

### **Board of Supervisors Environmental Vision:**

*“Fairfax County will use integrated waste management principles to ensure future system capacity and sustainability. The County will promote policies and practices that maximize resource conservation and pollution prevention. The objective is an increase in waste reuse, diversion, and recycling. Furthermore, the County will strive to decrease the amount of material disposed of.”*

## **4. WASTE MANAGEMENT**

### **INTRODUCTION**

The Department of Public Works and Environmental Services' Solid Waste Management Program's (SWMP's) Operations Division oversees the collection, transfer, and disposal of solid waste and recyclables within the county. There are two county-owned disposal facilities; the I-66 Transfer Station, and the I-95 Landfill Complex. Most of Fairfax MSW is processed from Waste-To-Energy (WTE) at ReWorld (formerly Covanta Fairfax) and is located on the I-95 Landfill Complex. The SWMP also provides collection services to approximately 44,000 single family homes. Private trash haulers collect the remaining single-family residences, multi-unit residences and commercial establishments, taking recyclable materials to Material Recovery Facilities (MRFs) and solid waste to the county disposal facilities. The six functions of the SWMP are:

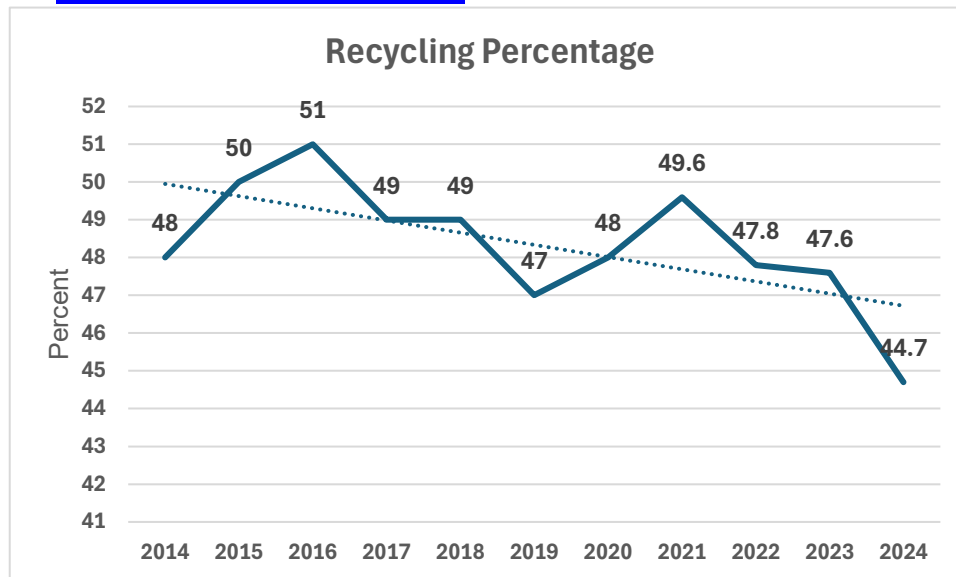
- *Source Reduction* is the elimination of waste before it is created.
- *Reuse* encourages using items multiple times for their original purpose or different function.
- *Composting* diverts organic materials from the waste stream into soil supplements.
- *Recycling* converts waste material into reusable materials.
- *Collection and Transfer* is the collection of waste and recyclable materials and consolidation of materials at a recycling facility (SMRF) or a transfer station.
- *Municipal Solid Waste (MSW) Disposal* is incinerated at ReWorld Waste (formerly Covanta Fairfax). The ash remaining after incineration is landfilled at the I-95 Landfill Complex.

### **CURRENT CONCERNS**

#### **Recycling**

Fairfax County code requires residents and businesses to recycle. Recycling rates have been declining. In 2024, the recycling rate (44.7%) was 4% lower than the average of the last 10 years (48.7%).

**Figure 4-1: [Recycling Rates 2014-2024](#)<sup>i</sup>**



Although the total rate has declined, there were notable increases in recycling rates in 2024 compared to historical averages, particularly for glass, food waste, construction waste and metals recycled. Yard waste recycling remained steady. Declines occurred in paper, cardboard, and commingled recycling (primarily the single stream residential and commercial recycling).

**Table 4-1: Recycling and Waste: Comparing 2024 to Historical Averages**

Recycled Material	2024	Historical (2012-2022) Average	Change from average
Glass	8,033	1,890	325%
Food Waste	23,628	8,354	183%
Total CCD	119,912	68,667	75%
Metal	71,608	60,686	18%
Yard Waste	213,418	207,556	3%
Commingled	44,222	95,375	-54%
Paper and Cardboard	62,475	84,931	-26%
Total Other Materials	27,276	39,318	-31%

Total Recycled	558,054	564,270	-1%
Total MSW and Recycled	1,258,295	1,186,264	6%
Recycled Percent of Total	45%	48%	-6%

In 2024, [DPWES conducted a study](#) to determine what actually gets dumped at I-66 and 495 waste collection stations. Contractors sorted through 87 truckloads of waste: 45 commercial loads and 42 single-family residence loads. To ensure the samples were representative of Fairfax County, multiple loads of residential and commercial waste were sampled from each Supervisory District.

