

# FISCAL YEAR 2017



## RAPPAHANNOCK REGIONAL SOLID WASTE MANAGEMENT BOARD ANNUAL FINANCIAL & OPERATIONAL REPORT





## Rappahannock Regional Solid Waste Management Board

489 Eskimo Hill Road • Stafford, Virginia 22554 • 540-658-5279 • FAX 540-658-4523

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## **Rappahannock Regional Solid Waste Management Board**

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### **R-Board Members**

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Chairman  
Fredericksburg City Council, At-Large  
715 Princess Anne Street  
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540-455-7122

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Stafford County Supervisor  
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### **Mission and Vision**

#### **R-Board Mission**

The mission of the Rappahannock Regional Solid Waste Management Board (R-Board) is to provide professional, courteous, and intelligent service and solutions to the waste disposal needs of citizens residing in Stafford County and the City of Fredericksburg.

#### **R-Board Vision**

The R-Board's vision is to operate the best landfill in Virginia. Being the best landfill includes environmentally sound solid waste management policies and having an active Reduce, Reuse, and Recycling program, all coupled with outstanding customer service. The R-Board intends to continually strive to be a leader in the waste management industry and to set the example for others to emulate.



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### **Virginia Environmental Excellence Program**

The R-Board Regional Landfill remains an E3 certified facility within the Virginia Environmental Excellence Program administered by the VA Department of Environmental Quality. In order to be qualified as an exemplary environmental enterprise, a facility must have a good compliance history, a fully implemented environmental management system, and demonstrated performance.





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### Operational Overview



With the adoption of flow control ordinances by both the City and County, the landfill has seen a large increase in traffic across the scales and on to the working face. Our staff has adjusted procedures to keep customers moving quickly to the unloading point and back out of the landfill.



We completed the closure of cells B, C, and D in November of 2016. This is the first closure work initiated in over 10 years, and brings our closure responsibilities current. The closure activity will be reflected in lower closure obligations on future audits.

*Pictured to the left is the closure work while underway.*



Construction of the cell tower was completed in January 2017. The lease with Milestone Communications provides better cell phone service for our staff and customers, area residents, and commuters on the VRE, as well as additional revenue for the R-Board.



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Staff began using an alternative daily cover to reduce the quantity of soil used as daily cover. It is expected that this will extend the life of the landfill, convert uncompensated airspace into tipping fee revenue, and reduce staff time and wear and tear on our heavy equipment. Staff will assess the performance after a 6 month trial period.

*Landfill Heavy Equipment Operator, Doug Martinski, is shown in this picture applying the Posi-Shell onto the working face.*



In May of 2017, we entered into a 6 month lease for the alternative cover equipment. The machine is not only capable of applying an alternate daily cover at the working face, but is also used for hydroseeding and lining ditches to help manage storm water runoff.

*Pictured at left, is the leased Posi-Shell Machine. All operators have been trained to operate it.*



The Regional Landfill invested in a new camera system this year. It not only increases security and safety around the landfill, the camera also helps identify commercial trucks pulling onto the scales.

*Pictured at left, is a shot from the scale house camera looking towards the shop and recycling building.*



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The R-Board frequently supplies County departments with clean-up boxes. The departments are charged the appropriate tipping fee when the box is picked up, but there is no cost for hauling to or from the site.

*Pictured to the left is a clean-up box at the County's Administration Center.*



The Belman Road Convenience Center is routinely manned by Justin Clark on the left, and Richard Williams.

*Pictured at left are Justin and Rich under the carport that was purchased this year. The awning provides shade to our employees on hot days and protects them from the rain.*



We modified and standardized the appearance of our remote recycling boxes and the recycling boxes at the Regional Landfill this year. Bright blue draws attention and standardized graphics assist our customers in identifying the proper location to place recyclables. We also added one more recycling station at the landfill, bringing our total to four.

*Pictured at left, is a remote recycling box.*



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The recycling signage at the Regional Landfill and Belman Road matches that on the remote drop-offs. The new graphics make it easier to identify what is recyclable and what is not.

*The recycling center at the landfill is shown at left.*



Our Litter Crew picked up more than 289 tons of litter and debris off of roads in Stafford County and the City of Fredericksburg. They also help with other events including homeless camp clean-ups, Dare Day, and Earth Day, just to name a few.

*Pictured are Cory Brown, Ernesto Rubio, and Joseph Valotta loading bags from a homeless camp clean-up.*



The R-Board purchased a D-6 Caterpillar bulldozer specially manufactured for use at landfills. The operator pushes trash to the compactor, allowing the compactor to be more efficient. This is one of the measures implemented to keep up with increased quantities of MSW.

*Pictured to the left, Mike Cross, Heavy Equipment Operator, pushes trash in the D-6 Dozer.*



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Staff is closely monitoring filling progress as MSW rates have accelerated recently. In addition to an increase in tonnage by about 50% from previous years, we determined that earlier aging calculations omitted the loss of airspace for daily cover, roads, and other operational requirements. This resulted in an estimated loss of 15% of the permitted airspace. It is evident that construction of Cell F3 must be advanced for operation around the middle of 2020.

In the background of this photo is the completed closure work on Cells B, C, and D finished this year.

*At left is a picture from the July 10 flyover used to calculate filling rates and remaining capacity.*



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### **Regulatory Overview**

The R-Board maintains a number of permits with the VADEQ and federal regulatory agencies. It remains in good standing with each of these permits.

### **Solid Waste**

Staff initiated a modification to the existing permit to allow an increase in daily tonnage due to flow control. We are also working with the VADEQ to change the facility boundary to include the VDOT parcel that was purchased last year, and adjust the operating hours in the permit to match current practice.

The presumptive remedy for the minor groundwater contamination remains pending with the VADEQ. Regular sampling of the groundwater indicates that the concentrations of the chemical of concern are decreasing and the corrective action issues will be resolved in September 2017.

### **Title V Air Emissions**

There were no amendments or other changes to the air permits this year. The facility remains in compliance with its state and federal permits.

### **Stormwater**

Sampling is required twice each year. Field measurements indicate that the naturally occurring runoff is quite acidic. Staff is working on implementing some best management practices to neutralize the water before it flows in to streams and off of R-Board property.

