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2015 ANNUAL REPORT ON THE ENVIRONMENT

**CHAPTER V**

# **SOLID WASTE**

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## **V. SOLID WASTE**

### **A. OVERVIEW**

The Fairfax County Solid Waste Management Program (SWMP) manages solid waste recycling, collection, transfer and disposal within the county. As it has for many years now, Fairfax County's recycling rate exceeds the Virginia minimum requirement of 25 percent. The program achieved a recycling rate of 48 percent last year. It should be noted that the recycling rate of 48 percent is based on materials sent to recycling centers. An unknown quantity of this material is rejected from recycling due to contamination and other factors.

The county met the 930,750 tons annual waste delivery obligation to the Energy/Resource Recovery Facility (E/RRF), which is located at the county's I-95 Landfill Complex and owned and operated by Covanta Fairfax, Inc.

The program provides waste collection and recycling services to over 44,000 homes in designated county sanitary districts. Until 1994, the county collected waste from Fairfax County Public Schools; they are now collected by private contractor.

The program also moves a daily average of approximately 100 tractor-trailer loads of municipal solid waste (MSW) from the I-66 Transfer Station to the Energy/Resource Recovery Facility, Lorton Debris Landfill, Davis Industries, Loudoun Composting, Broad Run Recycling and other appropriate disposal and recycling locations. This material comes from the county collection and from private haulers.

This Chapter has been substantially reorganized from previous reports, focusing now on the following specific topics of interest, which are covered in separate sections below:

- B. Recent Modifications to the county's contract with Covanta Energy.
- C. Enhanced Metals Recovery at the E/RRF.
- D. Education/Outreach Activities.
- E. I-95 Landfill Groundwater Programs.
- F. I-95 Landfill Methane Capture and Control Programs.
- G. Recycling Markets and System Performance.
- H. Enforcement Overview and Priorities.
- I. Supporting Programs and Institutions of Note.
- J. Future Concepts and Challenges.

## **B. RECENT MODIFICATIONS TO COVANTA CONTRACT**

The Energy/Resource Recovery Facility continues to serve as the primary disposal location for the county's municipal solid waste, processing approximately 1,000,000 tons of MSW per year. Approximately 25 percent of the waste processed at the facility is from neighboring jurisdictions, including Prince William and Loudoun counties and the District of Columbia, with minor amounts also being brought to the plant under merchant arrangements that are managed by Covanta. A new waste disposal agreement was negotiated with Covanta Fairfax, Inc. for the continued processing of county waste when the original service agreement expires in February 2016. This new five-year contract brought with it the following changes:

1. Below-market disposal pricing, with greater flexibility to adapt to opportunities for increased recycling and changing waste composition.
2. Simplified administration of the partnership, with a "fixed price" flat-rate disposal contract replacing the complex, higher-risk approach of the expiring service agreement.
3. Reduced annual tonnage delivery guarantees, with a new contract minimum low enough to be covered solely by the projected tonnage of waste that will be generated within the county (at the time of this writing, the guarantee falls from 950,750 to 650,000 tons).
4. Performance standards that promote faster and higher levels of customer service for waiting collection vehicles, translating to shorter idle times and the various economic and environmental benefits that will yield.

Covanta is free to market the remaining disposal capacity at the plant (nominally thought to be approximately 600,000 tons per year). However, the county retains the right of first refusal for this remaining capacity, provided an agreeable price can be negotiated (i.e., the existing rates do not apply).

The new contract covers a five-year term (2016-2021), and includes two potential five-year renewals, if contract terms continue to be mutually agreeable. The intent to renew by either party requires two years' advance notice, and the key terms such as price, tonnage or capacity guarantee and revenue-terms are entirely negotiable. As a practical matter, then, the county has no guarantees or commitments after 2021. It is germane to note that Covanta has a lease on the property where the plant stands and the right to operate there until 2031.

