



2022 ANNUAL REPORT ON RECYCLABLES RECOVERED & UPDATED COMPREHENSIVE RECYCLING ANALYSIS

This report is submitted pursuant to:

- NYSDEC Permit Number 7-3142-00028/00011
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

Period reported: January 1, 2022, through December 31, 2022
Date: March 1, 2023
Planning Unit: County of Onondaga including the City of Syracuse,
Excluding the Town and Village of Skaneateles
Contact Person: Mr. Kevin Spillane, Executive Director, OCRRA
100 Elwood Davis Road North Syracuse, NY 13212-4312

2022 Recycling Data

The Onondaga County Resource Recovery Agency (OCRRA) is a non-profit public benefit corporation created by the New York State Legislature, which delivers a comprehensive solid waste management and resource recovery system to Onondaga County residents. Since beginning operations in 1990, OCRRA has overseen the recycling of more than 12 million tons of material.

OCRRA inventories and records tonnages of all material recycled through the Agency's curbside program. **In 2022, 29,291 tons of materials were collected from households through the curbside recycling program.** The OCRRA service area has a population of approximately 457,000 people, with roughly 185,000 households.

In 2022, **374,266 tons** of materials were recycled through mandatory and voluntary residential and commercial recycling programs in Onondaga County. **Recycled material made up 50.18% of the total recycling and solid waste.** (Table 1).

Table 1 - 2022 Recycling and Solid Waste Totals			
		Tons	% of Total Waste
Recycling			
Curbside Recycling (Primarily Residential)		29,291	
Commercial Recycling (Primarily Business) ¹		344,975	
	Total Recycling	374,266	50.18%
Solid Waste			
OCRRA Municipal Solid Waste (MSW)		287,947	
MSW Ferrous & Nonferrous Recycling ²		-12,863	
OCRRA Construction & Demolition Debris (C&D) ²		60,669	
Metal removed from Construction & Demolition Debris (C&D)		-1,940	
Other Waste ³		35,772	
	Total Solid Waste	371,525	49.82%
Total Recycling and Solid Waste		745,791	

¹Sources for these data include recycling companies, industries, institutions, governmental organizations, retail locations and commercial firms which voluntarily report to OCRRA, and internal OCRRA reports. Reported data have been adjusted to eliminate known double-counting. Data reporting is voluntary and is not audited by OCRRA.

²Ferrous, nonferrous, and other metals that are recovered from MSW at the Waste-to-Energy Facility and recycled are subtracted to avoid double counting.

³Includes biosolids currently being sent to a landfill.

Data provided in this report was collected from private commercial entities, as well as public and private institutions and was provided on a voluntary basis. Data was not audited by OCRRA. Reported data was adjusted to eliminate known double counting. Waste recovery data is summarized and presented in the tables in this report.

Table 1 shows the total recycling and trash generation for 2022 in OCRRA's service area, including the total solid waste percentages and the actual percentages / tonnages of recyclables removed from the waste stream. In addition to the mandatory recycling materials (see Table 4), this total also includes voluntary recycling materials such as batteries, food waste, electronic waste, hazardous waste, yard waste, sludge and construction debris.

NYSDEC Permit Number 7-3142-00028/00011 issued to OCRRA to operate the Onondaga County Resource Recovery Facility states that a recycling goal of at least 40% processible waste

should be set each year. The processible recycling rate, as defined by NYSDEC, considers only those materials recycled that could have otherwise been disposed of at the Onondaga County Resource Recovery Facility. For example, it does not include yard waste, which is an unacceptable waste at the Onondaga County Resource Recovery Facility. **The processible recycling rate in 2022 was 48.65%.** As such, OCRRA maintained the recycling goal of at least 40% processible waste, consistent with the NYSDEC Comprehensive Recycling Analysis (CRA) requirements.

OCRRA projected that in 2022, the tonnage of projected mandatory recycling material would be 195,000 tons. In 2022, 260,292 actual tons of material were processible recycling. As compared to the projected recovery rates contained in the NYSDEC approved CRA, the original projected recovery rates have been met. The schedule progress for implementation status and targets were defined in OCRRA's Comprehensive Solid Waste Management Plan Update for 2021 (Table 7). Table 2 shows 2022 totals for processible recycling and municipal solid waste. Table 3 shows 2022 recycling totals by material type.