Landfills are subject to several additional state and federal regulations due to the nature of the business. This past year, staff reconsidered the fuel storage for the heavy equipment at the facility. As the landfill build-out moves further away from the existing shop, it does not make sense to walk large, tracked vehicles on the access road, creating additional maintenance, to a 10,000 gallon diesel tank near the front of the property. Smaller tanks in the active portion of the landfill save time, and are subject to less stringent regulation.



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### **Employee Achievements and Accolades**

The R-Board encourages employees to seek out certifications and education to improve their skills and knowledge. It also encourages customer service that goes above and beyond towards the residents who visit the convenience centers.

The follow employees have achieved the following certifications or attended the following classes:

- Rick Markwardt – SWANA Certification/Class - Manager of Landfill Operations; Webinars and Technical Sessions – SCS Engineering Landfill & Solid Waste Management Seminar; Battery Take-Back: A Sustainable Solution; Joyce Engineering Continuing Professional Education/Training.
- Julie Williams-Daves – OSHA 10-Hour Construction Safety and Health Certification; SCS Engineering Annual Landfill & Solid Waste Management Seminar; Old Dominion Chapter of SWANA Safety Matters Workshop; Renewed SWANA Manager of Landfill Operations Certification.
- Reece Banks – Joyce Engineering Continuing Professional Education/Training; Renewed Waste Management Facility Operators License from DPOR.
- Floyd Bloxton – Multiple ASE certifications renewed and received related to repair and maintenance of heavy equipment, heavy trucks, and automotive systems.
- Doug Martinski – Waste Management Facility Operators License from DPOR.
- Cody Dickerson, LaShaun Tucker, and Richard Williams – North American Retail Dealers Association CFC certification.
- Chad Perry – ASE Refrigerant Recovery & Recycling review and quiz
- Steve Pekary – Waste Management Facility Operators License from DPOR.
- Diane Jones – “Know Your Toxics” – Department of Environmental Quality and Northern Virginia Regional Commission; “e-Cycle” Workshop – Department of Environmental Quality and the Environmental Protection Agency.
- Lisa Butler, Joseph Valotta, and Cory Brown – County Parks, Recreation and Community Facilities Safety Meetings: Poisonous Plants, Chainsaw & Handheld Power Equipment (Stihl Corp.), Landfill Information Cell Cap/Pre-Inspections, Taking Safety Home, Snow Removal (VDOT), Active Shooter, Gas Leaks, Air Quality – Respirators, and Crowd Management



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The following employees were promoted:

- Thad Beach to Heavy Equipment Operator II
- Richard Williams to Landfill Maintenance Worker II
- Susan Carpenter to Scale Technician
- Amanda Pitts to Scale Technician
- Rick Markwardt to Landfill Superintendent
- Julie Williams-Daves to Assistant Landfill Superintendent

The R-Board would like to recognize the following employees for significance milestones in FY2017 for their years of service:

- Susan Carpenter – 3 years
- Jerry Fleming – 10 years
- Dennis Kenworthy – 10 years
- Steve Pekary – 5 years
- Mark Ward – 10 years

The R-Board would also like to recognize and welcome new employees hired in FY2017:

- Cory Brown
- Justin Clark
- Cody Dickerson
- Cameron Morrow
- Amanda Pitts
- Ernesto Rubio
- Pamela Timmons
- Joseph Valotta



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Expectations for employees include a high level of customer service and actions that reflect well on the R-Board. The following employees are recognized for their positive impact to residents and our community.



Richard Williams was in the January 6, 2017 Stafford County publication, *Around the Watercooler*. Mr. Williams took the time and effort to dress up as Father Time for the New Year at the Belman Convenience Center to entertain our customers. This was not the first time Mr. Williams has made the effort to spice up the visit to Belman.

Reece Banks and Dennis Kenworthy were in the June 2, 2017 issue of *Around the Watercooler* following their extraordinary efforts to assist a resident at the spring household hazardous waste collection day. A resident brought two 250-gallon drums of heating oil which were unable to be emptied with the equipment on site from MXI environmental. As a result, Mr. Kenworthy brought over additional supplies from the landfill and Mr. Banks stayed to work with the resident to empty the drums.



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### Residential Usage Fee

Residential fee sales continued strong in FY2017, with customers exercising the many options to acquire passes. Revenues dipped slightly from FY2016, the first full year of resident fees. Staff believes this is due to some residents switching to curbside trash collection when the option of free disposal was eliminated. The total revenue of \$588,265 collected is slightly less than 2% below the budgeted revenue of \$600,000 for FY2017.

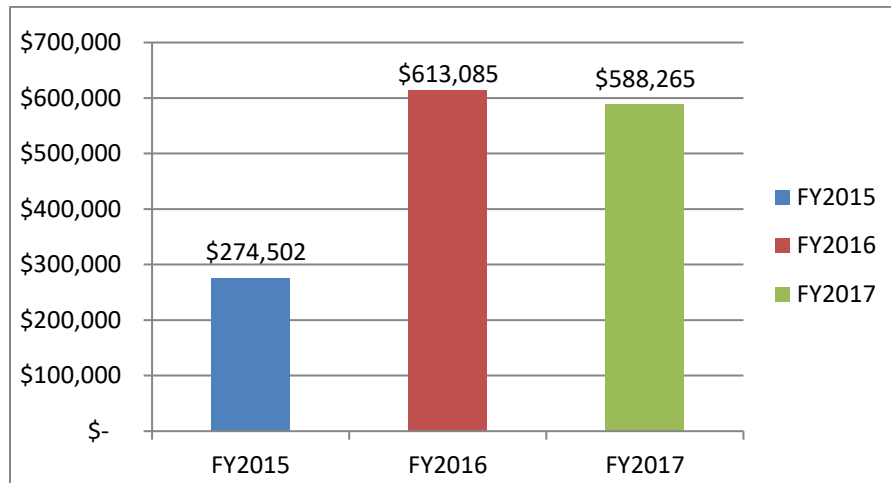


Figure 1.1

Sales during the fiscal year accelerate in November when annual passes go on sale. Sales then start to decline in February as the demand for annual passes wanes. In FY2017, 58% of sales occurred from November-February, consistent with FY2016.

