



## Annual Report

### Fiscal 2018

July 1, 2017 — June 30, 2018

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Jim Wallace District Manager

Tom Dunlap Conservation Specialist

Sheila Jaruseski Office Coordinator

Robyn Goad Urban Ag Ed Specialist

#### Message from the Chair

Our watersheds continue to change. Construction is, once again, on the increase, impacting many of our natural resources. Storm events seem stronger and more frequent. Sea level is rising. And, conservation partners seem to agree the joint partnership efforts to improve water quality are having a positive impact.

However, resources to educate our constituency and implement sound conservation practices are limited, while the clock running to the 2025 goal set by the EPA, continues to tick. Through a concerted effort, District directors and staff have worked diligently to strengthen relationships with localities, establish new bonds with potential partners, and pursue opportunities to continue the local conservation efforts made possible with technical and financial assistance.

On behalf of the directors and staff of the Colonial Soil and Water Conservation District, I am pleased to offer this annual report of the organization's activities for fiscal year 2018.

~ Charles

### Colonial

#### Soil & Water Conservation District

##### Mailing Address

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Williamsburg, VA 23188

##### Phone

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##### Website

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*The Commonwealth of Virginia supports the Colonial SWCD through financial and administrative assistance provided by the Virginia Soil & Water Conservation Board and the Department of Conservation and Recreation.*

## Agricultural Programs

### Technical Assistance to Local Governments

Each of the CSWCD's localities are subject to the Chesapeake Bay Preservation Act. The act, passed by the Virginia General Assembly in 1988, was designed to improve water quality in the Bay and its tributaries by requiring effective land management, particularly concerning lands in close proximity to perennial water bodies, including tidal shorelines and connected wetlands. Following adoption of the regulations, eastern Virginia localities began implementing their own versions of the Bay Act, with each local program requiring a minimum 100 foot vegetated buffer along the most sensitive sites, called Resource Protection Areas (RPAs).

Since the early 1990s, the CSWCD has provided technical expertise to local governments and landowners by conducting agricultural land assessments on existing agricultural lands and developing conservation plans for those parcels being converted to agriculture from another use. More recently, through a Memorandum of Understanding (MOU), the Colonial SWCD and Charles City County have agreed that the District will annually conduct on-site assessments of 20 parcels, on which agricultural activities are being conducted, to verify the RPA buffer width and determine the effectiveness of Best Management Practices (BMPs) being implemented. The District's role is to serve as a knowledgeable third party to verify water quality is being preserved, and offer assistance to improve a site in the event water quality is being compromised.

Charles City County Ag Land Assessments		
Year	Acres of Existing Ag Land Assessed	Linear Feet of Buffer Assessed
2018	1,375	42,130



*This farm field has a 175' buffer that separates it from the water body. The red hatched line represents the minimum buffer of 100'*

2018 Conservation Planning Activity by Locality		
Locality	Number of Conservation Plans Developed	Acres of New Agriculture Proposed
Charles City	3	71
James City	2	8
New Kent	2	37
York	1	6

In addition to conducting assessments on existing agricultural lands, the District fulfills the role of conservation plan developer, reviewer, and approver for the conversion of land to agriculture uses. Authority to provide this service is written into each locality's Chesapeake Bay Preservation Act Ordinance. The goal of the conservation planning process is to offer technical recommendations to the landowner to help attain their goals, while ensuring natural resources are protected.

## Agricultural Programs

### Financial & Technical Assistance to Farmers & Landowners

One of the keystone programs administered annually across the commonwealth by Soil and Water Conservation Districts is the Virginia Agricultural Cost Share Program (VACS). The 2018 program offered a cost share payment on 44 Best Management Practices (BMPs), applicable on a range of agricultural lands including cropland, livestock, and specialty crops such as vegetables. Other financial incentives offered through the program include state tax credits for installation of an additional 23 BMPs and the purchase of specialized equipment which helps protect water quality from over application of nutrients and pesticides.