## **C. ENHANCED METALS RECOVERY AT THE E/RRF**

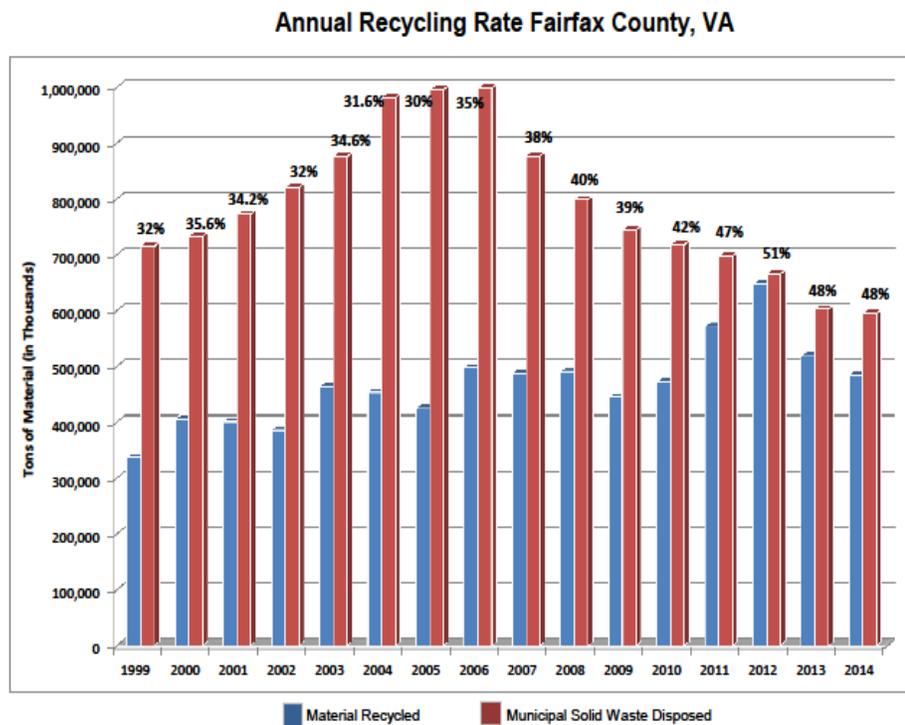
In addition to recovering energy from municipal solid waste, metals are recovered from the ash residue and recycled. In FY 2015, approximately 24,000 tons of ferrous metal and 2,500 tons of non-ferrous metal were recycled from the ash.

Over the past two years, the performance of the non-ferrous materials recovery system has improved significantly, largely due to the addition of a duplicate line of mechanical and magnetic processing equipment that targets small-size non-ferrous items (less than ¼-inch diameter), and the optimizing of ash conditions and handling processes. As a result, the overall recovery rate for non-ferrous metals has approximately doubled since FY 2012.

## D. EDUCATION/OUTREACH ACTIVITIES

Virginia Department of Environmental Quality regulations require municipalities in the commonwealth to recycle a certain minimum percentage of the MSW generated within the jurisdiction (codified at 9 VAC 20-130-10). For Fairfax County, that minimum requirement is 25 percent (by weight). Although approximately 90 percent of the waste and recyclables generated in the county are collected and/or managed by the private sector, it is the SWMP that is held responsible for meeting this 25 percent recycling requirement. Each year, the SWMP must collect and compile recycling data to support the required annual report that is sent to DEQ in Richmond. Fairfax County’s recycling rate for 2014 was 48 percent, unchanged from the previous year. Figure V-1 depicts the historical quantities of recyclables collected in the county since 2000.

**Figure V-1 - Historical Quantities of Materials Recycled in Fairfax County**



The annual recycling rate is calculated by comparing the material recycled to the municipal solid waste generated. The technique for calculating the annual recycling rate is defined in Virginia's administrative code, 9VAC20-130-125B. Fairfax County includes a 2% credit for having a source reduction program, as allowed by 9VAC20-130-125C(4).

It is important to note that the reported “recycling rate” is not a simple, calculated fraction (e.g., weight of recyclables as a percentage of the total weight of waste generated). Instead, the rate is a value calculated from a statutory formula that includes “credits” for various beneficial solid waste management practices, applied to the percentage of waste *collected* as a recyclable. The majority of recyclables collected in Fairfax County are delivered to third-party material processors that sort, purify, and package target recyclables for resale. As a result, some collected recyclables do not ultimately go to market, due to contamination or the absence of a willing buyer. For example, such is currently the case for glass, for which none of the processors used by county collectors are actually recycling this material; it is currently considered a discard at area recycling plants and is shipped elsewhere for disposal. There is no reporting requirement or statutory mechanism available at this time to determine how much of the reported “48 percent” was actually recycled into another useful material.

Public education and outreach are key components of any successful municipal recycling program. To that end, the SWMP has focused on developing outreach and education programs that take advantage of its partnerships with county agencies, Fairfax County Public Schools, community organizations, commercial businesses and privately-owned collection companies. In general, outreach programs consist of activities and displays at county festivals, support and publicity for several events specifically dedicated to recycling, public speaking at community and industry events, and providing technical support and research to decision makers on emerging recycling technologies and issues. Examples of ongoing efforts in this area include:

**“Know Toxics”** - The SWMP works closely with the Northern Virginia Regional Commission on this regional public information program. The purpose of this program is to educate business owners about their regulatory responsibilities for proper disposal or recycling of spent fluorescent lamps, rechargeable batteries and computers and related electronics. The program is centered on its website: [www.KnowToxics.com](http://www.KnowToxics.com) which provides a resource through which businesses can learn how to legally and appropriately manage these materials.