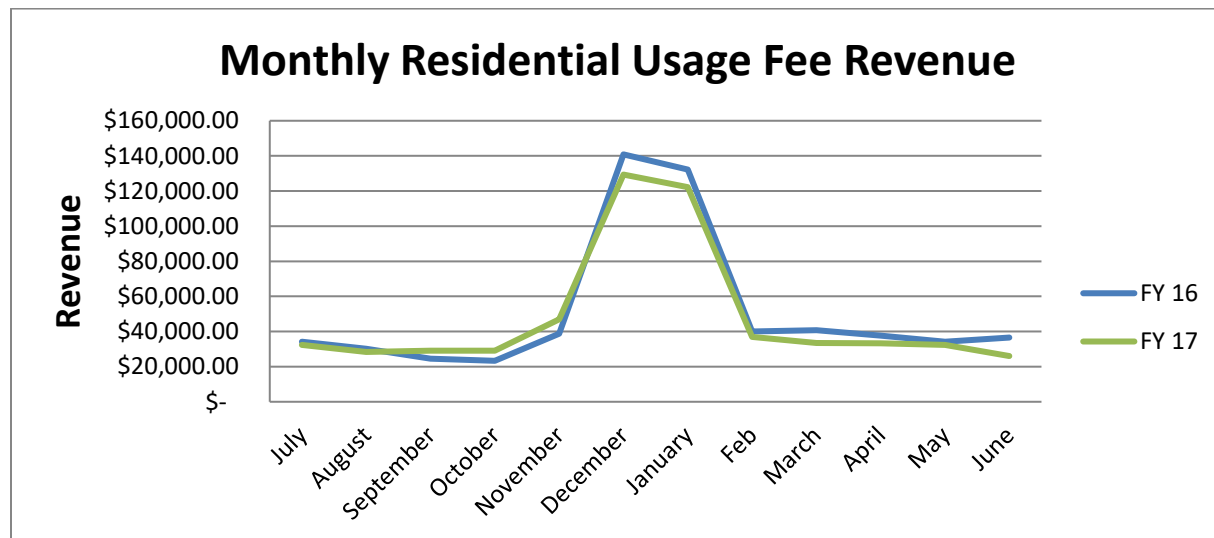


Figure 1.2



## Rappahannock Regional Solid Waste Management Board

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### Peak Sales FY2016

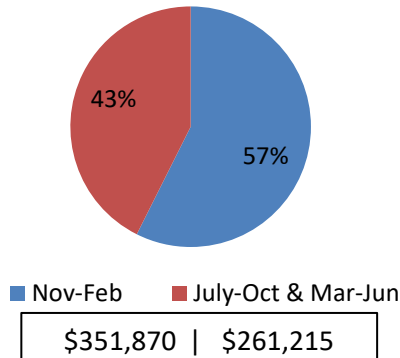


Figure 2.1

### Peak Sales FY2017

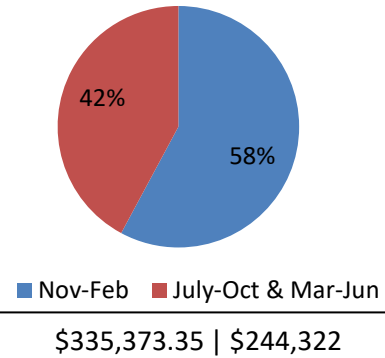


Figure 2.2

The R-Board offers residents four different locations for coupons and annual pass purchases: Regional Landfill, R-Board Administrative Office, Stafford County Treasurer's Office and Fredericksburg Treasurer's Office. One time use passes are only available at the Regional Landfill and the R-Board Administrative Office. Residential usage fee revenue from FY2017 shows that the Landfill sales location accounted for 95% of sales. The R-Board office handled in-person sales along with online sales and accounts for 2% of the revenue. The Fredericksburg Treasurer's office handled 2% of sales, with the Stafford County Treasurer's Office processing 1% of sales. This is shown in the below graph.

### FY2017 Revenue Distribution

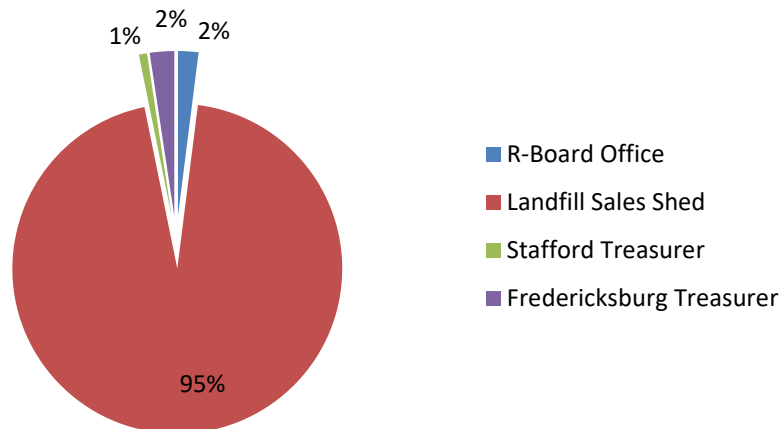


Figure 3.1



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### Flow Control

Passage of the flow control ordinances continues to have a significant effect on the tonnage of solid waste delivered by commercial waste services, and precipitating the permit amendment noted earlier. We added a sixth company delivering curbside and commercial collections to the landfill, Shifflet's Trash Service, although to date they are the smallest of our customers.

The second half of FY2017 saw a 13% increase in deliveries from these companies, helping us to an even stronger financial performance than expected.

