OCRRA services. New information about upcoming events and highlights of local recycling and waste reduction achievements are posted on a regular basis. Additionally, the community is able to learn about operations through a series of videos highlighting the Compost Site, Transfer Station, Waste-to-Energy Facility, and the privately-owned Materials Recovery Facility (MRF).

Lastly, OCRRA provides numerous posters, brochures and decals at no charge to businesses, residents and institutions. These items act as prompts to remind people to recycle, as well as to inform them of the correct rules.

Community Events and Public Outreach

OCRRA is committed to maintaining high levels of community participation through its recycling program. In 2019, OCRRA's recycling team participated in numerous area events and fairs, including Party for the Planet at the Rosamond Gifford Zoo in Syracuse, the Taste of Westcott Street (for Syracuse University students), Save the Rain's Clean Water Fair and the CNY Home & Garden Show, among others. Recycling, reduction and compost information was distributed including blue bins, recycling instructions and numerous recycling-related promotional items. OCRRA interacted with thousands of people at these community events.

In addition to events, OCRRA Recycling Specialists conducted multiple presentations to a wide variety of audiences, including school-age children, business office staff, teachers, Rotary Clubs, Boy and Girl Scout troops and neighborhood groups. These presentations all provided information about recycling, as well as the importance of environmental stewardship.

OCRRA Recycling Specialists also shared their expertise by presenting at various industry conferences in 2019, including the annual Federation of NY Solid Waste Associations Conference and the annual New York State Association for Reduction, Reuse and Recycling Conference.

Earth Day

OCRRA also sponsors an Annual Earth Day Litter Clean-Up, which is a community-wide, two-day event occurring in April each year. In 2019, **6,300+ volunteers from over 300 community groups participated, collecting 60,500+ pounds of litter** as part of this annual cleanup program. Volunteer

groups consisted of schools, Girl and Boy Scout troops, community and neighborhood groups, and businesses. This program has been a continued success since 1994, with over 2 million pounds of litter cleaned up to date. *(At right, Earth Day cleanup volunteers in Syracuse.)*

Apartment Recycling

Onondaga County has hundreds of multi-unit apartment buildings, which present a unique set of challenges to recycling, such as space constraints and inconvenient recycling bin locations. To assist residents in 2019, OCRRA Recycling Specialists visited dozens of apartment complexes (over 100+ total apartments) and spoke with numerous landlords and property managers to ensure that proper recycling occurred. To help facilitate a great recycling system, OCRRA provided brochures, magnets, decals and special containers, as well as presentations at group meetings.

Business Recycling

OCRRA's Recycling Specialists regularly call on businesses in Onondaga County to help them design effective collection systems for recyclables. During 2019, OCRRA continued to provide free consultations, as well as free containers and decals to all types of businesses, over 165+ in total. Business can access a wide variety of information on OCRRA's website (https://ocrra.org/services/recycle/recycling-for-business/) to enhance onsite recycling and waste reduction efforts, including ordering containers, recycling guides, and posters to promote recycling within the office environment. Each year, business recycling accounts for some 80% of the community's total waste reduction effort. In 2019, businesses recycled over 145,000 tons of mandatory recyclable materials.

In the fall of 2009, OCRRA began the Blue Ribbon Recycler Program to recognize businesses that demonstrate recycling excellence in the workplace. Each applicant to the program must meet specific criteria in regards to recycling, such as providing recycling containers for all employees and purchasing recycled paper. Once a Recycling Specialist determines that a business qualifies, it receives a certificate from OCRRA and recognition on the OCRRA website. If a business does not meet all

criteria, it provides an opportunity to identify areas for improvement. The Blue Ribbon Recycler Program is an incentive for businesses to achieve recycling excellence by offering them recognition that they can then share with their clients and customers. In 2019, two additional local business were certified as Blue Ribbon Recyclers through this program: The Intelligence Group and SWBR. To date, there are over 65 certified Blue Ribbon Recyclers in Onondaga County.