Table 2 - 2022 Processible Recycling and Municipal Solid Waste		
	Tons	% of Total Waste
Processible¹ Recycling		
Curbside Recycling (Primarily Residential)	29,291	
Processible Commercial (Primarily Business) ²	231,379	
Total Processible Recycling	260,670	48.65%
Municipal Solid Waste (MSW)		
Incoming Municipal Solid Waste	287,947	
MSW Ferrous & Nonferrous Recycling ³	-12,863	
Total MSW	275,084	51.35%
Total Processible Recycling and Solid Waste	535,754	

¹Processible materials are those which could have been disposed of at the Waste-to-Energy Facility, including Non-Ferrous Metals, Ferrous Metals, Glass, Wood, Office Paper, Newspapers, Magazines, Corrugated Cardboard and Paperboard, Textiles, Plastics, Construction and Demolition Debris.

²Sources for these data include recycling companies, industries, institutions, governmental organizations, retail locations and commercial firms which voluntarily report to OCRRA, and internal OCRRA reports. Reported data have been adjusted to eliminate known double-counting. Data reporting is voluntary and is not audited by OCRRA.

³When calculating recycling rates, ferrous and nonferrous metals recovered from MSW at the Onondaga County Resource Recovery Facility are subtracted to avoid double counting.

Table 3 - 2022 Recycling by Material¹		
Material Type	Tons	Percent of Total
<i>Organic Wastes (excluding Paper)</i>		
Food	88,082	24%
Yard Waste	8,904	2%
Wood	3,226	1%
Textiles	5,377	1%
Total Organic Wastes	105,590	28%
<i>Plastics</i>	8,385	2%
<i>Metal</i>		
Non-Ferrous Metals	20,651	6%
Ferrous Metals	93,390	25%
Other Metals	1,940	1%
Total Metal	115,982	31%
<i>Paper</i>		
Corrugated Cardboard & Paperboard	94,387	25%
Office Paper, Newspapers and Magazines	14,681	4%
Books	594	0%
Total Paper	109,662	29%
<i>Other</i>		
Glass	8,722	2%
Hazardous Wastes	195	0%
Electronics/Computers	1,886	1%
Batteries	6,489	2%
Sludge/Wastewater	100	0%
Miscellaneous	15,059	4%
Total Other	32,451	9%
Total Material Recycled²	372,070	100%

¹Sources for these data include recycling companies, governmental organizations, retail and commercial firms, which voluntarily report to OCRRA. Reported data have been adjusted to eliminate known double-counting. Data reporting is voluntary and is not audited by OCRRA.

²Total Material Recycled does not include curbside recycling residue resulting from processing at the material recovery facility from residential curbside collection.

Required Recycling

The original Onondaga County Source Separation Law, which mandated recycling of certain materials by all waste generators, was passed by the County Legislature in 1989. The law was updated in 2011. Table 4 lists mandatory recyclables.

Table 4 - 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

Markets and Material Recovery

MRF Contract

For nearly 30 years, OCRRA has contracted with a local material recovery facility (MRF) that is owned and operated by WM-Recycle America (WM-RA). WM-RA is responsible for sorting, baling, and marketing the curbside residential recycling material collected by private haulers, municipal haulers, and municipalities with private hauling contracts. There is no contract arrangement between OCRRA and WM-RA for commercial materials generated in Onondaga County, only for residential materials. The contract states that OCRRA pays a fee to WM-RA to perform the sorting, baling, marketing and transport of the recycled materials and shares in revenues from sold materials (if any). Depending on market conditions, the contract results in either a cost to or revenue paid to OCRRA. Haulers may bring commercial recycling materials to WM-RA but they must make arrangements through WM-RA separately.