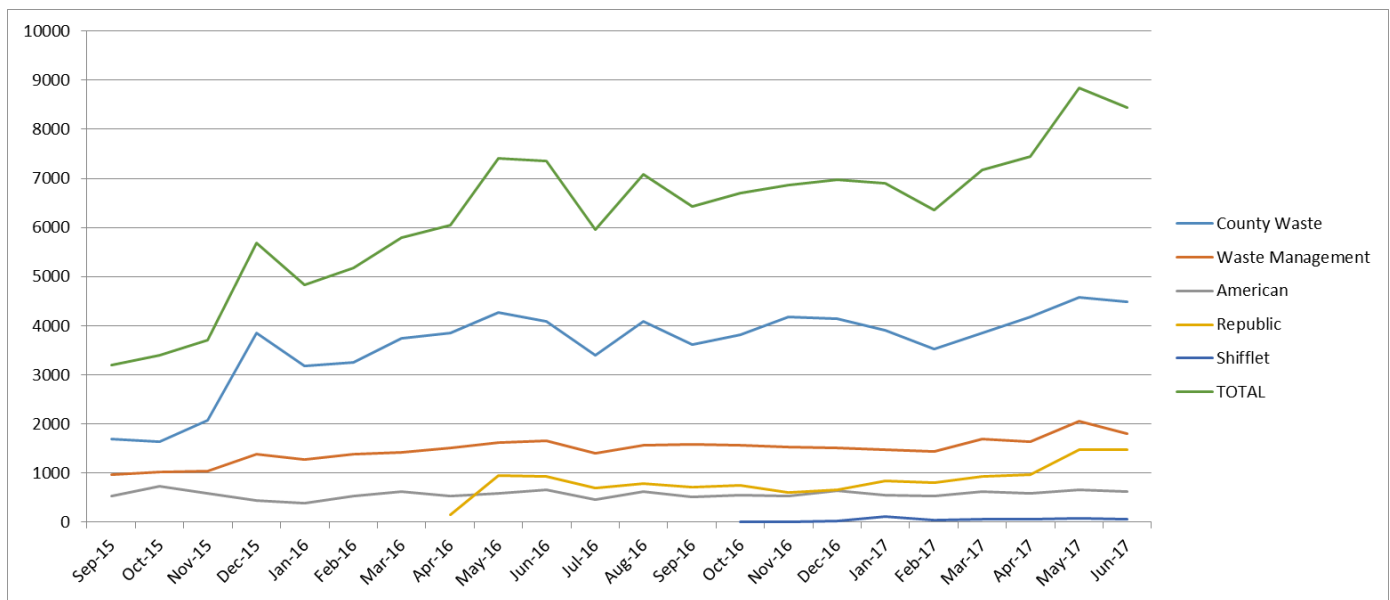


Figure 4.1

### Construction and Demolition Revenue Performance

Although not restricted by the flow control ordinances, C&D materials have provided a substantial and steadily increasing source of revenue. The data below shows a continuous increase in revenue from C&D materials.

Fiscal Year	Tons	Revenue
FY2013	19,923	\$804,971
FY2014	23,487	\$946,665
FY2015	26,325	\$1,088,077
FY2016	48,920	\$1,995,055
FY2017	53,204	\$2,181,364

Table 1.1



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### Financial Summary (Unaudited)

The fiscal year ended without the use of over \$900,000 budgeted from the reserve fund. Furthermore, our strong revenue performance resulted in an additional \$500,000 over the adopted budget.

	Adopted FY17	Actuals	Under/Over
<b>Commercial</b>	\$4,100,000	\$5,334,668	30.11%
<b>Resident User Fees</b>	\$600,000	\$588,265	-1.96%
<b>Recycling</b>	\$120,000	\$201,842	68.20%
<b>Sludge/Utilities</b>	\$200,000	\$307,392	53.70%
<b>Municipal</b>	\$210,000	\$213,678	1.75%
<b>Sale of Landfill Gas</b>	\$45,000	\$44,948	-0.12%
<b>Interdepartmental</b>	\$5,000	\$0	-100.00%
<b>Miscellaneous</b>	\$0	\$2,765	100.00%
<b>Milestone Lease</b>	\$40,000	\$40,000	0.00%
<b>Grants</b>	\$26,000	\$26,347	1.33%
<b>Interest</b>	\$15,000	\$10,710	-28.60%
<b>Reserve Fund</b>	\$930,139	\$0	-100.00%
<b>TOTAL</b>	<b>\$6,291,139</b>	<b>\$6,770,615</b>	<b>7.62%</b>

Table 2.1



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### Weight and Material Summary

CATEGORY	FY2017 Weight (in Tons)	FY2016 Weight (in Tons)	% Difference
<b>Billable</b>			
Commercial Waste	45738	36559	25%
Residential Waste	46177	26689	73%
Fredericksburg	8743	8848	-1%
Eskimo Hill	18843	21909	-14%
Belman Road	1880	1994	-6%
Mixed Load	194	74	162%
Debris Waste	53204	48920	9%
Dirt	244	2189	-89%
Tires Commercial	243	238	2%
Sludge	11384	10001	14%
<b>BILLABLE TONNAGE TOTAL</b>	<b>186650</b>	<b>157421</b>	<b>19%</b>
<b>Non-Billable</b>			
Litter/Cleanups	227	293	-23%
<b>Recycling</b>	<b>5664</b>	<b>5922</b>	<b>-4%</b>
<b>TOTAL TONNAGE</b>	<b>192541</b>	<b>163636</b>	<b>18%</b>

Table 3.1



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### Portfolio Composition

Security Type	30-Jun-17	% of Portfolio
U.S. Treasuries	\$1,605,727	22.80%
Federal Agencies	\$2,430,781	34.40%
Commercial Paper	\$448,521	6.40%
Corporate Notes / Bonds	\$1,080,804	15.30%
Certificates of Deposit	\$1,200,566	17.00%
Money Market Fund	\$169,040	2.40%
<b>Municipal</b>	<b>\$118,948</b>	<b>1.70%</b>
<b>TOTAL</b>	<b>\$7,054,387</b>	<b>100.00%</b>

