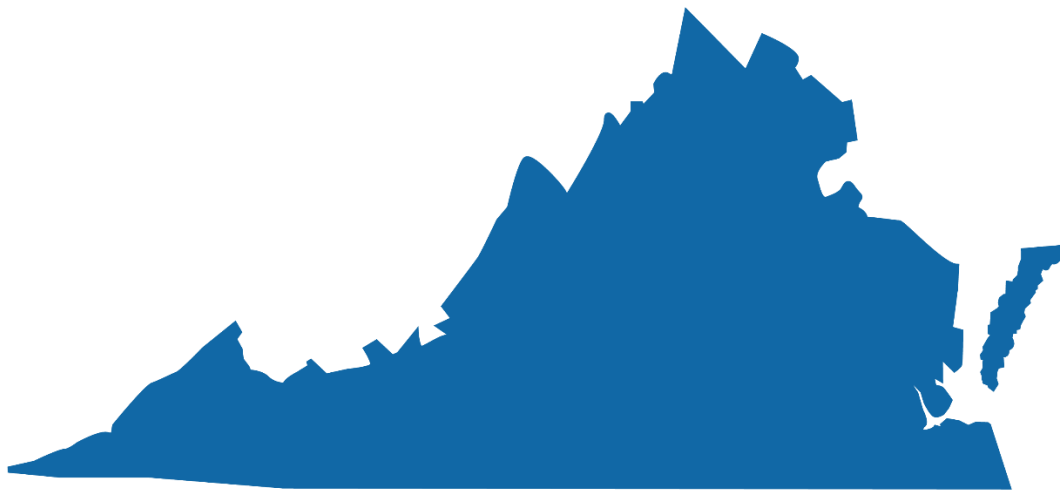# Virginia Annual Recycling Summary Report

Calendar Year 2021

August 2022

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Virginia's State Recycling Summary Report for Calendar Year 2021
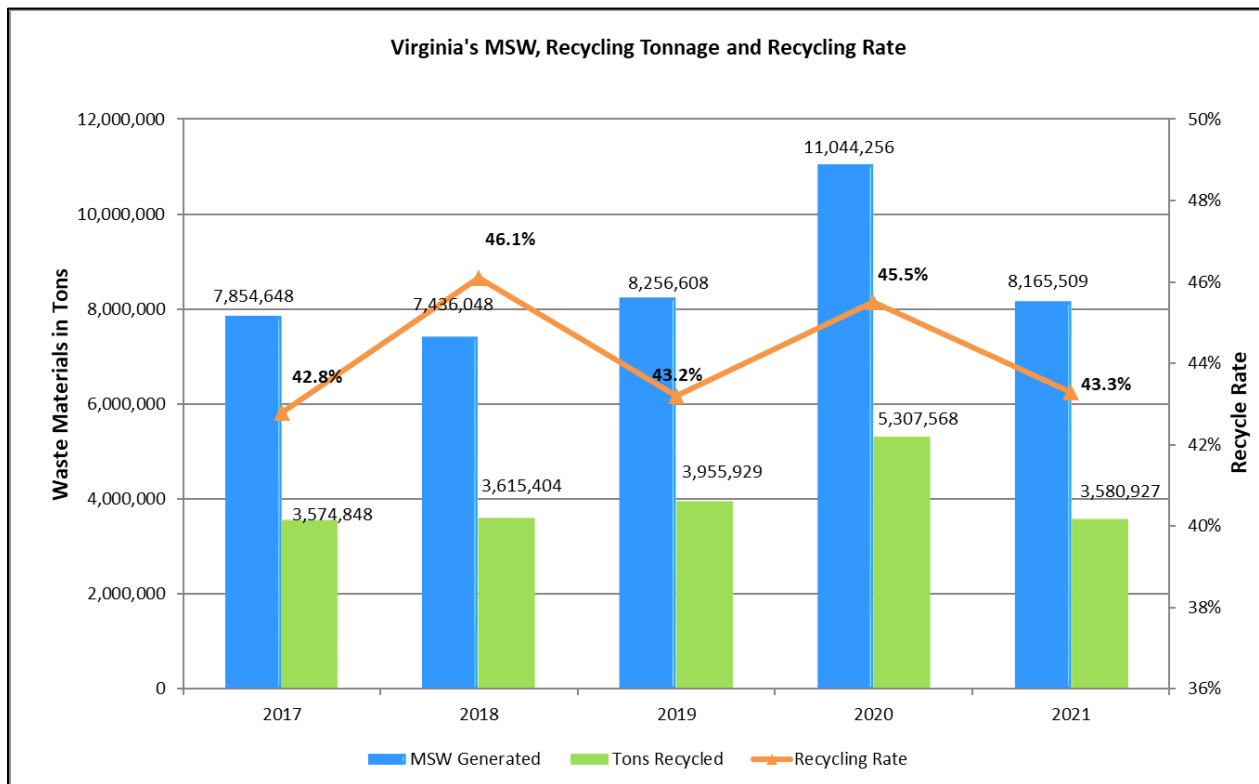
Executive Summary