Recycling Markets

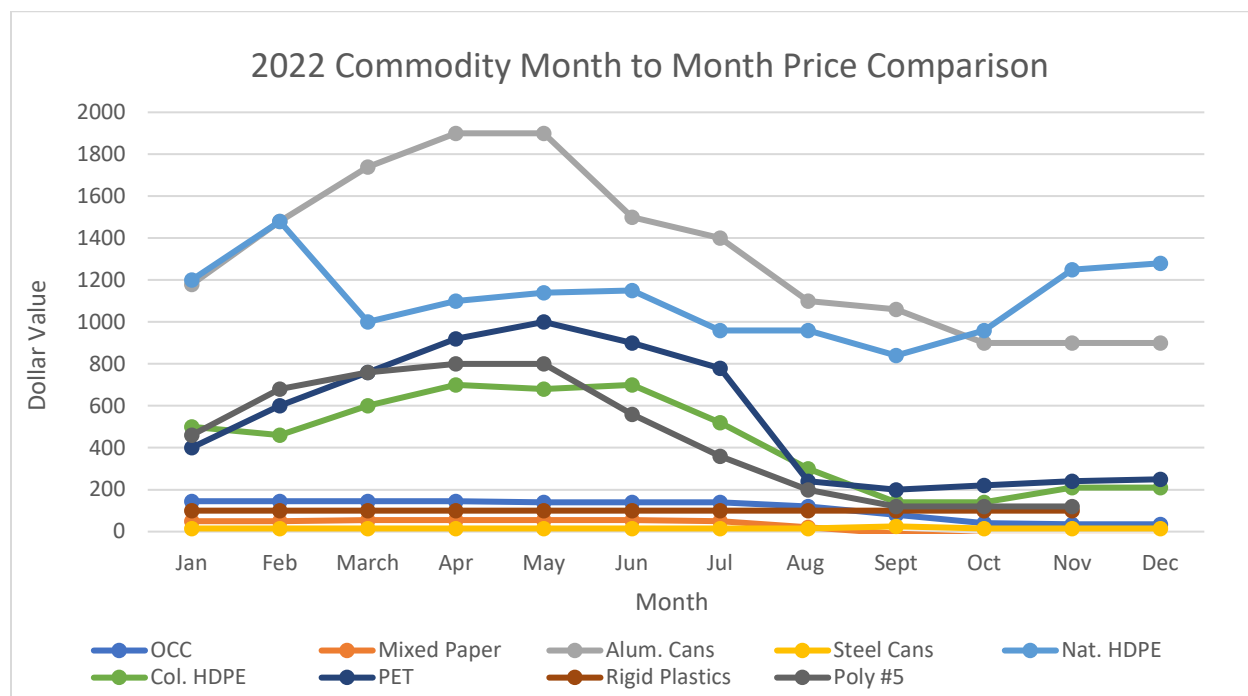
Like other communities across New York State and the country, OCRRA struggled financially from the introduction of China's 2017 National Sword Policy. China ceased to accept a wide variety of recyclable materials for reprocessing and remanufacture, particularly mixed paper

grades and plastic. In the wake of China's exit from the market, in 2018, material values plummeted and OCRRA paid more than \$667,000 to WM-RA to process residential recyclables. In 2019, OCRRA paid \$1.8 million to WM-RA and in 2020 OCRRA paid WM-RA almost \$2 million to sort approximately 34,500 tons of residential recyclables.

In 2021, market prices for recycled aluminum cans saw a large increase. Many recycled plastics including natural and colored high-density polyethylene (HDPE), polyethylene terephthalate (PET), and polypropylene (Poly #5) increased in market price from January to October 2021. In 2021, OCRRA paid a net total of \$130,175 to WM-RA. In 2022, commodity values dramatically decreased, and 2022 ended with four months of negative commodity values of mixed paper. In 2022, OCRRA paid a net total of \$718,161 to WM-RA.

The rise and fall of the market price of recyclable material affects the average blended value (ABV) of curbside recycling commodities. The costs of processing and marketing materials are generally constant, independent of market conditions, but they increased over time due to inflation from rising labor costs and capital investments. Figure 1 below shows commodity prices for materials processed at WM-RA in 2022 by month.