Table 4.1

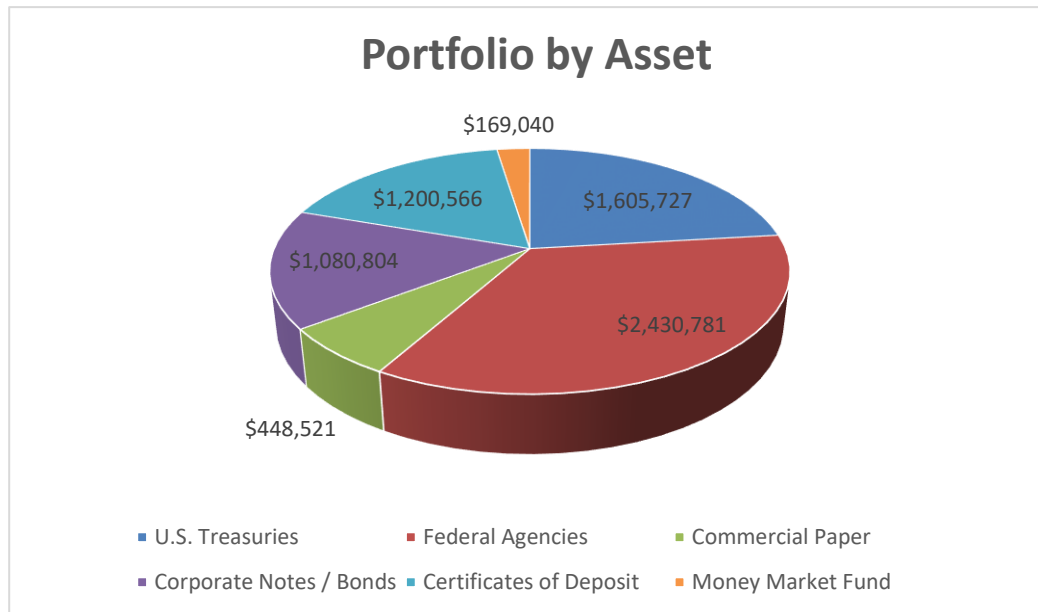


Figure 5.1

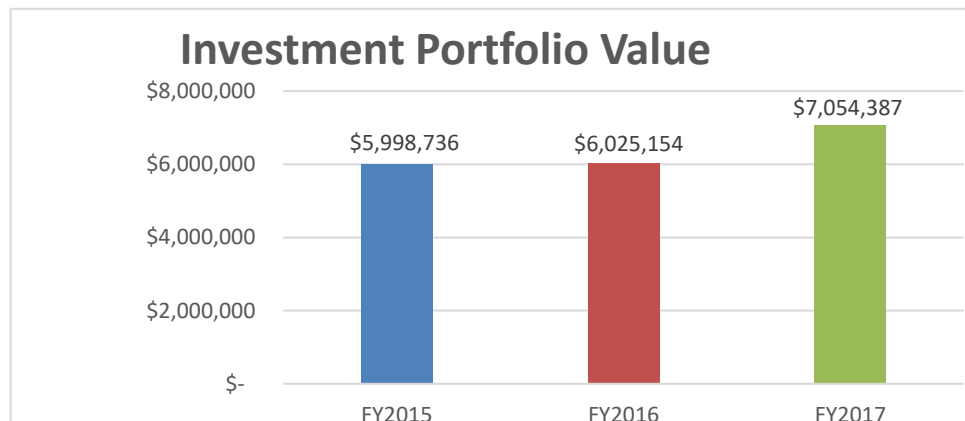


Figure 5.2



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### Recycling and Diversion

The Virginia Department of Environmental Quality approved the R-Board's recycling rate for CY2016 at 41.1%. The approval letter can be found in the Appendix. With this year's approved rate, the R-Board continues to stay well above the state minimum requirement of 25%. It is believed that this year's drop in the approved rate is due, in part, to the flow control ordinance. The R-Board receives virtually all of the solid waste generated in the two localities, while the recyclable materials are separated and sold by the collecting firm. The recycling totals contained in the reported rate calculation are a combined effort with cooperation from residents, commercial haulers and retail businesses in the City and County.

Recycling remains voluntary and the R-Board provides residents with several locations for dropping off recyclables. The following locations accept single stream recyclables:

#### Fredericksburg

Belman Road Recycling Center  
1200 Belman Rd.

Hugh Mercer Elementary School  
2100 Cowan Blvd.

Walker Grant Middle School  
1 Learning Ln.

#### Stafford

Regional Landfill  
489 Eskimo Hill Rd.

Rowser Building  
1739 Jefferson Davis Hwy.

Gayle Middle School  
100 Panther Dr.

In addition to providing these locations, the R-Board redesigned the recycling containers to include an attached bin for plastic bag collection, helping to prevent contamination of the recycling product.





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### **Goodwill**

The R-Board continues our partnership with the Rappahannock Goodwill Industries (RGI) to divert materials from being landfilled. The cooperation between the two is exemplified through the residential drop off site at Regional Landfill and the Electronic Waste (E-Waste) Collection that accompanies the Household Hazardous Waste Collection days.

RGI offers a manned donation station with receipts provided for residents who take advantage of this program. A total of 234,880 pounds of reusable items were collected in FY17.

The E-Waste Collection coincides with both the spring and fall Household Hazardous Waste Collection days. Through this effort we provide residents as many opportunities as possible for recycling and reusing. We collected 8,351 pounds of E-Waste in FY2017. The collection for spring 2017 was the largest yet with 6,851 pounds, whereas the spring 2016 event collected 3,360 pounds.



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### Household Hazardous Waste Collection



The R-Board voluntarily collects residential hazardous waste materials such as: fluorescent bulbs, motor oil, antifreeze, and auto batteries. This collection diverts materials from the landfill and increases recycling. Hazardous waste collection is not required by our permit, but is done as a part of our environmental stewardship.

While the materials mentioned above are collected daily, there are other hazardous materials that are limited to collection only during Household Hazardous Waste (HHW) collection days held twice a year. These two collection days are free for residents of the County and City. HHW days have been accompanied by an E-Waste Collection supported by RGI for the last few years. Growth in the program has resulted in change of location for this event. The spring 2017 change to Stafford Middle School from the spring 2016 location of the Government Center was well received by our customers, vendor, and staff.



A recycling container was placed adjacent to the waste container at the Spring HHW event and collected 320 pounds of cardboard out of total of 1160 lbs. of non-hazardous residual waste. Use of the recycling container diverted 27.6% of non-hazardous residual waste to recycling.

R-Board Household Hazardous Waste Collection Totals To-Date (FY2001-FY2017)					
Participants	Oil/Antifreeze (gal.)	Other Liquids (gal.)	Fluorescent Bulbs (linear ft.)	Car Batteries	Total Cost
9,443	466,163	202,784	238,452	25,839	\$736,111

Table 5.1



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Our residents bring us a wide variety household hazardous waste held in storage in their garage, basements, etc. waiting for the next HHW Day. We frequently receive strong cleaners, antifreeze, gasoline, and paint. Our staff assists in offloading the materials and preparing it for proper disposal in a permitted hazardous material landfill by our contractor, MXI Environmental.