The calendar year 2021 Annual Recycling Rate reporting by Virginia Solid Waste Planning Units (SWPUs) with populations above 100,000[1] established a calculated recycling rate for Virginia of 43.3%. This calculation included credits for solid waste reused, non-municipal solid waste (MSW) recycled, recycling residues, and source reduction programs. This rate was based on the data submitted by the 17 SWPUs required to report for 2021.

Based on information provided by the localities, the CY2021 recycling rate decreased due to recycling challenges from the on-going COVID 19 pandemic, lack of recycling markets in some regions and difficulty in obtaining recycling information from private businesses.

Introduction

The Virginia Department of Environmental Quality (DEQ) has completed its review of the recycling rate data reported for calendar year 2021. DEQ has reviewed 36 submitted reports. Of the 36 submitted reports, 19 were submitted by SWPUs not required to report during the 2021 reporting cycle. The data on these reports represent recycling information from 117 Virginia cities, counties and towns.[1]

Virginia's annual recycling rate for 2021 as seen on the graph below is based only on data from the required reports submitted by the 17 SWPUs with populations above 100,000.

Virginia's MSW, Recycling Tonnage and Recycling Rate

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[1] *Virginia Code §10.1-1411 was amended by legislation introduced during the 2012 Session of the Virginia General Assembly and requires annual recycling rate reporting by each SWPU or locality with a population of greater than 100,000 according to the most recent U.S. Census. Each SWPU or locality with a population of 100,000 or less according to the most recent U.S. Census must submit a recycling survey report once every four years. Planning units in this latter category will next report in 2025 for calendar year 2024.*

Based on these reports, the state recycling rate is 43.3%, a decrease from the CY2020 report. The 17 SWPUs reported recycling 2,847,066 tons of principal recyclable materials (PRMs), 733,861 tons of credits (includes recycling residue, reused solid waste, and non-MSW recycled) and disposal of 4,584,582 tons of MSW.

Mandated Recycling Rates

Pursuant to Virginia Code §10.1-1411.D, each SWPU is required to achieve and maintain a minimum 25 percent annual recycling rate *unless*:

- Its population density is less than 100 persons per square mile, *or*
- Its civilian unemployment rate is 50 percent or more above the state unemployment average.

SWPUs that meet the criteria above are required to achieve and maintain a minimum 15 percent recycling rate. All 17 SWPUs required to report, met or exceeded their mandated recycling rate.

Solid Waste Management Planning and Recycling Action Plans

The Virginia Department of Environmental Quality (DEQ) continues to review the required solid waste management plans and any updates submitted by the SWPUs for completeness, including locality or regional recycling program information. All SWPUs are required to maintain or exceed the mandated recycling rate for their jurisdiction(s). If at any time the SWPU reports less than the required 15 percent or 25 percent recycling rate, DEQ will require that a Recycling Action Plan be developed and submitted as an amendment to the SWPU's solid waste management plan. Visit DEQ's recycling webpage for additional information.

State Recycling Rate Calculation for CY2021

17 recycling rate reports, representing 117 Virginia localities, were received pursuant to the requirements of § 10.1-1411 of the Code of Virginia. The chart represents data only from the 17 SWPUs required to report for CY 2021. This represents a return rate of 100 percent of the required reports. Totals for these reports are presented below:

CY2021 State Recycling Rate Calculation

Principal Recyclable Materials (PRM) Tons

PRM Material	Tons Recycled
Paper	554,426
Metal	785,481
Plastic	11,710
Glass	21,154
Commingled	380,811
Yard Waste	502,788
Waste Wood	287,140
Textiles	25,976
Waste Tires	40,740
Used Oil	29,168
Used Oil Filters	1,955
Used Antifreeze	3,312
Batteries	13,358
Electronics	5,973
Inoperative Motor Vehicles	87,904
Other	95,171
Total PRM in Tons	**2,847,066**