**Figure 4-2: Fairfax County Waste Characterization Study, July 2024**



Table 4-2 shows the amounts of recyclable materials that were found in the waste to be incinerated and the amounts of recyclables that had already been removed through residents and businesses recycling. The last column shows the proportion of materials that actually got recycled from the total that could be recycled.

**Table 4-2: Fairfax Countywide Waste Characterization Study**

Recyclable Material	Can be diverted	% of all solid waste*	Estimated tons	Tons recycled**	Percent recycled
Food Waste	All	18%	195,432	9,288	5%
Paper	All	17%	185,439	62,475	25%
Yard Waste	All	10%	107,710	189,295	64%
Waste Wood	All	5%	53,300	24,123	31%
Glass	All	2%	22,208	8,033	27%
Metal	All	5%	56,631	71,608	56%

Plastic	Some	13%	72,302	1933	3%
Commingled	Some	10%	62,154	44,222	42%
Textiles	Some	4%	26,003	1040	4%
Batteries	Some	0%	0	724	100%
Electronics	Some	2%	12,685	3,304	21%
Construction debris	Some	23%	33,408	119,992	78%
<b>TOTAL</b>			<b>1,110,411</b>	<b>560,930</b>	<b>34%</b>

\* Fairfax Waste Characterization Study, DPWES, 2024

[https://www.fairfaxcounty.gov/boardofsupervisors/sites/boardofsupervisors/files/Assets/Documents/PDF/Agenda%20Item%203\\_SWMP%20Handout\\_Waste%20Characterization%20Study\\_A-1a.pdf](https://www.fairfaxcounty.gov/boardofsupervisors/sites/boardofsupervisors/files/Assets/Documents/PDF/Agenda%20Item%203_SWMP%20Handout_Waste%20Characterization%20Study_A-1a.pdf)

\*\* Public Solid Waste Services, 2023, Northern Virginia Regional Commission

[https://www.novaregion.org/DocumentCenter/View/14461/NVRC\\_2023-Waste-Management-Report-10-24-24-small](https://www.novaregion.org/DocumentCenter/View/14461/NVRC_2023-Waste-Management-Report-10-24-24-small)

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The table shows that about two thirds of recyclable materials are still not recovered. Only a tiny amount (5%) of food waste is recovered. All food waste could be recycled

through composting, edible food diversion or feeding farm animals. However, Fairfax lacks the authority from the Commonwealth legislature to require food waste recycling, and there is not enough capacity in the region to manage large new amounts of food waste.

There have been notable successes. The majority of construction debris and metal are recycled, diverted before reaching the I-66 and 495 tipping floors. Well over half of yard waste is diverted to compost facilities and mulch. Although no batteries were found in the waste composition study, DPWES solid waste management staff report<sup>ii</sup> lithium battery fires have occurred in trash trucks and at the tipping floors.

**Figure 4-2: Dump truck fire, April 24, 2025. Fairfax County Fire and Rescue Department.**



Fairfax County also contracted for a waste characterization study of County and FCPS operations. Though less comprehensive than the Countywide study, findings from 2024 report on specific County and school sites<sup>iii</sup> roughly mirror it. For example, at the Fairfax Government Center, 20% of items thrown in the trash were recyclable and 40% was compostable. In County parks trash, 41% were recyclable and 10% compostable. At FCPS sites evaluated, 23% of trash was recyclable and 40% was compostable.

#### **Recommendations:**

1. Monitor and report annually on rates of recycling by categories in Fairfax County government and FCPS operations and Countywide and repeat waste composition studies in at least 5-year intervals to chart progress and adjust policies and programs.
2. Evaluate the effectiveness, costs, and benefits of recycle improvement strategies, especially strategies targeting food waste, with the 10% of residential customers that Fairfax DPWES directly collects trash.

## **Zero Waste**

The Board of Supervisors adopted the Communitywide Energy and Climate Action Plan (CECAP) target of 90% waste reduction by 2040 and the Joint Environmental Taskforce (JET) goal of 90% by 2030. Despite these goals, the County's recycling rate has a slight decline over the past decade, and per capita waste generation remains high—over one ton per person annually. Currently, more than 600,000 tons of municipal solid waste are incinerated each year at the ReWorld facility (formerly Covanta Fairfax), producing hundreds of thousands of tons of ash that are trucked to the I-495 landfill. This system is costly, polluting, and incompatible with the County's climate commitments.