**County “Fairs”** - The SWMP continues to sponsor “Fall for Fairfax” and participate in “Celebrate Fairfax”. These events provide great opportunities to conduct public outreach and disseminate technical guidance and practical information on using the county’s solid waste management system.



The Solid Waste Management Program is a proud financial sponsor of the annual SpringFest Fairfax (Earth Day/Arbor Day) festival produced by Clean Fairfax. SpringFest Fairfax boasts an attendance of over 5,000, and the Department of Public Works and Environmental Services (DPWES) and other county agencies are well-represented and spend the day teaching residents and

children about the important role DPWES plays in keeping the county clean and healthy.

## **E. I-95 LANDFILL GROUNDWATER PROGRAMS**

Opened by the District of Columbia in 1972, the county assumed operational responsibility for the facility in 1982. The facility accepted MSW for landfill disposal through 1995. Since that time, only incinerator ash has been disposed in the landfill.

In response to the presence of regulated constituents found in groundwater leaving the site, the SWMP established a Corrective Action Plan (CAP) which was implemented in 2011. The CAP, reviewed and approved by the DEQ, specified a battery of remediation and additional monitoring activities (covered in detail in previous years of this report). The CAP activity was required to show a reasonable reduction in the concentration of targeted groundwater constituents after one year. Sufficient progress has been shown to warrant continuing the prescribed active remedy, which is an enhanced form of natural bioremediation.<sup>1</sup> Once every three years, a Corrective Action System Evaluation report must be submitted to DEQ, to summarize remedial activity and progress toward attainment of the groundwater quality standards established for the site. The first CASE Report was submitted to DEQ in April, 2014, and demonstrated that the selected remedies have been effective.

At the time of this writing, additional groundwater impacts of a similar nature to those being already addressed have been observed at other groundwater locations beneath the site. For each new impact observed, a Nature and Extent Study is being completed and submitted to DEQ. Following the review of this document by DEQ, the county will submit an Assessment of Corrective Measures. On an interim basis, the county has initiated enhanced bioremediation at the affected areas, to address these groundwater impacts immediately and in advance of formal DEQ approval. To date, the interim measures have been effective at reducing the constituents of concern associated with the new plumes.

It should be noted that while groundwater contamination is a concern wherever it occurs, the typical greatest concern is contamination of drinking water wells. There are no known drinking water wells threatened by groundwater leaving the I-95 landfill site.

## **F. I-95 LANDFILL METHANE CAPTURE AND CONTROL PROGRAMS**

Typical of municipal landfills, the I-95 landfill materials decompose over time and produce off-gases comprised mainly of methane and carbon dioxide. Trace amounts of potentially toxic gases are also produced. Some toxic gases may be produced from the decomposition of personal care products. Landfill gas (LFG), if not collected has a significant greenhouse

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<sup>1</sup> DEQ's June 11, 2015 approval of the county's "2014 Annual Report, Assessment and Corrective Action Monitoring Program", dated February 2015.

gas impact from methane and the potential to impact the surrounding community with other off-gasses.

The I-95 Landfill operates a large LFG collection system, with over 350 installed wells extracting LFG for energy recovery. Approximately 2,300 cubic feet per minute of this gas is distributed to a variety of energy recovery systems, including the six-megawatt Landfill Energy Systems electric generating facility, and the three-mile landfill gas pipeline that provides fuel as a substitute for natural gas at the Noman M. Cole, Jr. Pollution Control Plant. SWMP staff also converted space heating at the landfill maintenance shop to use LFG as the fuel source (the original heating system used bottled propane gas). This conversion has historically saved approximately \$5,000 per year in heating costs, although depressed natural gas prices over the past two years has eroded this estimated value. Economics aside, the project received a national award from the U.S. Environmental Protection Agency for its positive impacts on greenhouse gas (GHG) emissions and climate change.

To minimize GHG and other impacts, it is important for the LFG collection system to minimize leaks and capture as much gas as possible.

During this reporting period, the SWMP continued to face challenges with the aging landfill infrastructure systems that need to be upgraded. The SWMP addressed issues of compliance with Virginia's air pollution, landfill gas control, solid waste management and stormwater management regulations, as well as the Environmental Protection Agency's Greenhouse Gas Reporting Rule. The SWMP annually submits reports to DEQ and/or the EPA, covering LFG control system monitoring and operational data and greenhouse gas monitoring data (LFG contains several potent greenhouse gases), and LFG surface emissions and facility perimeter monitoring data. Approximately 85 percent of the landfill gas produced in the landfill is captured. DEQ and EPA have found this capture rate and all submittals to be acceptable.