Historically, participation in the VACS program within the Colonial SWCD has been from row crop producers. The District has approximately 32,000 acres of land used for growing these crops, which include corn, soybeans, small grains (primarily wheat), cotton, and grain sorghum. As a result, VACS applications in the District often target the improved efficiency of nutrient applications, including nitrogen and phosphorus, or aim to recycle residual nutrients left in the soil after the summer growing season. The states



*Legume cover crops planted in the fall, such as this field of crimson clover, fix nitrogen from the atmosphere, which can become available for the next crop, which reduces the amount of nitrogen fertilizer applied by the farmer.*

within the Chesapeake Bay watershed are in the process of gearing up for the final push to meet water quality goals by 2025, as set by the Environmental Protection Agency. To date, Virginia has made significant progress toward meeting those goals. However, there is still plenty of work remaining, especially for agricultural producers.

As the deadline set by EPA draws closer, the Colonial SWCD continues to pursue opportunities to help farmers reach the water quality targets. One such opportunity includes offering technical assistance with precision agriculture technologies by helping farmers analyze information gathered by their equipment. An example of such technical assistance is working with farmers to establish management zones within individual fields, based on long-term yield histories or by measuring variances in electrical conductivity or organic matter. Management zones allow farmers to manage nitrogen and phosphorus inputs more efficiently.

FY 2018 VACS Program Colonial SWCD		
BMP Type	Acres Benefitted	Dollars Spent
Nutrient Management	3,608	\$22,299
Critical Area Planting	32	\$751
Cropland Retirement	5	\$804
Cover Crops	5,910	\$245,066

*Acres benefited does not include voluntary implementation of BMPs*



## Educational Programs

### Urban Agriculture & Local Schools



#### Pathways Program at Warhill High School

In Fiscal Year 2018, the District used funds provided by the National Association of Conservation Districts' Urban Agriculture initiative to hire Urban Agriculture Education Specialist Robyn Goad. One of Robyn's main tasks this year was working with the Pathways program at Warhill High School to support their project-based learning class, The Nature of Man. In this class, students split into groups to design projects for their school garden, the entirety of which they built in just a few months this spring. Students worked diligently to prepare the garden site, amend the soil, decide what to plant, and maintain the garden. They also designed and built four raised beds and a solar-powered irrigation system, and submitted several grants for funding to further their gardening goals. In the coming year, new students will design and construct their own projects.



*Top photo: A student shows off his soil sample in preparation to add soil amendments; Bottom left: Students dig rows in preparation for planting; Bottom right: Students finish constructing and planting the raised beds*



#### Stonehouse Elementary School Garden Club

The District also has a goal of expanding its new urban agriculture education opportunities to other schools. To do this, staff spent time developing partnerships with schools that already had gardens or were interested in developing a sustainable agricultural program.

Stonehouse Elementary School, for example, already has a school garden and after-school garden club, but requested technical assistance in building two new raised beds. A third grade science teacher also expressed interest in using the garden as a teaching tool, and requested help with lessons that would integrate the garden with SOL topics.



*Above, students plant and water newly planted seeds in raised beds at Stonehouse Elem.*



## Educational Programs

### Envirothon

Jamestown High School has become a perennial powerhouse with respect to Envirothon. At the state level, the team based natural resources competition is financially supported by Dominion Energy and is locally known as the Virginia Dominion Envirothon. The competition pits teams of high school students against one another, testing their knowledge in areas including soils, forestry, aquatics, wildlife, and a revolving topic that addresses a current environmental issue.

Charlie Dubay, retired Jamestown HS teacher and long-time Envirothon coach, has seen his teams improve over time, but only once before had a Jamestown team advanced out of the state level contest. This year's team, also coached by Rebecca Elton and Amanda Mullane, won the state competition, which earned them the right to advance to the national/international National Conservation Foundation (NCF) Envirothon competition held at Idaho State University in Pocatello, ID.