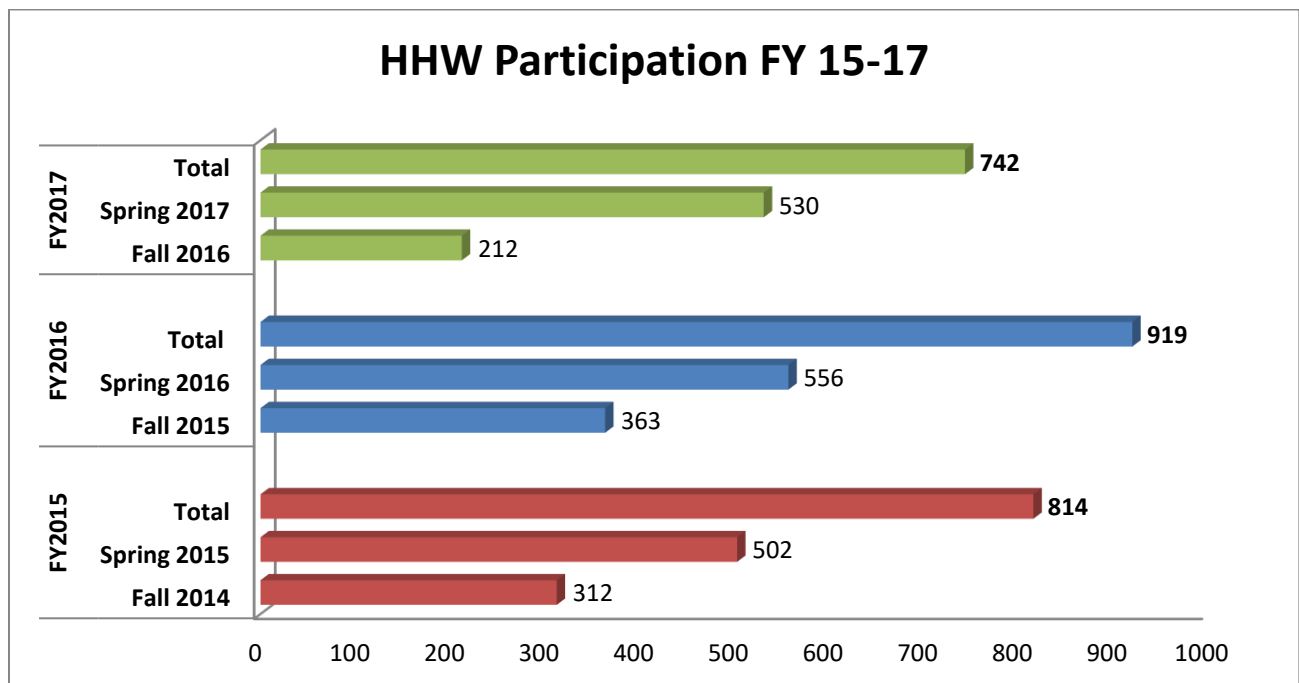


Figure 6.1



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### **Litter Control**

#### **Goals**

- Coordinate cleanup efforts from a variety of organizations
- Maximize resources available
- Maintain appearance of high traffic areas
- Provide timely response to citizen concern throughout Stafford County and the City of Fredericksburg

#### **Programs**

- Rappahannock Regional Jail (RRJ) Inmate Roadside Litter
- Rappahannock Region Jail (RRJ) Adult Probationer Program
- Rappahannock Area Office on Youth
- One Time Special Cleanup
- Volunteer Cleanup
- Illegal Sign Removal

R-Board staff monitors over 1,400 miles of roadways for the City of Fredericksburg and Stafford County and collects litter by using both paid Litter Crew and non-paid labor. In FY2017 we removed 446,280 pounds of litter from our roadsides.

### **Adult Probationer Program**

The R-Board collaborates with the Rappahannock Regional Jail (RRJ) to utilize the adult probationer community service requirement for roadside litter clean up. The court assigns probationers with a certain amount of hours to be completed by a set date. Through this cooperation there have been:

- 79 total adult probationers to date
- 1,915 non-paid hours
- 106,525 pounds of litter removed from roadsides.

### **Litter Grant**

The R-Board applies for the Department of Environmental Quality Non-Competitive Litter Grant each year. . Once grant funds are received, the R-Board manages grant activities for Stafford County and the City of Fredericksburg. The grant funds are primarily used to cover the cost of operational supplies for litter cleanup, along with environmental education and outreach programs. A portion of funds is designated for the Fredericksburg City Clean and Green Commission.



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R-Board staff maximizes the use of non-paid assistance through the use of volunteers, RRJ inmates, adult probationers, and persons assigned by the Office on Youth. R-Board staff continues to be the primary litter clean-up entity while the RRJ inmates are secondary.

Graphs highlighting our litter efforts are provided below.