## **G. RECYCLING MARKETS AND SYSTEM PERFORMANCE**

### **1. Glass**

As noted earlier in this report, there is currently no regional market for post-consumer glass (the glass recovered by municipal recycling programs), causing glass collected in the county to ultimately be disposed as a processing residue by the region's recyclables processors (i.e., it is not currently being recycled).

Glass constitutes an estimated 20 percent by weight of the recyclables collected by the county's residential programs. While the statutory means of calculating recycle rates allows the inclusion of this non-recycled glass, it is important to understand the impact of the lack of a glass recycling. The county's actual recycle rate is reduced by about 10 percent overall (to 38 percent from 48 percent) due to the lack of glass recycling alone.

The loss of a sustainable local glass market is particularly frustrating as glass is one of a small number of recyclables that retains all of its natural qualities, no matter how many times it is recycled and re-processed. This means that glass recycling offers particularly high savings in terms of natural resource use, as well as savings in energy and emissions.

There are a number of options for addressing glass recycling including:

- Bottle bills.
- Market stimulation.
- County-initiated glass recycling.
- County recycle glass.
- Education.

Bottle bills are in place in California, Connecticut, Hawaii, Iowa, Maine, Massachusetts, Michigan, New York, Oregon and Vermont. These states typically require a deposit on a range of beverage containers that may include glass, aluminum, plastic and bi-metals. Recycling is handled by recycling centers that may include stores.

For reasons that chiefly relate to the limited ability of a single municipality to influence a commodity market, institutional resistance by industry to bottle bills, and the challenge of overcoming technical limitations related to the closest available users, it seems unlikely that the county can directly influence or stimulate the most beneficial end use, which is sale as feedstock to glass manufacturers.

However, a number of other, largely sustainable and highly-feasible alternate reuses for post-consumer glass should be evaluated by the county.

For example, post-consumer glass can be used as a feedstock to make mulch and road salt. Using simple and relatively low-cost equipment, glass can be transformed into sand-like dust, gravel, chips, or mulch-like stone. The finished products are not jagged and will not cut. They can be used in many applications including playgrounds, landscaping, soil stabilization and traction control on roadways. Sandy material can be mixed with road salt to treat icy roads, which in turn would allow the county to purchase less salt and cover more roads.



Credit: Andela Products Co. – glass crushing equipment

A larger 3/8-inch glass product could be used as landscaping material and also has uses in fish tanks and aquariums. Glass mulch lasts longer and, unlike regular mulch, will not fade, break down or become termite-infested. Additionally, the county could explore the use of glass as a substitute for aggregate in a variety of civil engineering applications, including drainage layers in county construction, and as “glassphalt” in road construction.

The county moved to single stream recycling in 2009. This approach resulted in higher recycle rates, principally due to the simplicity provided to the homeowner. However, it also has resulted in an increase of materials that are not recycled (such as glass) and other materials that contaminate the potentially recyclable material. With single-stream collection where glass is collected, the glass results in non-productive contamination of other recyclable products, reducing the overall true recycle rate. This contamination increases the reject material. It may be preferable to discourage single-stream glass collection in addition to providing an education program to help reduce the placing of inappropriate materials in the single stream recycle bin.

## **2. Food Waste Composting**

The Prince William Board of County Supervisors authorized an agreement with Freestate Farms LLC, a local agricultural services and production company, to construct and operate a new facility to process yard waste, food scraps and wood waste at the county's Balls Ford Road composting facility. When fully developed, the Freestate facility will recycle over 80,000 tons per year of organic waste into compost, soil products and non-synthetic fertilizers. Fairfax County already has an agreement with Prince William County through which leaves and grass collected in the county are sent to its existing composting facility for yard waste. With the addition of food waste composting services, it is anticipated that larger generators of food waste in the county (institutional kitchens, large restaurants and grocery stores) will direct food waste to this facility when it comes online (planned for July 2017). As such, a regional facility will be developed by a neighboring community that the county has the opportunity to use. It is the view of SWMP staff that large-scale generators of food waste will be the first to direct some of their waste to this facility. As such, natural market forces will evolve into a situation where food waste from the county will be composted.

## **3. Business Recycling**

Chapter 109.1 of the Fairfax County Code (the county's solid waste management ordinance) requires businesses, schools and institutions to provide for recycling. For cardboard and mixed paper, however, there are no requirements to meet a recycling percentage goal. An outreach plan is being implemented to encourage expansion of recycling requirements beyond those currently mandated. This plan includes:

1. Developing new outreach materials to be distributed to county businesses. These materials are likely to be designed to target specific business types, such as office buildings or eating and drinking establishments.