Credits	Tons Recycled
Recycling Residue	14,589
Solid Waste Reused	16,660
Non-MSW Recycled	702,612
Total Credits	**733,861**

MSW Disposed	Tons
Household Waste	3,133,025
Commercial Waste	1,345,340
Institutional Waste	88,857
Other	17,359
Total MSW Tons	**4,584,582**

Source Reduction Credit Total	22%
# of Localities	17
SRP Average	1.29%

State Final Recycling Rate Calculation:

The recycling rate is calculated using the following formula:

$$\left(\frac{\text{PRM + Credits}}{\text{PRM + Credits + MSW Disposed}} \right) \times 100 + \text{Source Reduction Credit} = \text{Final Recycle Rate}$$

Using the PRMs, credits and MSW disposed tonnage totals above, the state recycling rate is calculated as:

$$\left(\frac{2{,}847{,}066 + 733{,}861}{2{,}847{,}066 + 733{,}861 + 4{,}584{,}582} \right) \times 100 + 1.29\% = \textbf{43.3\%*}$$

*The final state recycling rate has been adjusted so that the aggregate of all credits does not exceed five percentage points of the base recycling rate.

Calculated Recycling Rates for CY2021

REPORTING ENTITY (17 Solid Waste Planning Units required to report annually)	2021 Recycling Rate	2021 Total Recycled Tons (PRMs + Credits)	2021 Total MSW Generation Tons (PRMs + Credits + MSW disposed)
Alexandria (City) SWPU (City of Alexandria)	53.4%	141,130	231,694
Arlington County SWPU (Arlington County)	52.4%	147,870	251,719
Augusta-Staunton-Waynesboro SWPU (Augusta County, Cities of Staunton and Waynesboro, Town of Craigsville)	29.1%	38,607	142,442
Central Virginia Waste Management Authority SWPU (Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent, Powhatan and Prince George Counties; Cities of Richmond, Hopewell, Colonial Heights and Petersburg, Town of Ashland)	57.9%	699,618	1,209,273
Fairfax County SWPU (Fairfax County and Town of Clifton)	47.5%	523,294	1,148,569
Loudoun County SWPU (Loudoun County, Towns of Hamilton, Hillsboro, Leesburg, Lovettsville, Middleburg, Purcellville and Round Hill)	36.0%	164,043	455,270
Montgomery Regional Solid Waste Authority SWPU (Montgomery County, Towns of Blacksburg and Christiansburg)	31.0%	24,211	78,080
Mount Rogers PDC SWPU (Bland, Smyth, Washington and Wythe Counties, Towns of Abingdon, Chilhowie, Damascus, Glade Spring, Marion, Saltville, Rural Retreat and Wytheville)	23.9%	19,197	80,227
Newport News (City) SWPU (City of Newport News)	48.1%	242,223	436,242
Northern Shenandoah Valley Regional Commission SWPU (Clarke, Frederick, Shenandoah, Warren and Page Counties, City of Winchester, Towns of Berryville, Boyce, Edinburg, Front Royal, Luray, Middletown, Mount Jackson, New Market, Shenandoah, Stanley, Strasburg, Stephens City, Toms Brook and Woodstock)	41.0%	116,128	297,751
Prince William County SWPU (Prince William County, Towns of Dumfries, Haymarket, Occoquan and Quantico)	33.5%	187,303	525,141
Rappahannock Regional Solid Waste Management Board SWPU (Stafford County and City of Fredericksburg)	35.9%	168,515	497,627

Region 2000 SWPU (Nelson, Appomattox and Campbell Counties, City of Lynchburg, Towns of Altavista, Appomattox, Brookneal and Pamplin City)	44.8%	133,483	311,968
Southeastern Public Service Authority SWPU (Isle of Wight and Southampton Counties, Cities of Chesapeake, Franklin, Norfolk, Portsmouth, Suffolk and Virginia Beach, Towns of Boykins, Branchville, Capron, Courtland, Ivor, Newsoms, Smithfield and Windsor)	35.6%	732,626	1,808,914
Spotsylvania County SWPU (Spotsylvania County)	44.7%	97,203	227,628
Thomas Jefferson PDC SWPU (Albemarle, Fluvanna and Greene Counties, City of Charlottesville, Towns of Columbia, Scottsville and Standardsville)	39.0%	49,838	134,761
Virginia Peninsulas Public Service Authority SWPU (Essex, James City, King and Queen, Mathews, Middlesex and York Counties, Cities of Hampton, Poquoson and Williamsburg, Towns of Tappahannock, Urbanna and West Point)	29.1%	95,638	328,203
State Totals	**43.3%**	**3,580,927**	**8,165,509**