Having minimal experience with test topics specific to Idaho, team members spent much of their summer preparing for their trip by studying and meeting with experts who had firsthand knowledge of agriculture, forestry and conservation techniques common in the area. The team's preparation paid off as they captured 1st place in the oral presentation and tied for first place in the wildlife portion of the contest, which elevated the team to an overall third place finish out of 50 teams from the U.S., Canada, and China.

The Colonial SWCD is proud of the accomplishments and success of the Jamestown Envirothon team. The team is supported by the District, both with financial and technical resources.



*Jamestown HS Envirothon team members were victorious at the Virginia Dominion Envirothon competition held at Ferrum College. Team members are (L to R) Anna Song, Joanna Stathopoulous, Rachel Smith, Lisa Small, Audrey Root, and alternate team members*



*Proudly displaying their winnings at the NCF Envirothon are (L to R) Coach Amanda Mullane, Joanna Stathopoulos, Anna Song, Rachel Smith, Lisa Small, Audrey Root, and coach Rebecca Elton.*



*Envirothon team members Rachel Smith, Audrey Root, and Anna Song meet Governor Ralph Northam at Nauticus in Norfolk, VA as the Jamestown team was recognized for their success at the NCF Envirothon.*

## FY 2018 ANNUAL REPORT

## Urban Programs

## Virginia Conservation Assistance Program (VCAP)

The promotional efforts of the Colonial SWCD in support of the VCAP program began to pay off in fiscal year 2018. A total of 18 new inquiries were received by the District, with at least one originating from each of the localities served by the District (*see table below*).

FY 2018 VCAP Inquiries	
Locality	Number of Initial Site Visits
Charles City	1
James City	9
New Kent	2
Williamsburg	2
York	4

Following initial contact by the applicant, District staff visit the site to determine the predominant water quality concern, discuss options for addressing the problem, and, if applicable, assist the landowner with completing an application for the VCAP cost share program. Applications are vetted by the Colonial District Board of Directors and submitted to the VCAP Steering Committee, where decisions regarding project approval are made. Once approved by the Steering Committee, a project must begin within 90 days, or face cancellation.

The VCAP program has provided a significant opportunity to diversify the Colonial SWCD's technical and financial assistance platforms. This year, the Colonial SWCD provided \$61,369 to applicants for installing VCAP practices, which was matched with \$27,750 provided by the applicants. The projects below represent a portion of those successfully installed this year.

## Permeable Pavement &amp; Pavers

Uncontrolled stormwater runoff is a serious problem. The problem is worse in high density areas, where impervious (hardened) surfaces are more prevalent, which allow high volumes of stormwater to erode ditches and scour stream banks. Permeable surfaces, such as the pavers installed at the site below, allow stormwater to infiltrate through the brick joints and into the soil, reducing the stormwater volume.

The project pictured below included a payment to remove the old impervious driveway and install the permeable paver surface on top of a gravel substrate.

BEFORE



DURING



AFTER





## Urban Programs

### Virginia Conservation Assistance Program (VCAP)

#### Rainwater Harvesting

Stonehouse Elementary School installed a rainwater harvesting system (cistern) to provide irrigation water to their garden. The 500 gallon tank is capable of storing the volume of a 1" rainfall collected from the school's roof. Colonial SWCD Director, Charlie Morse, provided assistance with the installation of the tank and piping.



Step 1: Build a sturdy base to hold the water tank. This tank is 500 gallons. That's more than 4,200 lbs. of water!



Step 2: Cut the downspout and install a diverter to redirect rainwater from the gutters to the tank. When the tank is full the water flows back down the downspout.



Step 3: Install a spigot, purchase a hose and water that beautiful Stonehouse Elementary School garden!