While Fairfax already recovers significant amounts of yard waste (64%), construction debris (78%), and metals (over 50%), other major waste streams remain under-recycled. Food waste is recovered at just 5%, paper at 25%, glass at 27%, and waste wood at 31%. These materials make up a large portion of what is still burned and landfilled. To make meaningful progress, Fairfax needs a coordinated, Countywide approach focused on reducing waste generation and increasing recovery of these under-diverted materials.

Other jurisdictions offer successful models. [Los Angeles County](#) uses [hauler contracts with diversion targets to drive performance](#). [Hennepin County, Minnesota](#) combines robust organics collection with equity-focused outreach. [Oakland, California](#) and [Washington, D.C.](#) enforce mandatory recycling and composting rules with strong monitoring and public engagement.

Presently, DPWES Solid Waste Management is entirely supported by [user fees](#).<sup>iv</sup> To this point, DPWES enterprise fees are being used to prepare for zero waste, including the waste characterization studies. Developing an effective zero waste plan, testing, and implementing zero waste strategies, monitoring and evaluating progress for mid-course corrections will incur costs. User fees which fund SWMP services appropriately charge for discrete waste management services such as when the county directly picks up residential waste or manages waste dumped by haulers at the I-66 and 495 transfer stations. Financing a comprehensive zero waste program should come from county operating budgets as the costs and benefits of the zero waste programs are spread across all residences and businesses in the county.

### **Recommendation:**

1. **Establish Unified Sanitary Districts** to enable standardized service, set performance targets, and enforce waste reduction and recycling goals. Establishment of Unified Sanitary Districts (USDs) would enable Fairfax to set uniform waste reduction and recycling performance standards and hold haulers accountable through contracts. Unified Sanitary Districts would provide the county with the ability to enforce standards and implement consistent programs. USDs would allow Fairfax to improve recycling services and employ transparent performance reporting. If alternatives such as licensing and monitoring haulers

achieve the same end of cutting waste, these options should be studied and evaluated for community acceptance.

2. **Fund development of a comprehensive Zero Waste Implementation Plan** that includes food waste diversion, public education, infrastructure investment, and clear performance metrics to reach the County's 90% waste reduction targets. Support for zero waste planning and implementation should be incorporated in the annual County operations and capital improvement budgets and not rely on user fees or a separate zero waste assessment.

### **PFAS: Forever chemicals on Fairfax lands**

Contamination of soil by PFAS and other toxic substances presents a persistent threat to public health and environmental safety in Fairfax County, Virginia. PFAS (per- and polyfluoroalkyl substances) are known as “forever chemicals” because they resist degradation in the environment and bioaccumulate in living organisms. Recent testing shows [PFOS and PFOA levels in Fairfax County Water Authority](#) supplies already exceed the EPA's Maximum Contaminant Levels (MCLs) of 4 parts per trillion, pointing to a larger concern: that the contamination is not only in the water, but also in the land. Industrial sites like the Micron facility, historic use of PFAS-laden firefighting foams at Dulles Airport and Fort Belvoir, and legacy unlined landfills such as the Hidden Lane Landfill Superfund site in Loudoun County contribute to toxic plumes leaching into groundwater and the Occoquan watershed. A comprehensive site inspection at [Fort Belvoir](#) found PFAS contamination in groundwater and soil at 12 of 17 tested locations, with levels exceeding EPA screening thresholds by over a thousand times in some areas.

These contaminants do not remain isolated. They enter surface and groundwater systems, affecting drinking water, agricultural soils, and even animals that graze on contaminated land. In regions like Fairfax County, where industrial activity has been limited but landfills and military installations are widespread, these chemicals can persist in soils for decades and migrate through watersheds, raising long-term concerns for food safety and public health. For these reasons, PFAS contamination should not be addressed solely in water and wastewater planning but integrated throughout the County's environmental assessments—including solid waste and land use—to reflect its systemic, cross-media risks. DPWES has taken steps to seek out sources of PFAS within the county and identify sources that either are or have the potential to contaminate other areas. This work should be continued so that sources of PFAS can be identified and cleaned up at the source, which is much more efficient than seeking to clean up diluted concentrations of these forever chemicals.

### **Recommendation:**

1. The county should identify sources of PFAS pollution of soil, surface water, and ground water that could threaten health and the environment as well as pursue cleanup of these sources of PFAS.

