COLONIAL SOIL AND WATER CONSERVATION DISTRICT

ANNUAL REPORT

To leave our descendants a green and verdant land with healthy soil and abundant, clean water kept on the land and not washed away, and the understanding to enable them to live in harmony with nature and continuing to protect natural resources.

July 1, 2012 to June 30, 2013

Board of Directors

Chair	
Charles Carter	At Large—Charles City
Vice Chair	
Stephen Lueke	New Kent
Secretary	
Timothy Beale	York
Treasurer	
Charles Evelyn	New Kent
Fred Browning	Charles City
Frederick Fisher	Charles City
Richard Phillips	City of Williamsburg
Hugh Burns	City of Williamsburg
Edward Overton, Jr.	James City
Robert Lund, Jr.	James City
Lawrence "Tu" Ritter, II	York
Dan Nortman	VEC Appointed – York
Associate Director	
Norman Hofmeyer	Charles City

Staff

Brian Noyes	District Manager
Jim Wallace	Water Quality Specialist
Linda Terrell	Information Specialist

Colonial Soil and Water Conservation District
P.O. Box 695
Norge, VA 23127
757-695-4895
www.colonialswcd.net

The Colonial Soil and Water Conservation District directors and staff would like to take this opportunity to thank the individuals and organizations that helped the District accomplish so much this past year. With the help and support of the stakeholders, the District continues its commitment to the preservation and restoration of our natural resources withinn our district (the counties of Charles City, James City, New Kent, York, and the city of Williamsburg) as well as the surrounding area. This annual report highlights our work from July 1, 2012 through June 30, 2013.

Colonial SWCD Mission: *To educate the public on the importance of protecting our soils and water as the basis of our existence, and to work with landowners and operators, government agencies, schools, businesses, and civic groups to assist them to preserve and protect our soil and water as well as all of our natural resources. Use funds entrusted to provide technical and financial assistance as responsible stewards.*

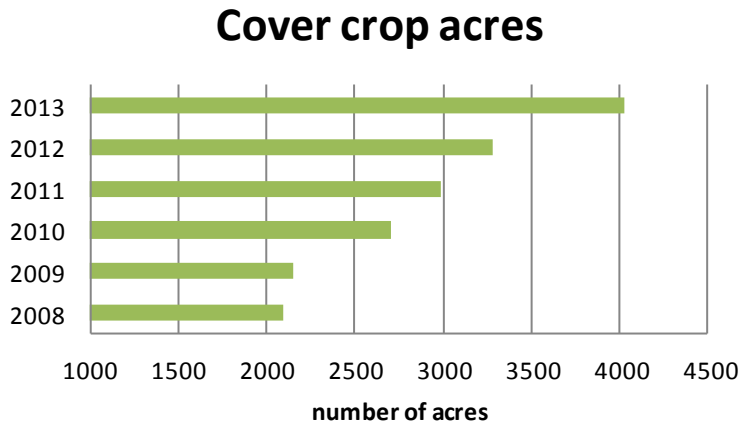
The Commonwealth of Virginia supports the Colonial Soil and Water Conservation District through financial and administrative assistance provided by the Department of Conservation and Recreation.

Virginia Agricultural Cost Share Program

Implementation of BMPs within the CSWCD during the fiscal year continued to be brisk. As part of the District's contract with the Commonwealth, a minimum of 90% of Virginia Agricultural Cost Share Program funds are required to be utilized annually for agricultural conservation practices which reduce nutrient and sediment pollution.

Fortunately, the CSWCD was successful not only in allocating 100% of their original funding, but also securing supplemental financial resources to get additional conservation practices on the ground. To learn more about specific practices implemented in your area please visit the following site:

http://dswcapps.dcr.virginia.gov/htdocs/progs/BMP_query.aspx



BMP	Funded	Acres
No-till	$83,342.50	3333.7
Split N Apps	$38,043.00	7245.3
Cover Crops	$183,650.00	4027.7
2013 NMPs	$16,754.20	
2012 NMPs	$12,710.20	
2011 NMPs	$13,646.00	
TOTAL BMP Expenditures	$348,145.90	

Envirothon

Jamestown High School once again represented the Colonial Soil and Water District at the Area III regional competition held on April 17th in Tappahannock. The team was led by Charlie Dubay, a retired teacher from Jamestown, and Scott Thomas, Director of Engineering & Resource Protection for James City County. The students had a fantastic competition placing first in 3 of the 6 areas of testing, securing their first place finish.

This win allowed them represent our Area III at the state competition held at Virginia State University in May. Competition was a little tougher at the state level and the team captured 2 seconds in the area testing leading to a sixth place overall finish. Team members included: Mayee Chen; Elisa Van Dyke; Jol Burgan; Meggie Nelson; Sally Gray; Hanqi Du; Lea McMahan; Leslie Griffith.

Envirothon is a hands-on, outdoor competition designed to challenge and test students knowledge of soils/land use, aquatic ecology, forestry, wildlife and current environmental issues. The program is field-oriented, community based, and gives students an opportunity to work with natural resource professionals. The Colonial SWCD proudly supports the Envirothon with educational and financial resources.