REPORTING ENTITY (19 SWPUs with populations 100,000 or less not required to report, but voluntarily reporting)	2021 Recycling Rate	2021 Total Recycled Tons (PRMs + Credits)	2021 Total MSW Generation Tons (PRMs + Credits + MSW disposed)
Accomack County SWMP (Accomack County, Towns of Accomac, Belle Haven, Bloxom, Chincoteague, Hallwood, Keller, Melfa, Onancock, Onley, Painter, Parksley, Saxis, Tangier and Wachapreague)	22.7%	8,086	39,069
Bedford County SWPU (Bedford County and Town of Bedford)	39.7%	26,340	69,797
Botetourt County SWPU (Botetourt County, Towns of Buchanan, Fincastle, Troutville)	19.7%	3,760	19,060
Caroline County SWPU (Caroline County, Towns of Bowling Green and Port Royal	37.1%	10,671	20,849
Carroll-Grayson-Galax SWPU (Carroll and Grayson Counties, City of Galax, Towns of Fries, Hillsville, Independence, Troutdale)	20.6%	7,650	37,207
Danville (City) SWPU (City of Danville)	40.7%	11,562	28,420
Fairfax (City) SWPU (City of Fairfax)	46.0%	13,655	31,062

Falls Church (City) SWPU (City of Falls Church)	59.0%	9,311	14,677
Manassas (City) SWPU (City of Manassas)	45.0%	29,480	54,124
Salem (City) SWPU (City of Salem)	30.6%	4,689	16,375
Craig County SWPU (Craig County)	17.5%	540	3,078
Cumberland Plateau Regional Waste Management Authority SWPU (Buchanan, Dickenson and Russell Counties, Towns of Grundy, Clincho, Clintwood, Haysi, Cleveland, Honaker and Lebanon)	19.2%	12,831	66,664
Fauquier County SWPU (Fauquier County, Towns of Remington, Plains, Warrenton)	34.5%	28,137	81,456
Franklin County SWPU (Franklin County, Towns of Boones Mill and Rocky Mount)	42.2%	30,637	70,748
Greater Rockingham SWPU (Rockingham County, Towns of Bridgewater, Broadway, Dayton, Elkton, Grottoes, Mount Crawford and Timberville)	57.5%	111,409	200,851
Louisa County SWPU (Louisa County, Towns of Louisa and Mineral)	31.2%	12,654	35,767
New River Resource Authority SWPU (Giles and Pulaski Counties, City of Radford, Towns of Dublin, Glen Lyn, Pearisburg, Pembroke, Pulaski, Rich Creek and Narrows)	41.3%	42,094	102,012
Herndon (Town) SWPU (Town of Herndon)	33.3%	13,880	34,176
Vinton (Town) SWPU (Town of Vinton)	63.5%	6,511	10,252

All data is based on adjustments by DEQ for consistency with 9VAC-20-130-125, with a 5 percent maximum percentage allowed for credits to the base recycling rate calculated by a solid waste planning unit. A 2 percent source reduction credit has been added to the calculated recycling rates for those planning units with a documented source reduction program in their solid waste management plans.

Principal Recyclable Materials (PRMs): Paper, metal, plastic, glass, commingled materials, yard waste, waste wood, textiles, waste tires, used oil, used oil filters, used antifreeze, inoperative automobiles, batteries, electronics and other.

Credits: Recycling residues, solid waste reused, non-MSW recycled (includes construction and demolition material, ash and debris) and source reduction initiatives. Source reduction initiatives must be documented as SWPU policy and promoted across the SWPU.

Municipal Solid Waste (MSW) disposed: Municipal solid waste delivered to sanitary landfills or incinerators for disposal.