2. Conduct on-site visits to target businesses to determine current level of participation and provide compliance assistance.
3. Take advantage of opportunities in social media, radio, and television advertisements as outlets for recycling education and outreach.
4. Be an active presence at business association meetings, to reinforce recycling requirements.
5. Continue the already-planned outreach for the county's institutional customers (e.g., libraries, recreation centers, parks).

#### **4. Electronics and Hazardous Waste Recycling**

Electronics and household hazardous wastes can be dropped off daily at the Household Hazardous Waste areas at both the I-66 Transfer Station and the I-95 Landfill. Electronics are processed under a contract with Service Source, a sheltered workshop, and the components recycled, sold or the residue disposed of. HHW is consolidated for shipment to various interim processors for recycling or disposal, as appropriate. Further data on these activities can be found in Chapter VI of this report (Hazardous Materials).

#### **5. Recycling Revenue**

In the past the county's recycling contractors have been a revenue source to the county. For the last two years, this has no longer been the case, with county paying for recycling instead of receiving revenue.

Revenue has been falling due to a lack of market for glass and paper. In addition, the use of single bin recycling has deteriorated the quality of the recycled material. This has been happening to recycling programs all across the county.

## **H. ENFORCEMENT OVERVIEW AND PRIORITIES**

The county's solid waste management ordinance, Chapter 109.1, is enforced by the SWMP. The enforcement unit doing this work consists of four inspectors, including the unit supervisor. The unit's primary functions are as follows, presented in general order of priority:

- Responding to and investigating resident and business complaints (over 500 cases).
- Conducting random compliance inspections of target waste collectors (approx. 300 inspections).
- Prosecuting enforcement actions generated as a result of the previous two items (approx. 50 actions).

- Providing compliance assistance to members of the regulated community, on demand and also as part of a planned program of education and outreach (approx. 100 site visits and training events).

The values shown in parentheses are the estimated level of activity during FY 2014, which was relatively low due to staff turnover and a broad emphasis on recycling outreach.

As part of a broad program of changes intended to promote greater operational efficiency, and to align enforcement priorities with direction from the Board of Supervisors, the priorities and focus for the SWMP enforcement program going forward can be summarized as follows:

- Maintaining detailed, available statistics on compliance and enforcement activities. Until recently, current county enforcement processes did not capture machine-readable data on complaints, compliance investigations or complaint outcomes.
- Expanding the regulated community to include homeowners associations (HOAs) and similar community associations, property management companies that manage waste at apartment complexes and solid waste brokers (a recent phenomenon, where typically out-of-state companies provide a for-fee waste management service on behalf of large commercial properties such as malls, office buildings and large residential apartment complexes).
- Establishing specific capacity and level-of-service requirements for recycling systems at multi-family and non-residential properties, so that adequate service can be provided to residents, employers and other system users.
- With few exceptions, establishing a clear prohibition on collecting refuse and recyclables in the same container, collecting less frequently than weekly, and collecting putrescible materials in an open-top container.
- While education and outreach to all sectors will likely occur, the focus for this activity over the next year will target apartment complexes, construction and demolition debris contractors, office buildings and eating and drinking establishments.

In 2015, EQAC received requests to address an illegal dump in the southern part of the county. EQAC does not involve itself in individual matters of this type. However, due to the public interest, at EQAC's July 2015 meeting, EQAC focused on how the various county agencies coordinate and respond to solid waste enforcement issues. A wide range of public agencies addressed the issue at the meeting, including:

- The County Executive's Office.
- The County Attorney's Office.
- The Department of Code Compliance.
- The Department of Public Works and Environmental Services-Solid Waste.
- The Department of Public Works and Environmental Services—Stormwater.

- The Fire and Rescue Department.
- The Health Department.
- The Sheriff's Office.

At the July meeting, the county staff explained how complaints are handled and enforcement is addressed. Each department explained its role. Typically, one department of the county will take the lead and coordinate with other departments. Where needed, the lead county department will coordinate with out-of-county agencies such as the Virginia Department of Environmental Quality. It was apparent to EQAC from this discussion that enforcement is being addressed but that communication protocols are informal. This can lead to delays in addressing issues that cross over departments. The county has initiated evaluation of coordination procedures to improve the process.

## I. SUPPORTING PROGRAMS AND INSTITUTIONS OF NOTE

### 1. Alice Ferguson Foundation

The nonprofit Alice Ferguson Foundation was established in 1954. While chartered in Maryland, it has implemented programs throughout the Potomac River watershed, with benefits to the main stem of the river, as well as tributaries in Washington, D.C., Maryland, Pennsylvania, West Virginia and Virginia. As stated on its website, the foundation's mission is "to connect people to the natural world, sustainable agricultural practices and cultural heritage in their local watershed through education, stewardship and advocacy."