Figure 1. 2022 Commodity Prices Month to Month



The ABV helps track the performance of the recyclable commodity market. In January and February 2022, the ABV did not exceed \$68.93, meaning OCRRA continued to pay the WM-RA to process recyclables per the OCRRA / WM-RA Contract. Then from March to July 2022, there was an increase in value of aluminum cans, PET, Poly #5 and colored HPDE plastic commodities, triggering an ABV greater than \$68.93 for these months. During these five months, OCRRA

received \$63,735 from WM-RA for residential recycling delivered to the MRF. In August 2022, the commodity price of mixed paper dropped to \$20, and continued to decrease until December 2022 when it was valued at -\$25/ton. From August 2022 to December 2022 the ABV was below \$68.93, and triggered payment to the MRF from OCRRA. In October, November, and December the ABV was a negative dollar value. In 2022, OCRRA paid a net total of \$718,161 to WM-RA to manage residential materials.

Figure 2 shows the monthly ABV of curbside recyclables processed at WM-RA in 2022 by month. Figure 3 shows the ABV of curbside recyclables processed at WM-RA from 2012 to 2022.

Figure 2. 2022 Monthly Blended Value of Curbside Recyclables

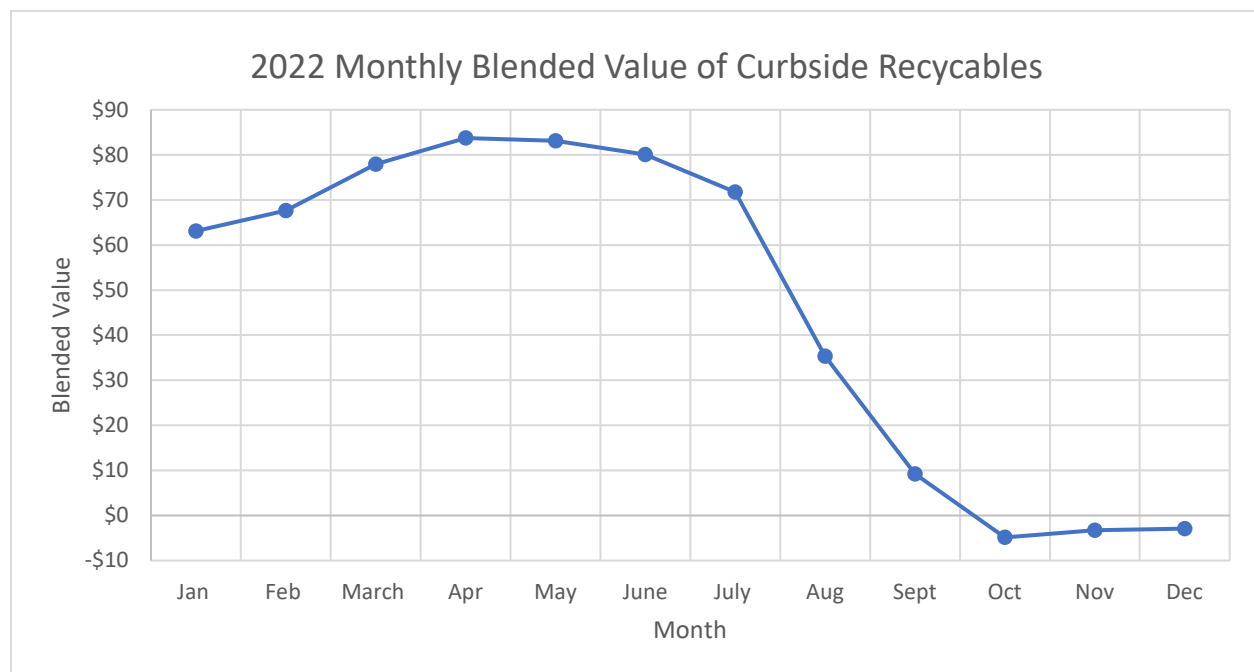
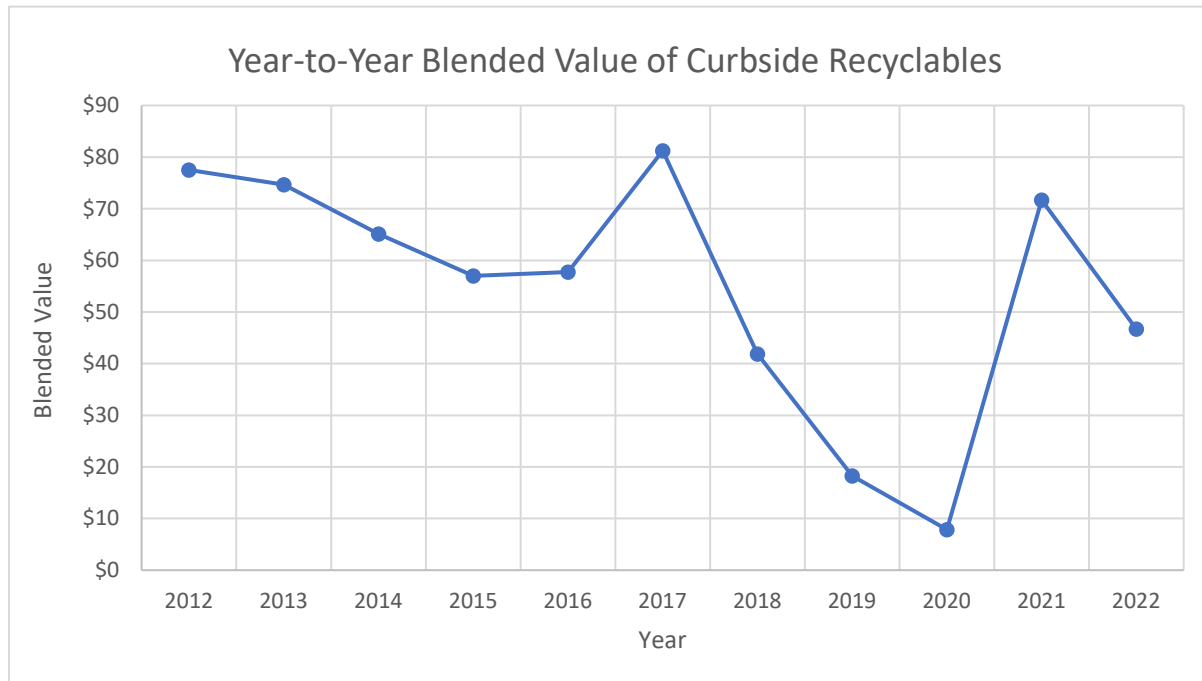


