Views From The Foothills

A Publication of the Culpeper Soil & Water Conservation District
Serving Culpeper, Greene, Madison, Orange & Rappahannock Counties
www.culpeperswcd.org

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M. Johnson

Inside This Issue

Welcome!

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TMDL Update in Hughes, Hazel, Thornton and Rush Rivers

Total Maximum Daily Load (TMDL) is a term used to quantify the amount of a particular pollutant a stream can receive each day and still be able to attain a specific water quality standard, or level of water cleanliness. **Essentially, a TMDL is an assessment of all known sources of the pollutant and prescribed reductions of each source to reduce the total pollutant load to the acceptable level ("the standard").** This assessment only occurs after a stream has been officially declared as not meeting the state standard for the specific pollutant. TMDLs are implemented through land management planning and Best Management Practices (BMPs).

A TMDL has been implemented in the Rush, Hazel, Thornton and Hughes Rivers for approximately six years and still continues. Over 60 miles of streambank have been protected and more applications for BMPs are currently being processed. Funding continues to be available for many BMPs, most notably stream fencing, grazing management and repairs/ replacements for failing septic systems. Up to 85% cost share is available for fencing projects, which includes water development. Fifty percent cost share is available for septic repairs and replacement systems. Maintenance septic pump outs can receive up to $150. For more information, contact 540-825-8591.

Conservation District Announces Scholarship Recipients

Each year the Culpeper Soil & Water Conservation District awards educational scholarships to students who plan to pursue a career in a conservation related field. Financial assistance is available for eligible students living in the five-county area the Culpeper SWCD serves, consisting of Culpeper, Greene, Madison, Orange and Rappahannock Counties. Applicants must be full time students enrolled in or who have been accepted to a college undergraduate or graduate program related to soil and water conservation, natural resource management, animal science, environmental science or other related programs. For 2015, the District chose to recognize Culpeper County resident Courtney Dalimonte with the John H. Boldridge Academic Scholarship. Each student below received $1,000 awards.

- **Courtney Dalimonte** graduated from **Eastern View High School** with a 3.95 GPA. She will attend **Virginia Tech** in the fall, where she will major in biological systems engineering. While attending EVHS Courtney was involved in Envirothon, softball and volleyball.
- **Anthony Houchens** graduated from **William Monroe High School** with a 3.154 GPA. Anthony will major in **agricultural technology** at **Virginia Tech.**
- **Cole Reeves** graduated from **Orange County High School** with a 4.14 GPA. He will major in **fisheries science** at **Virginia Tech** in the fall. While attending OCHS, Cole regularly monitored the lakes and streams at James Madison's Montpelier.
- **Rebekah Broyles** graduated from **Madison County High School** with a 4.33 GPA. She will major in **biological systems engineering** at **Virginia Tech** in the fall. While attending MCHS, she was active in the 4-H Wildlife Habitat Evaluation Program.

The Culpeper Soil and Water Conservation District is honored to recognize these students and wish them well in their future endeavors.

Feature Partner:
Publications Available from Virginia Cooperative Extension

The Culpeper District publishes this newsletter, Views from the Foothills, on a quarterly basis primarily to keep landowners and land managers well informed on local options to leverage technical assistance for conservation planning and programs, to inform educators and students on educational opportunities and to broaden all horizons regarding the stewardship of natural resources. From time to time we include topics with a much broader emphasis because we have found the information valuable and we expect the reader will also.

This edition we again step beyond our 5 counties and focus in on publications that are available from Virginia Cooperative Extension (VCE). Since the passage of the Smith-Lever Act of 1914, VCE has operated as the primary in-state outreach service for the Commonwealth's two land grant universities: Virginia Tech and Virginia State University. In addition to the network of 107 city and county offices, 11 research and extension centers and six 4-H centers that provide quality, science verified information to more than 7 million Virginians, VCE has an online publications website where you can access technical assistance from almost anywhere. It is this website that we highlight here. Through their publications center (http://www.pubs.ext.vt.edu/index.html) the reader can access information on a wide variety of topics that include almost any horticulture, agriculture, natural resource and environment topic. All information is well established through research at our land grant research universities. We highlight 3 publications here as a sample of what can be accessed online and invite you to fully explore and utilize what VCE has for you.

Putting the Punch Back in your Pastures; by Teutsch and Fike (Publication 418-134)

Pasture renovation can be defined as a series of practices that will result in long-term improvement in the health, productivity, and botanical composition of pastures. These practices may include interseeding legumes and grasses, fertilizing, liming, controlling weeds, and improving grazing management. Successful renovation requires planning, time lines, and attention to detail. It **is important to determine why the previous stand did not persist before reseeding pastures.** It is essential that these problems be addressed in a long-term pasture management plan.