### **Plastic bags**

Virginia Code § [58.1-1745](#) authorized “any County or city may, by duly adopted ordinance, impose a tax in the amount of five cents (\$0.05) for each disposable plastic bag provided, whether or not provided free of charge, to a consumer of tangible personal property by retailers in grocery stores, convenience stores, or drugstores.” On January 1, 2022, retail outlets in Fairfax County began collecting the tax. By December 2024, over 3.4 million fewer bags have been used since the tax took effect,<sup>v</sup> generating \$7.7 million in revenue to the County that has funded environmental education programs, pollution and litter mitigation and cleanup efforts, and the distribution of reusable bags to residents in need. From 2022 to 2023, there was a decrease of 2.5% in plastic bag use and a 5% drop from 2023 to 2024. That leaves a lot of bags, more than 32 million in 2024, still in circulation, still littering Fairfax streets, trees and waterways.<sup>vi</sup>

**Figure 4-3: Plastic bag litter along Fairfax roads, streams, and parks**



Many nations<sup>vii</sup> and ten states – California, Connecticut, Delaware, Hawaii, Maine, New Jersey, New York, Oregon, Vermont and Washington – had some form of statewide ban on single-use plastic bags as of 2023 and bans in Colorado and Rhode Island went into effect on the first day of 2024.<sup>viii</sup> As of 2021, more than 500 cities and towns across 28 states had a plastic bag ordinance in effect.<sup>ix</sup> Bans on single use plastic bags have been more effective than a bag tax in reducing pollution from plastic bags. Authorizing local jurisdictions to increase the bag tax or flat out ban single use plastic bags will cut litter and trash.<sup>x</sup>

**Recommendation:**

1. Support EQAC’s legislative initiative recommendation to seek legislation that would authorize counties and towns to ban disposable plastic bags.

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- <sup>i</sup> Eric Forbes, Solid Waste Update, May 12, 2021. [https://www.fairfaxCounty.gov/environment-energy-coordination/sites/environment-energy-coordination/files/Assets/EQAC\\_Solid%20Waste%20Update%205-12-21](https://www.fairfaxCounty.gov/environment-energy-coordination/sites/environment-energy-coordination/files/Assets/EQAC_Solid%20Waste%20Update%205-12-21), and Solid Waste Management Chapter, Fairfax County Budget 2025, <https://www.fairfaxCounty.gov/budget/sites/budget/files/Assets/Documents/fy2025/adopted/volume2/Solid%20Waste%20Overview.pdf>. Fairfax County CY 2024 submission to Virginia Department of Environmental Quality, Form 50-30.
- <sup>ii</sup> Matt Adams, Eric Forbes, DPWES/EQAC meeting, May 19, 2024.
- <sup>iii</sup> HDR Engineering, Solid Waste Characterization Study, Fairfax County, VA. April 2, 2024. Sites studied include Fairfax County Government Center, Fairfax Parks, Mount Vernon Government Center, Mount Vernon Fire Station, George Mason Library, Fairfax County Juvenile Detention Center, and 6 Fairfax public schools.
- <sup>iv</sup> Budget categories . 40130 Leaf Collection: 40140 Refuse Collection and Recycling Operations, 40150 Refuse Disposal and 40170 !-95 Refuse Disposal
- <sup>v</sup> <https://www.fairfaxCounty.gov/environment-energy-coordination/disposable-plastic-bag-tax-fairfax-County>
- <sup>vi</sup> [https://www.fairfaxCounty.gov/boardofsupervisors/sites/boardofsupervisors/files/Assets/meeting%20materials/committees/2024/Agenda%20Item%205\\_Plastic%20Bag%20Tax%20Revenue%20NIP\\_A-1a.pdf](https://www.fairfaxCounty.gov/boardofsupervisors/sites/boardofsupervisors/files/Assets/meeting%20materials/committees/2024/Agenda%20Item%205_Plastic%20Bag%20Tax%20Revenue%20NIP_A-1a.pdf)
- <sup>vii</sup> [https://en.wikipedia.org/wiki/Plastic\\_bag\\_ban](https://en.wikipedia.org/wiki/Plastic_bag_ban)
- <sup>viii</sup> National Conference of State Legislatures, State Plastic Bag Legislation, <https://www.ncsl.org/environment-and-natural-resources/state-plastic-bag-legislation>.
- <sup>ix</sup> Jennie Romer, Surfrider Foundation, Round-Up of Statewide Bag Laws and Preemption (blog post), February 24, 2021, <https://web.archive.org/web/20230829182153/>
- <sup>x</sup> Using data compiled by the nonprofit Ocean Conservancy, researchers analyzed results from 45,067 shoreline cleanups between 2016 to 2023, along with a sample of 182 local and state policies enacted to regulate plastic shopping bags between 2017 and 2023. They found areas that adopted plastic bag policies saw a 25 to 47 percent reduction in the share of plastic bag litter on shorelines, when compared with areas without policies. The longer a policy was in place, the greater the reduction. <https://www.nytimes.com/2025/06/19/climate/plastic-bag-bans-litter.html>