Figure 3. Year- to-Year Blended Value of Curbside Recyclables



2022 Recycling Program

OCRRA provides residents of Onondaga County a strong recycling and composting program; a foundation for waste disposal at the local Onondaga County Resource Recovery Facility; a robust public outreach and education service; and award-winning programs for disposing of hard to manage materials. OCRRA's work is not funded by taxes. Tipping fees charged to haulers for disposing of solid waste at our transfer station and Onondaga County Resource Recovery Facility and revenue from electricity generated by the Onondaga County Resource Recovery Facility provide the funds to operate OCRRA's Recycling Program.

OCRRA's recycling department is responsible for educating the public about mandatory recycling rules and bringing technical assistance to residents, schools, and businesses in Onondaga County. In 2022, OCRRA demonstrated that aggressive steps are being taken to maximize the recycling of all waste streams, including continued reduction through maximum feasible recycling. OCRRA's enforcement officer augments the educational efforts of the team's recycling specialists. The enforcement officer visits businesses and apartment complexes to confirm compliance with the law. They also inspect loads of solid waste at Onondaga County Resource Recovery Facility and issues warnings and/or notices of violations for loads that contain recycling. The enforcement officer and recycling specialists work together to assist waste generators in designing a recycling program that will capture the mandated recyclables. Direct program costs for 2022 recycling services are presented in Table 5.

Table 5 - 2022 Recycling Program Costs	
Program	Expenses
Recycling Personnel ¹	\$809,432
Material Recovery Facility (MRF) Fees	\$718,161
Public Education	\$382,534
Composting ²	\$461,216
Household Hazardous Waste (HHW) Collection	\$85,460
Blue Bin Expense	\$142,820
Other Recycling Programs ³	\$158,924
Total Cost	\$2,758,547

¹Includes all permanent compost personnel.