In April 2015, the foundation held its 27th Annual Potomac River Watershed Cleanup. Reports from 77 cleanups throughout Fairfax County indicate that the cleanups involved 1,643 volunteers removing almost 75,000 pounds of trash from local watersheds. This included 176 tires, 34,700 beverage containers, 10,402 plastic bags and 3,742 cigarette butts. For full cleanup results and information on volunteer opportunities, visit the cleanup Web page at [www.potomaccleanup.org](http://www.potomaccleanup.org).

Other programs implemented by the foundation include the following:

- Trash Free Potomac Watershed Initiative—Celebrating its tenth anniversary, this is a program to reduce trash, increase recycling and provide education regarding trash issues in the watershed. Multiple years of data are available for specific areas. There is a free toolkit available to help supporters change behavior regarding littering and illegal dumping ([www.fergusonfoundation.org/trash-free-potomac-watershed-initiative/](http://www.fergusonfoundation.org/trash-free-potomac-watershed-initiative/)).
- Potomac Watershed Trash Summit—The foundation convenes this meeting annually to provide a venue for key stakeholders to collaborate on strategies to eliminate trash from waterways, communities, streets and public lands. Included in

the meeting are discussions on regional public policy, model best management practices, business actions and public education.

- Enforcement—In February 2015, the foundation received unanimous support from the Police Chiefs of the Metropolitan Washington Council of Governments for its fifth Annual Litter Enforcement Month. This is a campaign to reduce littering and illegal dumping through enforcement of local laws. This effort provided a focus on litter-related crimes and raised awareness of the harmful effects trash has on communities and the environment.
- There are numerous other programs and initiatives that are implemented by the foundation that can be found on the foundation’s website at [www.fergusonfoundation.org](http://www.fergusonfoundation.org).

## **2. Clean Fairfax**

Clean Fairfax Council, now known as Clean Fairfax, is a private, nonprofit (501(c)(3) corporation dedicated to educating residents, students and businesses in Fairfax County about litter prevention and recycling. Clean Fairfax focuses on environmental education provided to students and adults throughout the county. Clean Fairfax continues efforts of updating the educational and interactive programs for students, community service opportunities for students (i.e., support at the council’s office or organizing cleanups), classroom presentations and presentations to homeowner associations, church groups, small businesses and more.

For over 30 years, the Clean Fairfax has been working to make Fairfax County, Virginia clean, green and sustainable. In the last three years, community cleanups have yielded 975 cubic yards of trash. In addition, the organization has presented sustainability workshops to over 50 groups and has visited 39 schools. All of this was accomplished by the equivalent of 1.25 fulltime employees and upwards of 7,000 volunteer hours.

Clean Fairfax serves on the county and statewide litter control and recycling committees. Clean Fairfax produces the county’s official Earth Day and Arbor Day event, called SpringFest Fairfax, with the financial and personnel help of DPWES and the Fairfax County Park Authority. Over 5,000 residents and children spend the day learning about the county agencies and nonprofits that work to keep their county clean and green.

A key effort of the council is the sponsorship of spring and fall cleanups. These cleanups rely on volunteers who desire to clean up a certain area of the county. The council asks volunteers to plan their cleanup by selecting a site, gathering volunteers and setting a date and time. Clean Fairfax supplies all the necessary tools (gloves, trash bags, recycling bags, vests and safety tips as well as assistance in large scale pickups by connecting residents with the county’s trash pickup program) for a successful

cleanup. A follow-up form is available on the Clean Fairfax website to track progress, tally volunteer hours and tally trash pickup tonnage.

In 2014, community cleanup programming yielded 82 neighborhood cleanups, with 2,200 volunteers putting in approximately 2,343 volunteer hours (a value of over \$263,000) and collecting over 355 cubic yards of trash. In addition, Clean Fairfax supports several individuals who provide daily or weekly clean ups in their community, adding an additional 600 volunteer hours and over 10,000 illegally placed signs picked up.

Clean Fairfax also organizes periodic cleanup projects around the Fairfax County Government Center (with Fairfax County employees and area businesses) and supports the Virginia Department of Transportation with its Adopt-a-Highway program.

Clean Fairfax continues to organize and lead the county's official Earth Day/Arbor Day event, now called SpringFest Fairfax, in partnership with the Fairfax County Park Authority and Workhouse Arts. Now in its third year at the Workhouse, over 5,000 children and families attended this all day, Virginia Green certified event which included environmental education and entertainment, local food vendors, urban forestry workshops and open studio artist exhibitions. County agencies such as the Health Department, DPWES and the Park Authority as well as many local and regional environmental nonprofit organizations were key to the success of the event. However, funding continues to be a challenge to this very popular event, as the bulk of the costs are borne by Clean Fairfax and the Park Authority.