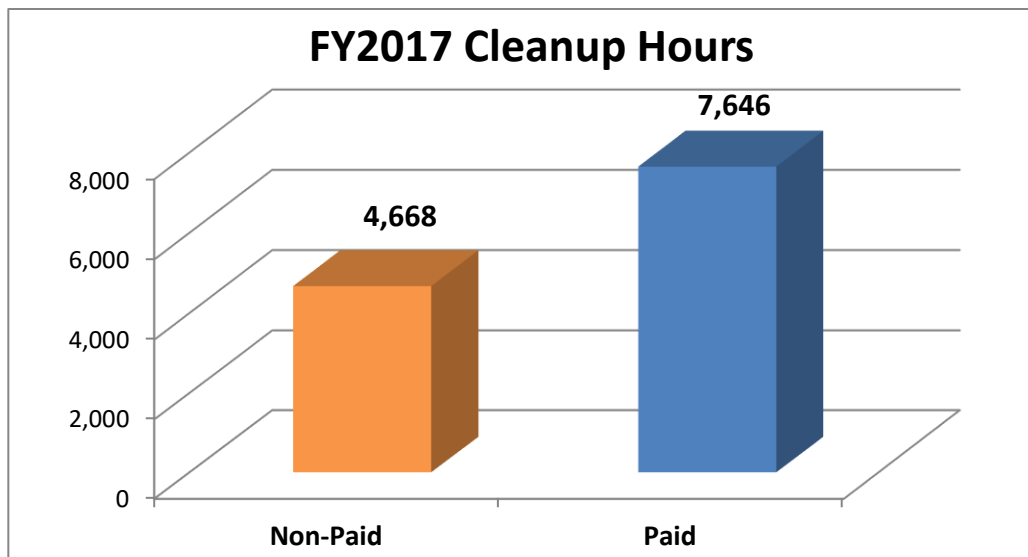


Figure 7.1

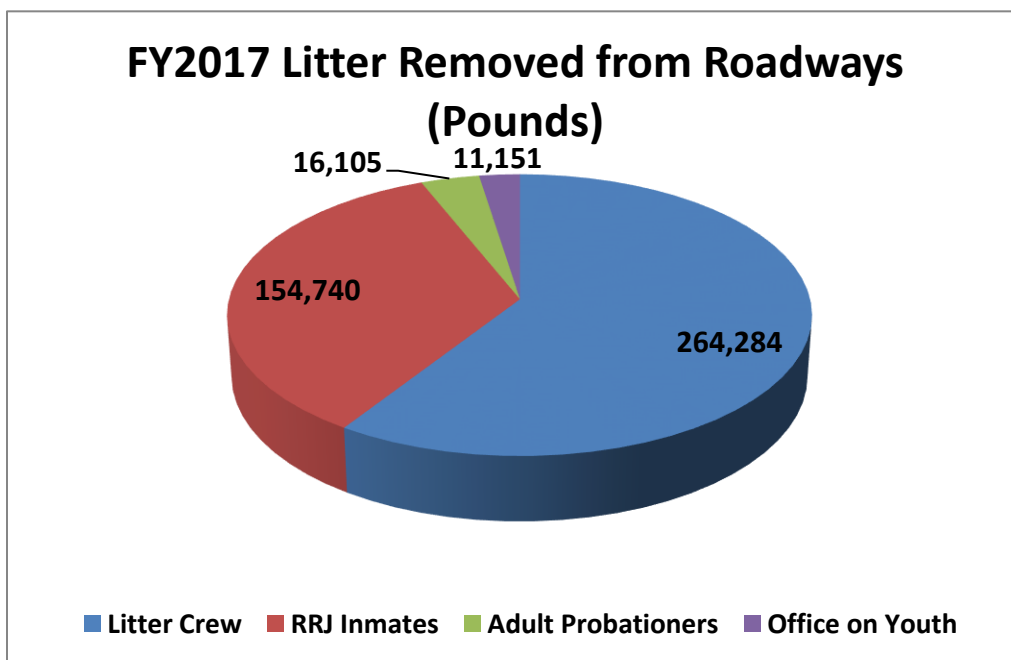


Figure 7.2



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### **Outreach and Education**

The R-Board is proud of our community outreach and education programs. These programs are provided for both the City of Fredericksburg and Stafford County; additionally they are provided for all age groups from young children to adult. Programs that were offered this year were: landfill tours, Worms Eat My Waste, education trailer presentations, and Michael Recycle read-along and activity.

Landfill tours are available for all age groups and can be modified to meet the needs of those attending. The tour goes around the landfill while a staff member educates the group on recycling, landfill operations, and pollution prevention. The tours are also accompanied by an ice cream and candy recreation of the landfill, complete with edible “liners” and “methane flares”.



Worms Eat My Waste is a program directed towards school aged children. This program encompasses the decomposition aspect of the third grade SOL curriculum, however all ages can both learn and enjoy this experience. Attendees of this program learn about composting and recycling organic material.



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Education trailer presentations are one of the most diverse and accessible programs that the R-Board offers. The education trailer is available for both manned and unmanned events, allowing for the R-Board to increase its audience. This year the total number of people reached by trailer presentations increased to 4,770. This increase is primarily due to setting the trailer up at more large regional events.



The Michael Recycle program is directed towards younger children. Those who attend this program are read a book about a recycling superhero who saves a city "...where garbage was left to grow rotten and slimy". The book's message for children is that recycling is important. Additionally, an arts and crafts component allows children to identify recyclable items.



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### R-Board Website Activity

The website provides up to date information on R-Board meetings, holiday closures or hours, policies and procedures, and special events like HHW. Our website also includes regular content provided to help residents with landfill usage or concerns. Coupon books and annual passes can also be purchased from the website. The following graphs illustrate the overall website usage, the top five visited pages, and the total number of website hits per year.