#### Living Shoreline

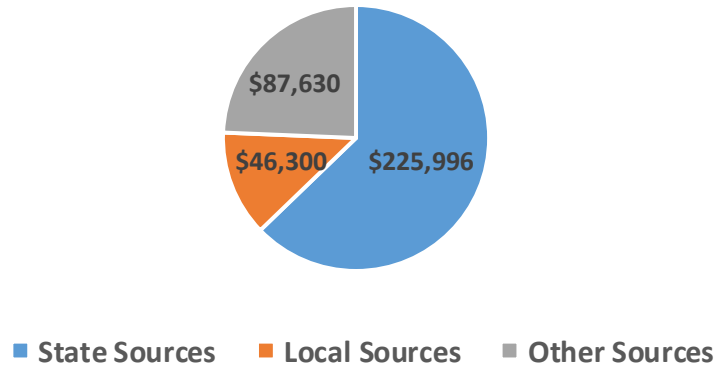
Two living shoreline projects were installed along the banks of Chisman Creek in York County. The adjacent properties' shoreline was being impacted by wave energy from passing boat traffic, as well as wind generated waves. The restoration included the addition of 180 cubic yards of sand backfill, nearly 900 saltmeadow cordgrass and smooth cordgrass plugs, and a system of pre-cast oyster shell reefs to dissipate wave energy and protect the young plants as they take root.



## Operations

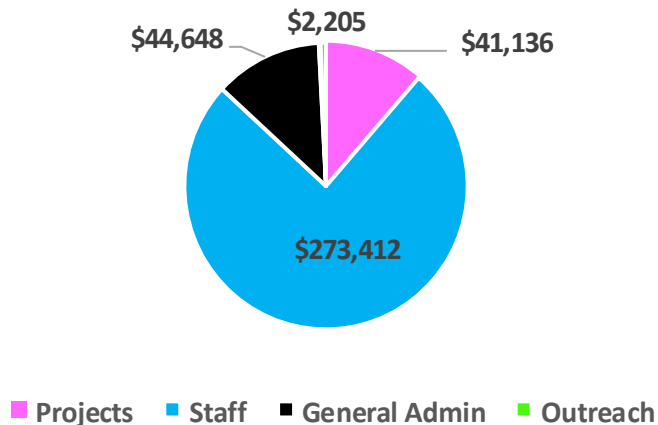
Right: The Colonial SWCD typically receives about 75% of its funding from the Commonwealth of VA in the form of annual operating grants. However, during FY 2018, the District received a \$50,000 grant from the National Assoc. of Conservation Districts (NACD) as well as program funds to support the VCAP non-agricultural cost share program which shifted the funding stream.

CSWCD FY 2018  
Operating Income by Source



Right: In FY 2018, the district spent the majority of its resources on staff salaries and training. Other significant expenses included rent, dues, and other organizational items. Expenses associated with the NACD grant and VCAP project reimbursements also had an impact on expenses. Not listed on the chart are equipment expenses of \$756.

CSWCD FY 2018  
Operating Expenses by Category



### Colonial SWCD Office Relocation

Following through on an item that appeared on the District's 4-year Strategic Plan in August 2016, the CSWCD moved its office from the Poplar Creek Office Park in Norge, to the Michael Commons Office Park in Lightfoot. (York County) The move was further necessitated by the addition of Robyn Goad, the Urban Agriculture Education Specialist, who was hired after the District was awarded an NACD Urban Agriculture Grant. Please feel free to stop by and see the new office at 205-C Bulifants Blvd., Williamsburg, VA 23188. The District phone number remains unchanged.

### CSWCD Holds Recognition Banquet

The District hosted a banquet to recognize some of our many conservation partners on January 19, 2018 at the Williamsburg Country Club. Award recipients included Davis Produce and Heritage Farms, Inc. as recipients of the Bay Friendly Farm Award for the York and James Watersheds respectively, the Wilford Family Partnership received the BMP Forestry Award, Charlie Dubay was recognized as the Conservation Educator Award recipient and the Jamestown Envirothon team received the Environmental Stewardship Award.