Solid Waste Planning Units Not Reporting for CY2021

35 SWPUs with populations of 100,000 or less and not required to report for CY2021.

1. Alleghany Highlands SWPU
2. Amelia County SWPU
3. Amherst County SWPU
4. Bath County SWPU
5. Brunswick County
6. Buckingham County SWPU
7. City of Bristol SWPU
8. City of Harrisonburg SWPU
9. City of Manassas Park SWPU
10. City of Roanoke SWPU
11. Culpeper County SWPU
12. Floyd County SWPU
13. Gloucester County SWPU
14. Henry County-City of Martinsville SWPU
15. Highland County SWPU
16. King George County SWPU
17. Lee County SWPU
18. Lunenburg County SWPU
19. Madison County SWPU
20. Northampton County SWPU
21. Northern Neck PDC SWPU
22. Nottoway County SWPU
23. Orange County SWPU
24. Patrick County SWPU
25. Pittsylvania County SWPU
26. Prince Edward-Cumberland County SWPU
27. Rappahannock County SWPU
28. Roanoke County SWPU
29. Rockbridge-Buena Vista-Lexington SWPU
30. Scott County SWPU
31. Southern Crater Region SWPU
32. Southside Regional Public Service Authority SWPU
33. Tazewell County SWPU
34. Town of Vienna SWPU
35. Wise County SWPU

Recycling Success Stories and Related Report Information

The information below was provided by localities or comes from web-based resources or other data sources.

Northern Shenandoah Valley Regional Commission - City of Winchester and Frederick County:

Recycling efforts across the Northern Shenandoah Valley region have benefitted greatly by a new, expanded multi-million dollar processing facility on the Winchester/Frederick County border opened by Ridgerunner Container Services LLC (RCS) in late 2021. Since that time, the owners, Ross and Jodie Hewitt, have faithfully engaged the region's solid waste managers, accepting material almost immediately from local haulers and the Town of Front Royal, and Frederick and Clarke counties. The facility had been accepting cardboard and mixed paper from the City of Winchester, Waste Management Inc., and Republic Services of Winchester for several months. The new sorting line allows the operation to process all co-mingled commodities. Securing a local outlet for the region's recyclables not only benefits the local economies through savings in transportation costs and time-savings for private and municipal haulers, but also results in the environmental benefits of reducing fuel consumption, carbon emissions, and congestion on I-81. RCS is successfully marketing cardboard, mixed paper, metal cans, and plastics. With the shutdown of Southern Scrap LLC in 2016, localities were forced to transport their recyclables great distances to market. Southern Scrap had been the only remaining local processor. RCS is planning to add automated equipment to process plastic film for the region and continues to look ahead for other advancements which will benefit localities and the commercial sector. For more information, please visit http://nsvregion.org/

Prince William County:

In September 2020, the Prince William County Balls Ford Road Compost Facility nearly tripled its organics processing capacity through a public-private partnership with Freestate Farms. The facility processes material using an advanced aerobic composting method which involves a reversing aerated static pile composting system to process leaves, grass, and agricultural waste in order to produce high quality nutrient-rich compost products. Process odors are captured and scrubbed through biofilters. The Balls Ford Road Compost Facility is also used by other Northern Virginia jurisdictions, such as Fairfax County, Arlington County, City of Manassas and the Town of Vienna to support their yard waste and food waste composting programs. With the new capacity, the Prince William County Board of Supervisors voted to approve the long-planned separation and curbside collection of yard waste in the County. From October 2021 to July 2022, the program has diverted close to 4,000 tons of County generated yard waste. With five months remaining in 2022, the collection to date of 26,697 tons has already increased by 10,000 tons from 2020 and is on pace to surpass the almost 31,000 tons received in 2021. For more information, please visit https://www.pwcva.gov/department/solid-waste-management

Electronics Recycling:

Although not included in the state recycling rate report, computer manufacturers are required to report to DEQ the amount of electronics recovered through their recycling networks. For calendar year 2021, they reported 1,055,465 pounds (528 tons) of electronics recovered. For more information about this program, visit DEQ's Electronics Recycling webpage.

Private Sector Reporting:

Walmart, Sam's Club, Target, Best Buy, Weis Markets and Kohl's provided 2021 recycling data for their Virginia stores to DEQ. This information was made available to all SWPUs on DEQ's recycling webpage for inclusion in their recycling reporting. Their reports can be found on the DEQ Recycling Rate Report webpage.