Recycling at Schools

Schools generate a significant portion of the recyclables in a community, in the form of paper, cardboard

and containers. Because of this and the importance of educating children early about recycling, schools are always a major focus of OCRRA's public education. Recycling Specialists regularly visit school custodians, teachers and administrators to help with design and improvement of their recycling programs. OCRRA's Recycling Specialists provided over 150 classroom presentations and assemblies for the 130 schools throughout the county in 2019. An additional triumph of OCRRA's school outreach results from those schools in the community that voluntarily participate in a cafeteria food scraps recovery compost program. In 2019, a total of 16 schools spread throughout 5 districts, yielding a total of 7,100+ students in Onondaga County, separated food scraps for OCRRA's large-scale compost efforts every day.

Students at Cherry Road Middle School in Syracuse participate in OCRRA's cafeteria food scraps recovery compost program. The Westhill School District is one of five total school districts that currently participate in this program: 7,169 total students, across 15 schools, in 5 districts, in Onondaga County are composting their leftover school lunch food scraps on a daily basis.

Additionally, 2019 continued the implementation of OCRRA's interactive, digital online education program. This web-based program includes a series of professionally-produced videos, interactive games and curriculum-aligned classroom activities. Aimed at third through fifth graders, this program teaches students about waste reduction, composting and the waste-to-energy process in a convenient online format. The videos and games can be accessed via the internet in and out of the classroom at teacher and student convenience. Students can participate on their own with individual computers, tablets and mobile devices, or they can work together on classroom "smart" boards. The content adheres to NYS curriculum requirements and all topics include a list of vocabulary words with full definitions to review, as well as pre- and post-testing questions to evaluate student knowledge. The program has been well received by both students and teachers in the 100+ classrooms that have executed it in the community so far, with student test scores increasing an average of 13% after completing the activities and videos. Check out the online education program here: http://ocrra.org/services/education-program/

Yard and Food Waste Composting

OCRRA's composting facilities help New York State meet its environmental policy objectives to keep organics out of the trash by developing organics management infrastructure.

In 2019, OCRRA's state of the art food and yard waste Amboy Compost Facility processed over 6,000 tons of total food scraps.

Included in this total is food waste from:

- Arcadis
- Barton & Loguidice
- Bliss Ice Cream
- Crouse Hospital
- G&C Foods
- Jordan-Elbridge Central School District (Chartwell Services)
- Fayetteville-Manlius School District
- Giovanni Food Company, Inc.
- Holy Family School in Fairmount
- LaFayette School District (Grimshaw Elementary)
- LeMoyne College (Sodexo)
- Manlius Pebble Hill School
- Marriott Syracuse Downtown
- Novelis
- Onondaga Community College
- Pastabilities Restaurant
- Paul deLima Coffee
- Russo Produce
- Sheraton Syracuse University Hotel & Conference Center
- SUNY Upstate at Community General Hospital (Morrison)
- SUNY Upstate University Hospital
- Syracuse Banana
- Syracuse University
- The Centers at St. Camillus (Sodexo)
- The Sweet Praxis
- Wegmans, includes 8 CNY stores
- Westhill Central School District
- West Genesee School District (Split Rock Elementary)

In 2019, OCRRA continued its association with the US Composting Council and their Seal of Testing Assurance (STA) Program. OCRRA's finished compost is USCC STA certified, meaning that it is a high-quality material that is consistent from batch to batch and guarantees that it has been laboratory tested by a third party and meets all USCC, NYSDEC and US EPA criteria. Quarterly sample results are available at www.ocrra.org. The demand for OCRRA's compost products continued to grow and has been used in many "Green Infrastructure" projects across the State.

Finished compost sales from the Amboy and Jamesville Compost Sites included over 14,000 cubic yards of compost and 5,200 cubic yards of mulch in 2019. Through a partnership with ARC of Onondaga, OCRRA's premium compost was once again offered for sale in conveniently packaged 1 cubic foot bags (*seen in photos below*), at 30+ local retail outlets throughout the community.