The team showing off their first place medals and trophy at the Area Competition

Urban BMPs

Common area planted with Crimson Clover to improve adulterated soils that won't support traditional vegetation such as turf. The soil needs to be improved in a cost effective manner and furnish esthetic appeal.

Area planted with Cosmos after Crimson Clover. These plantings offer improved soil quality, stabilized eroding soil, and intercept stormwater runoff by generating superior bio mass and soil function. Soils are improved so alternative vegetation such as turf can be seeded with a better probability of survival at a lower cost.

The District was involved with a number of urban projects in cooperation with homeowner associations and civic organizations this year. The District has strived to offer a comprehensive menu of services to those who are interested in installing Best Management Practices (BMPs) on the urban landscape. Services include developing BMP designs, practice specifications, material cost estimates, installation guidance, and on site consultation to aid landowners in the evaluation of BMP alternatives. The process allows the landowner to consider a wide-range of site specific physical features, as well as cultural factors such as budget limitations and community objectives. The landowner is encouraged to select BMPs that will complement existing stormwater infrastructure. These services are offered free of charge to the landowner and the client is free to choose any level of service. Another service offered by the District is the actual BMP installation. The District offers equipment and materials at cost to those partners willing to demonstrate effective practice alternatives. Participating organizations who agreed to BMP demonstrations were better served to facilitate the transfer of needed technical information and further the scope of BMP implementation.

Using no till planting to benefit the soil

Before

After

Kentland Trail Roadside Stabilization Project

Objectives:

- Continue roadside stabilization efforts via vegetative establishment of annual rye grass.
- Cycle nutrients and improve soil quality to enhance the growing environment for perennial turf species.
- Repair and protect roadside stormwater conveyance and retention infrastructure.
- Enhance community aesthetic value.

Before

After

After

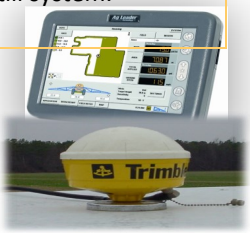
Before

After

James City County Bay Act

In James City County, the Colonial Soil & Water Conservation district has worked with the county to facilitate compliance with the Chesapeake Bay Preservation Act and land clearing for agricultural land use. State law exempts bonifide agriculture from land disturbance permitting and erosion and sediment control laws. If a proposed land clearing operation is deemed to be an agricultural land use a Soil & Water Quality Conservation Plan must be approved by the local Soil & Water Conservation District Board of Directors. The District worked with James City County Department of Engineering and Resource Protection to provide assistance to meet compliance standards on approximately 12 tracts of land within the county.

The focus of the projects was the placement of a precision N rate to the crop during the growing season. Both the Standard and GreenSeeker™ applied N rate were tracked and weighed against crop harvest to develop a Nitrogen Use Efficiency (NUE) as an economic and environmental baseline. In contrast to the conventional VA Nutrient Management Standards and criteria the GreenSeeker™ sensing and N variable nitrogen rate applications utilize plant vigor and density to predict and apply variable nitrogen rates to the growing crop. The NDVI serves as the reflective indicator of in-field variability and defines low production zones and higher production zones which reside in each field. All sights were being managed in a continuous no-till system.



Year 1 Summary

- Wheat: 20 sites with 10 producers totaling ~800 acres
- Corn: 12 sites with 10 producers totaling ~800 acres
- The Project Contract Requires We Produce:
  - ✓ NDVI Map (99%)
  - ✓ Applied Nitrogen Map (99%)
  - ✓ Yield Map (88%)
  - ✓ GreenSeeker NUE vs. Standard NUE
  - ✓ Net Economic Impact of GreenSeeker vs. Standard
- The project is for demonstration purposes - not research

Colonial SWCD GreenSeeker Project

The focus of the project was the placement of a precision N rate to the crop during the growing season. Both the Standard and GreenSeeker™ applied N rate were tracked and weighed against crop harvest to develop a Nitrogen Use Efficiency (NUE) as an economic and environmental baseline. In contrast to the conventional VA Nutrient Management Standards and criteria the GreenSeeker™ sensing and N variable nitrogen rate applications utilize plant vigor and density to predict and apply variable nitrogen rates to the growing crop. The NDVI serves as the reflective indicator of in-field variability and defines low production zones and higher production zones which

Year 1 Summary

- Wheat: 33 "plots" representing ~ 17% of the total acres

Method	GS 30N Applied	Yield	NUE
GreenSeeker	58.1 lbs/ac	77.3 bu/ac	1.8
Standard	58.4 lbs/ac	76.6 bu/ac	1.9
Average - All Fields	57.1 lbs/ac	71.8 bu/ac	1.9

- Corn: 39 "plots" representing ~ 10% of the total acres

Method	Side Dress N Applied	Yield	NUE
GreenSeeker	78.5 lbs/ac	145.2 bu/ac	1.3
Standard	75.4 lbs/ac	140. 8 bu/ac	1.4
Average - All Fields	93.2 lbs/ac	130.7 bu/ac	1.5

Observations

Compared to the producers standard nitrogen rate of application **GreenSeeker™** provided an economic advantage:

Wheat – Economic Return for GS ($6/ac)
Corn – Economic Return for GS ($8/ac)