This is also the third year of the Clean Fairfax Environmental Passport, which is a SpringFest Fairfax booklet that encourages attendees to visit each table/tent or booth to learn what each organization supports and represents. For every visit, children earn a sticker or a stamp and can show their passports at Clean Fairfax to be presented with an Environmental Good Citizen award (a globe "medal" made of recycled paper and seeds that can be planted in a pot or the family's backyard.) Clean Fairfax also encourages other festivals, events, fairs and carnivals to institute a similar program to better track what is being offered by way of environmental education to Fairfax County's residents.

Clean Fairfax also supports and promotes the Johnnie Forte, Jr. Environmental Education Program, which awards small grants to applicants from the Fairfax County Public Schools to promote sustainable programming, increase recycling, school cafeteria composting and other environmental projects with students from elementary, middle and high schools. Clean Fairfax funded the following projects: a rain barrel creation project to water a school's community and pollinator gardens; establishing heavy duty recycling bins for outdoor playing fields as well as the same in school cafeterias; retrofitting drinking water fountains to fill reusable water bottles; and continuing to support cafeteria composting and saving of uneaten/unopened food, which is then donated to a local food bank. In the past, the program was co-funded by Clean Fairfax and the Department of Public Works and Environmental Services, but this year DPWES was not able to fund the program and without additional resources it may be a program that is put on hold until more funds can be raised.

At the direction of the Fairfax County Police Department, the Report-a-Litterer program has been discontinued. While its reach was not wide, and it is unclear whether the program had any impact on auto-centric litter, it did serve as an outlet for residents who were interested in keeping their neighborhoods and county roads clean, green and healthy.

Clean Fairfax continues to look for new opportunities to assist the county in litter reduction and enforcement and will continue to advocate and encourage participation in the State Police's Cover Your Load campaign, which happens in the early spring.

Other major continuing projects include: outreach on reducing residents' reliance on plastic grocery bags; cigarette butt litter education; promotion of the use of rain barrels; advising and mentoring environmental clubs in the school system; creating opportunities for college students wishing to explore the fascinating and important world of environmental advocacy; encouragement of small scale, backyard composting, grass-cycling, rain and pollinator gardens and other sustainable practices; and encouragement of community gardens and micro farms at schools and churches. This year, Clean Fairfax finished an 18 month process of updating the digital educational materials with four new short videos on Recycling and Trash, Water Quality and Conservation, Alternative Energy and Clean Fairfax.

Clean Fairfax is provided office space by in DPWES, and the executive director works directly with many county staff on litter control and recycling education issues. The executive director also serves on the cross-agency Litter Task Force and the MS4 (Municipal Separate Storm Sewer System) Tactical Team on Public Outreach. The Memorandum of Understanding between the county and Clean Fairfax allows the organization to be deployed to assist on important tasks such as information dissemination in stormwater management, recycling, urban forestry and other crucial county environmental endeavors.

Clean Fairfax reaches thousands of Fairfax County residents, employees and businesses through e-newsletters, Facebook and Twitter as well as an environmental blog at [www.cleanfairfax.org](http://www.cleanfairfax.org). The organization also provides the Fairfax County Visitors Center with thousands of auto litter bags each year plus informational bookmarks and brochures, and this year will provide two Fairfax County Farmers Markets (the Workhouse Farmers Market and the Town of Herndon Farmers Market) with branded reusable grocery and produce bags as part of the #PlasticFreeProduce pilot program.

2015 marks 35 years that Clean Fairfax has been an active partner in Fairfax County's environmental mission. For more information, please visit the website at [www.cleanfairfax.org](http://www.cleanfairfax.org) or the SpringFest Fairfax website at [www.springfestfairfax.org](http://www.springfestfairfax.org).

## J. OTHER FUTURE CONCEPTS AND CHALLENGES

As Fairfax County's population grows and the community becomes generally more urban, the potential to minimize commercial truck traffic within residential communities has become increasingly desirable. Specific to refuse and recyclables collection, it is noted that approximately 30 waste collection companies openly compete to provide service to individual homeowners, community groups such as homeowners associations, apartment buildings and office and business parks. As a practical matter, this means that many companies each send their collection vehicles down the same streets, exacerbating traffic, associated pollution and public safety concerns.

A proven method for easing these congestion issues would be the use of franchise collection, through which the county would establish defined collection districts and the various licensed collectors would compete to serve each district. Only one or two companies would be allowed to service each collection district, dramatically reducing the number of trucks on the road in each neighborhood. Franchising has worked well in many communities, with proven benefits including consistency in cost to customers (everyone pays the same amount for the same level of service), fewer trucks on the road, improved ability to monitor and enforce compliance and associated environmental benefits.