As in previous years, OCRRA's finished compost was available for residents to take home as part of the Residential Pass Program. In 2019, the "Residential Pass Program" enabled residents to purchase a drop-off pass for $25, which allowed them to drop off an unlimited amount of food and yard waste at either of our compost sites. Residents were also able to purchase finished mulch and compost by the trunk load or in bulk. In 2019, residents purchased over 2,100 compost passes.

OCRRA again in 2019 offered its free Christmas tree recycling program to residents. The facilities were open for a two-week period in January for residents to drop off their Christmas trees for composting at no charge.

Batteries
Residents in the OCRRA service area are able to drop off their old batteries at nine local grocery stores, which are then collected weekly by OCRRA. In addition, OCRRA offers a curbside collection of alkaline batteries each year during the month of July. In 2019, over 60 tons of batteries were collected, including over 6,000 pounds of rechargeable batteries which are recycled at no cost through the Call2Recycle program. Residents in the OCRRA service area are now recycling more rechargeable batteries per capita than any other large community in New York State. More information about OCRRA's battery collection program is available online at: http://ocrra.org/resources/household-batteries/

Fluorescent Light Bulbs
Fluorescent light bulbs are a popular household item because of their energy saving potential. However, these energy efficient bulbs contain a small amount of mercury, a potentially harmful chemical, and should not be mixed with regular household trash at the end of their life. To encourage residents to dispose of these properly and keep mercury out of the trash, OCRRA partners with local hardware stores to provide residents with convenient locations to drop off old bulbs. From the stores they are shipped off for proper disposal. There are 15 participating stores throughout the county. Over 30,000 bulbs were collected in 2019 at these stores. Further information about this environmental program is available online at: http://ocrra.org/resources/fluorescent-bulbs/

Household Hazardous Waste
In 2019, OCRRA continued the convenient, year-round Household Hazardous Waste (HHW) collection model that was started in 2013 in response to residents' suggestions. This HHW program consists of a Monday-Friday drop –off at Environmental Products and Services of VT, Inc. This popular environmental service allows residents to safely dispose of their hazardous waste, keeping these materials out of the waste stream. Among the hazardous wastes collected are adhesives and resins; oil-based paint; paint thinner; solvents; thermometers, thermostats, and other mercury containing products, pesticides and fluorescent light bulbs. Direct costs are included in the fee per vehicle charged by the vendor to OCRRA. In 2019, 1,861 residents took advantage of this drop-off program, dropping off a total of 19,439 gallons and 17,580 pounds of hazardous materials for proper disposal.

Mercury Thermometer/stat Exchange Program

OCRRA partners with Covanta Energy to provide residents with non-mercury thermometers in exchange for their old mercury thermometers. Over 145 residents brought in 188 thermometers and 112 thermostats for recycling in 2019. This amounts to approximately 1.1 pounds of mercury being removed from the environment. This exchange program helps prevent mercury contained in household items from escaping into the environment when broken or improperly disposed. Thermostats are handled through the [Thermostat Recycling Corporation](#) (TRC), a national industry-funded program that provides proper disposal of mercury-containing thermostats at no cost.

Shred-O-Rama

In response to increasing public concern over identity theft, OCRRA held another annual Shred-O-Rama event in 2019 in Syracuse. Over 2,000 residents attended the event, and dropped off 44 tons of confidential documents to be shredded. Paper was shredded on site and then recycled by Confidata and Shred Solvers. Since OCRRA started offering this program in 2004, over 650 tons of paper have been shredded and recycled.

Non-Profit Recycling Incentive Program for Local Charities

In 2019, OCRRA again provided a "recycling credit" to the local Rescue Mission, Salvation Army, and Habitat for Humanity for each documented ton of material (clothing, furniture, etc.) recycled through their organizations. The organizations were credited toward their monthly waste disposal fees through the OCRRA system. In 2019, OCRRA credited these organizations with approximately $15,533.