Pasture renovation does not always mean reseeding. Often, simply resting, fertilizing, liming, controlling weeds, and implementing rotational grazing can improve weak pastures. For this to work, desirable plant species must be present in adequate densities. Pastures that have large spaces between plants (> 6") may require reseeding to thicken stands. Also, because introducing legumes into grass-dominated pastures is highly desirable, a thin grass stand might be viewed as an opportunity to accomplish this objective. See https://pubs.ext.vt.edu/418/418-134/418-134_pdf.pdf for the rest of the article.

Planting and Managing Switchgrass for Forage, Wildlife and Conservation; by Wolf and Fisk (Publication 418-013)

Switchgrass is a tall-growing, warm-season, perennial grass that is native to much of the United States including Virginia. Switchgrass (SG) was widespread in open areas before settlers populated an area and remained in one place year after year. Their livestock were free roaming and would graze the new switchgrass growth in the spring before the new plants were tall enough to withstand defoliation. This mismanagement weakened the stands and eventually led to their demise. They were replaced by cool-season grasses introduced from other countries such as bluegrass, tall fescue, and orchardgrass. These cool-season grasses began growth much earlier in the spring so they could tolerate the early season grazing by cattle. As a result, the native warm-season grasses such as SG were destroyed and can now only be found growing wild in abandoned sites such as old cemeteries or roadways.

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Envirothon Update

The 2015 Culpeper SWCD Envirothon competition season began on March 18 with a local competition at the Locust Grove campus of Germanna Community College in Orange County that included teams from Culpeper and Tri-County/City SWCDs. The competition included two teams from Eastern View High School and one team from Wakefield Country Day School from Culpeper SWCD and teams from King George 4-H, Spotsylvania High School and Stafford High School from Tri-County/City SWCD. EVHS Team A placed 2nd overall in addition to 1st in soils and wildlife and 2nd in aquatics and urban and community forestry. King George 4-H placed 1st.

Coached by Science Department chair Leslie Jones and Floyd T. Binns Middle School Paraprofessional Brandon Fincham, the members of Eastern View Team A are **Courtney Dalimonte, Omar Elbulok, Ben Ramey, Anders Blair, and Josey Txkeeyang.** The members of Eastern View Team B are **Darryl Brown, Caroline Yi, Hannah Vaught, Amelia Burnett** and **Adora Txkeeyang.**

Coached by Environmental Science Teacher Ann Pankow, the members of the Wakefield team were **Carolina Leonard, Merriam Abboud, Brier Clough, Nick Lescovec, Alex Smith, Tanner Perry** and **Lucas Dumez**

Eastern View Team A and Wakefield advanced to the Area II competition, which was held April 22 at Fauquier Education Farm in Warrenton. Eastern View placed 2nd overall as well as in presentation, forestry, wildlife, special topic and soils. The team's 2nd place finish earned them a spot at Virginia's Dominion Envirothon, the statewide competition.

Wakefield earned 5th place overall as well as 2nd place in aquatics.

Eastern View High School represented Culpeper, Greene, Madison, Orange and Rappahannock Counties at the Dominion Envirothon on May 17 & 18, 2015 at Longwood University in Farmville. Darryl Brown and Adora Txkeeyang joined the Eastern View team as alternates. The team placed 3rd overall against 21 teams, as well as 2nd in oral presentation and wildlife and 3rd in soils and forestry.

Envirothon competitions feature five "in-the-field" test stations – soils, wildlife, aquatics, forestry and a current environmental issue – where teams answer questions in both written and hands-on formats. During an oral presentation teams propose a management solution related to the current environmental issue to a panel of judges consisting of industry and natural resource professionals. This year's issue was "Urban/Community Forestry." The team's presentation addressed the topic as it related to the Avtex Superfund site in Front Royal.

In addition to the hard work of the students and coaches throughout the school year, the District would also like to thank the following professionals for their help in training and supporting the team over the past year: EVHS Principal E.G. Bradshaw, Culpeper County Public Schools' Superintendent Dr. Bobbi Johnson, SWCD employees Michael Trop, Wildlife Biologists David Bryan, Melissa Allen and Katie Martin, Foresters Kyle Dingus, Jack Kauffman, Ed Furlow and Jim McGlone, Wildlife Biologist David Bryan, Soil Scientists Dan Schwartz and Don Flegel and volunteers Bill Clark, Deirdre Clark, Don Hearl.

The Culpeper Soil and Water Conservation District needs help sponsoring students for next year's Envirothon. If you can help, or would like to know more about starting an Envirothon team at your high school through 4-H, FFA, Ecology Club or home school group, contact Stephanie DeNicola at Culpeper Soil and Water Conservation District at (540) 825-8591 or stephanied@culpeperswcd.org.