²Includes all temporary personnel.

³Includes equipment maintenance, hauling and disposal expenses, postage, memberships, and miscellaneous expenses.

2022 Efforts to Improve Recycling Rate

In 2022, OCRRA's award-winning recycling programs delivered environmental solutions, excellent public education and quality disposal and recycling services to the residents of Onondaga County. Examples of measures taken to improve recycling include:

- \$376,624 in state grants received in 2022 for reimbursement of Household Hazardous Waste collection expenses, compost equipment, and curbside blue bin purchases.
- More than 2,500 volunteers from 260 groups participated in OCRRA's annual Earth Day Litter Cleanup. 67,500 pounds of litter was collected from neighborhoods across Onondaga County.
- Over 2,030 tons of food scraps and food process waste were composted at OCRRA's state-of-the-art compost site. Food scraps were combined with yard waste from commercial and residential customers to generate over 11,000 yards of compost at OCRRA's Amboy Compost Site.
- Over 10,150 bags of OCRRA's premium 1/4-inch compost were sold through a network of 30+ lawn and garden retail outlets, helping to return valuable nutrients to local soils.
- More than 1,620 residents took advantage of OCRRA's free Household Hazardous Waste program in concert with Miller Environmental Group.

- Over 90 residents of Onondaga County attended OCRRA and Covanta's Mercury Collection Event in September. 89 mercury thermometers and 51 mercury thermostats were collected, diverting 293 grams of mercury from the waste stream.
- 7,978 pounds of rechargeable batteries were recycled in 2022, at no cost to residents, through OCRRA's partnership with Call2Recycle. OCRRA's battery recycling program provides residents with 13 convenient drop off locations to dispose of rechargeable, alkaline and button batteries.
- Over 12,400 fluorescent bulbs were sent to American Lamp Recycling through OCRRA's free bulb recycling program, keeping over 43,850 milligrams of mercury out of the environment and waste stream. OCRRA partners with local hardware stores to provide residents convenient locations to drop off old fluorescent bulbs for recycling.
- OCRRA employees shared their expertise by presenting at various industry conferences and webinars in 2022, including the annual Federation of New York Solid Waste Conference and Northeast Recycling Council Conference.
- OCRRA's partnership with nine bottle redemption centers to better recycle non-deposit glass was heartily embraced by our community. Residents wanted their glass bottles to be recycled into new glass, instead of being processed through the MRF (which sends glass to landfills to be beneficially reused as alternative operating cover). In 2022, residents' enthusiasm for the project overwhelmed the infrastructure, and the program was discontinued. However, this underscores the value of expanding the NYS Bottle Bill to include wine and liquor bottles as even without a deposit, residents turned out in droves to recycle this glass. Creating a financial infrastructure via NYS Law that would support this system would ensure more glass is recycled indefinitely.
- OCRRA partnered with the Northeast Waste Management Officials' Association (NEWMOA) on the "End Food Waste" project funded by a NYSDEC grant. OCRRA engaged New Americans at public forums and through charity organization giveaways with info cards translated into five languages that paired tips for reducing food waste and saving money with easy recipes that utilized Food Bank staples. Three educational videos covering food saving tips, date labels, and home composting were shared at three regional and national conferences. Thousands of informational cards were disseminated to the public via local specialty grocers serving low income and New American clients. The ongoing inclusion of #EndFoodWaste messaging in social media and other outreach will complete the grant project.
- More than 180 tons of recycling was collected at OCRRA's Transfer Stations from residents without curbside recycling collection.

- More than 1,930 tons of metal were separated and recycled at OCRRA's Rock Cut Road Transfer Station. 12,863 tons of metal were separated and recycled at OCRRA's Onondaga County Resource Recovery Facility.
- OCRRA advocated for expansion of the New York State Bottle Bill and supported Extended Producer Responsibility for various products, by serving on committees of the New York Product Stewardship Council and New York State Association for Reduction, Reuse and Recycling.