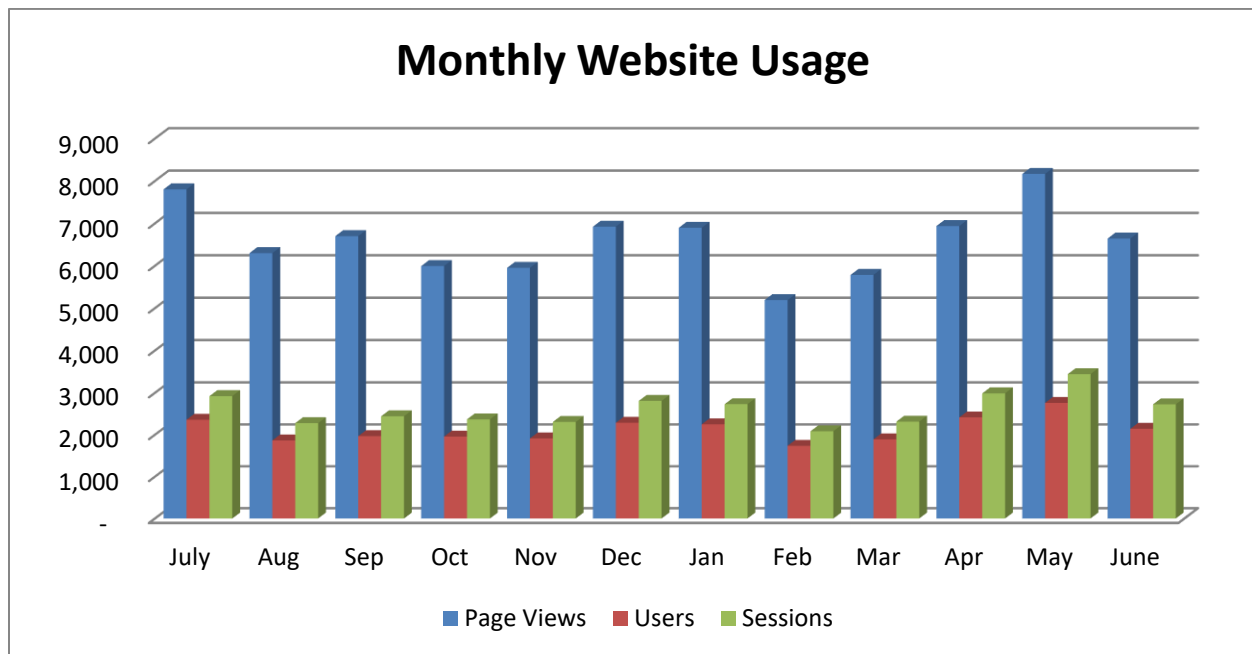


Figure 8.1

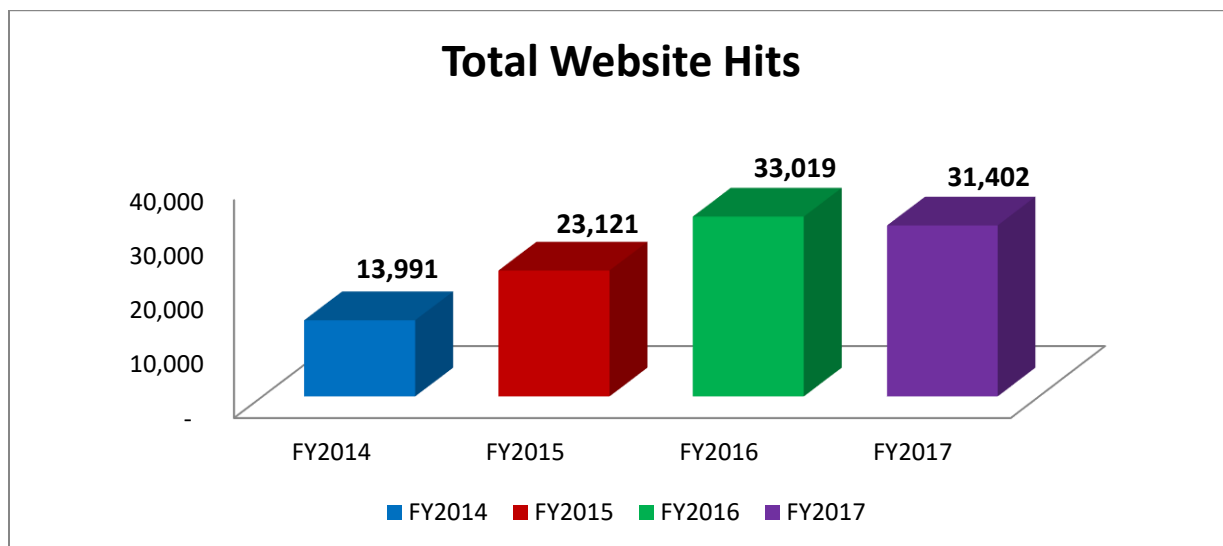


Figure 8.2



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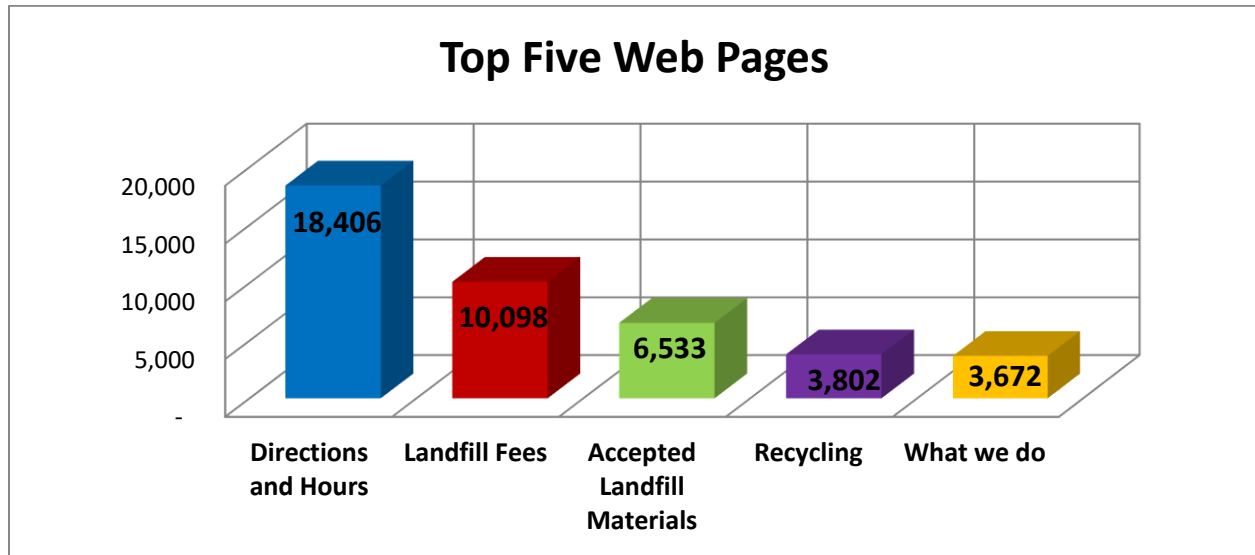


Figure 8.3

The top five web pages were consistent this fiscal year. The Contact Us page received enough hits in January to break into fifth place; however, this is considered an anomaly as the top five pages, excluding the home page, never changed in any other months. The homepage was not considered for this graph.



## Appendix

### Rappahannock Regional Solid Waste Management Board

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#### COMMONWEALTH of VIRGINIA

##### DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

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[www.deq.virginia.gov](http://www.deq.virginia.gov)

Molly Joseph Ward  
Secretary of Natural Resources

David K. Paylor  
Director

(804) 698-4000  
1-800-592-5482

July 11, 2017

Via Email: [DJones@staffordcountyva.gov](mailto:DJones@staffordcountyva.gov)

Ms. Diane L. Jones  
Recycling Coordinator  
Rappahannock Regional Solid Waste Management Board  
489 Eskimo Hill Rd.  
Stafford, VA 22554

Dear Ms. Jones:

The Virginia Department of Environmental Quality (DEQ) has completed its review of Rappahannock Regional Solid Waste Management Board's 2016 Recycling Rate Report submitted pursuant to The Virginia Regulations for Solid Waste Management Planning - 9VAC-20-130-165 (the Regulations). Virginia Code §10.1-1411 and section 120.B of the regulations require each city, county, town or region to maintain a minimum recycling rate and to report the data for the previous calendar year to DEQ by April 30 of each year. The members of the Solid Waste Planning Unit were to meet or exceed a 25% mandated recycling rate based upon the criteria established in 2006.

We accept your data as submitted, and your regional calculated recycling rate for CY2016 will be reported as 41.1%. This information will be forwarded to DEQ's Office of Waste Permitting and Compliance for consideration during their reviews of the Solid Waste Management Plans. If you have any questions you may contact me at [virginia.butler@deq.virginia.gov](mailto:virginia.butler@deq.virginia.gov) or (804) 698-4053. A summary of your report is attached.

Sincerely,

**Virginia Butler**

Office of Land Protection and Revitalization

Cc: RRR file