It should be acknowledged that collection franchising has been considered by Fairfax County in the past. Concerns were raised that collection franchising limits competition and favors larger collection companies. However, these concerns can be addressed through careful establishment of franchise zones, and intelligent procurement processes that encourage diversity and provide set-aside opportunities for small and minority-owned businesses. Also, the establishment of franchise collection can allow the integration of additional progressive practices, such as a Pay-As-You-Throw program that would enable customers to pay less if they recycle more.

### **Previous Recommendation by EQAC**

In 2014, EQAC recommended that opportunities to minimize redundant trash truck collection trips in the same neighborhoods be examined for implementation while not increasing cost. In response, county staff noted that a very similar recommendation had been considered by the county during the development of its 20-Year Solid Waste Management Plan in 2004. The concept of franchising raised significant community and industry objections, causing the Board of Supervisors to direct staff away from the concept. Consequently, no further action was recommended due to the negative reactions of residents and businesses, combined with the challenge of implementing certain requirements of Virginia Code as discussed below.

### **Legal Considerations**

Section 15.2 - 930 of the Code of Virginia regulates the process that must be used by a jurisdiction to take control of waste collection activities conducted by the private sector. Key provisions of the process include:

- At least one public hearing must be held, with advance notice to private companies which collect waste in the county.
- Five years' notice must be provided to any companies that will be displaced by a franchising arrangement, or the governing body can accelerate the process by paying affected collectors an amount equal to their preceding twelve months' gross receipts for services in the franchise territory.

## K. COMMENTS

1. The new Covanta contract price is only good for five years. For this reason, it is important that the county continue to increase its recycling programs and continue to pursue other options such as food waste recycling and alternative glass recycling.
2. Improved metals recovery from Covanta ash is beneficial by increasing recycling and lowering the ash that consumes landfill space.
3. The county's education programs help support environmental stewardship
4. Portions of the I-95 landfill predate modern landfill environmental protection requirements. As a result the potential for groundwater contamination requires careful attention and remediation actions. The county has been exemplary in doing what is needed. This program should continue to be a priority for environmental protection.
5. The landfill gas recovery program assists in reducing methane release, an important action to ameliorate greenhouse gas emissions. However, the county faces challenges as the recovery infrastructure ages.
6. The county's solid waste recycling program is operating at a loss. This is a concern. Historically, recycling has returned revenue to the county. With recycling becoming a revenue burden, funds will have to be justified in the county budget process. Support for recycling is likely to be enhanced if the program can be returned to a source of revenue.

## L. RECOMMENDATIONS

1. **Increase Recycling** - Additional means of increasing recycling should be investigated and implemented. In particular:
  - a. Recycling requirements for commercial properties should be enforced and additional specific numeric recycling goals requirements should be considered.
  - b. Move forward with a food waste recycling program.

2. **Minimize Redundant Trash Truck Traffic** – In 2004, the Board of Supervisors rejected the franchising approach to reducing trash truck traffic. However, it remains a safety and environmental issue that needs to be addressed. EQAC recommends that opportunities to minimize redundant trash truck collection trips in the same neighborhoods be examined for implementation while not increasing cost.
  
3. **Make Recycling More Cost Effective** - The county has moved to single stream recycling through which all recyclable material is collected in a single bin. This has reduced the quality and value of collected recyclable materials. Changes to the recycling market have also reduced revenue and actual materials recycled. These are long term problems that will get worse if not addressed. It will take careful study, time and potentially changes in regulation and law to resolve. EQAC recommends the initial step of collecting data on the cost of recycling specific materials. With these data in hand, evaluate if changes should be made to what is recycled. Finally, consider alternatives to single-stream recycling. To implement these steps, consider also the following:
  - a. Develop estimates of the actual quantity, quality and cost of recycling specific materials. Estimate the true recycling rate and determine what materials should be recycled due to either being cost-effective, or because recycling of that material provides an important environmental benefit for a reasonable cost.
  - b. Revise the list of materials that are recycled from homes to remove glass and other materials that degrade the cost effectiveness of recycling. Conduct a public information campaign to inform residents on how best to recycle.
  - c. Support a statewide container redemption fee to reduce litter and increase the recovery of containers in a form that can be recycled.
  - d. Investigate the potential for increased county participation in recycling of materials. In particular, programs for glass recycling should be initiated.
  - e. Consider alternatives to single-stream recycling that preserve the quality of recycled materials and increase the true quantity of recycling.
  
4. **Solid Waste Enforcement Coordination for Illegal Dump Sites** – The county has initiated evaluation of coordination procedures to improve the process. EQAC supports this effort and recommends that written inter-departmental coordination enforcement procedures be developed.

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