Envirothon is sponsored by the Virginia Association of Soil and Water Conservation Districts and Virginia's 47 Soil and Water Conservation Districts with funding provided by Dominion Virginia Power and The Chesapeake Bay Restoration Fund.

MOUNTAINS TO THE BAY

RAPPAHANNOCK/YORK WATERSHED ACADEMY

PROFESSIONAL DEVELOPMENT OPPORTUNITY FOR 4th through 7th Grade TEACHERS

Funded by a grant from NOAA through the Virginia Department of Education, M2B participants travel from the Mountains to the Chesapeake Bay over 4 weekends and receive SOL-correlated curriculum and tools to deliver a Meaningful Watershed Educational Experience in an interdisciplinary manner. Upon successful completion of the program, schools are eligible for a **grant of up to $600** and at least **40 recertification points**. Hotel, food and curriculum are **free** to the teacher and school system.

* Interdisciplinary teams of science, math, language arts and social studies teachers are encouraged to attend. (art, librarian, special education and others welcome too!)
** Teams of 4-6 are preferred but smaller teams are welcome.

DATES & LOCATIONS (5pm Friday through 12pm Sunday)

- September 25-27, 2015 at Graves Mountain Lodge in Madison County
- November 6-8, 2015 in Fredericksburg
- April 15-17, 2016 in Gloucester Point
- May 13-15, 2016 at Kiptopeke State Park in Cape Charles

Contact Stephanie DeNicola at stephanied@culpeperswcd.org or 540-825-8591 to register. (other academies are available in the Potomac and James Watersheds)

Maximize Forage Uptake through Rotational Grazing

By David Massie, CSWCD Conservation Specialist

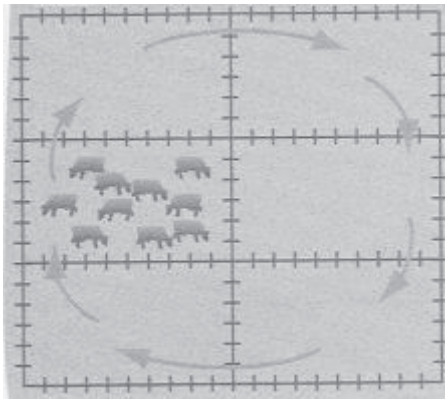
One method of grazing management that has proven to benefit both your land and animal weight gain is controlled or ***rotational grazing***. Rotational grazing enables the producer to control where livestock graze and livestock are then able to better utilize forages. How does it work? It's fairly simple. Take a pasture that is continuously grazed and run a single wire across it. Now you have two paddocks within the pasture that are each grazed 50% of the time. If you bisect that wire with another wire, you now have four paddocks. You rotate your herd through them. This means that each individual paddock is resting 75% of the time. However, paddock design needs to be based on landscape, land productivity, water availability, and the number and types of animals in the system.

What are the benefits of such a system? First and foremost, you improve the performance of the forages in your paddocks because they have more time to recuperate after being grazed and you keep them in an active stage of growth. You can produce more forage per acre per year. Livestock then eat more and what they eat is of higher nutritional value. This also leads to a stronger root system and increases the volume of water held in the roots. This is especially important during times of low rainfall, or even drought. Rotational grazing also tends to promote better water infiltration and leads to less runoff from the paddocks which is good for water quality. Nutrients from manure are also distributed more uniformly over the field which increases organic matter in the soil.

Animal weight gain is improved because livestock constantly have the most nutritious, palatable forages to utilize. Another benefit is improved animal behavior because they are being handled more frequently. This is beneficial when it comes time to vaccinate and wean your livestock. Also, by observing your livestock when moving them into new paddocks, you are able to identify any health issues that can be treated in the early stages.

The best part about adopting a rotational grazing system is the economical benefits involved. Profits can increase because herd health is improved, stocking rates can often be higher, the grazing season is extended, and there is less dependence on hay production. These benefits, along with the agronomic and environmental improvements for your land, make rotational grazing a practical method of pasture management. If you are interested in rotational grazing systems, contact the District and we can discuss your options.

Consider this: You have a 30 acre pasture in which 20 cow-calf pairs are grazing. If you were to split the pasture into 6 separate paddocks (5 acres each), and rotated every 3 days, the first paddock wouldn't be grazed again for just over two weeks!



Funding Available for Retrofitting Stormwater Practices

By Richard Jacobs, Conservation Specialist III

Are you looking to increase curb appeal, improve drainage, fix erosion or create habitat? The District could help with technical and financial assistance. The Virginia Conservation Assistance Program or VCAP will have funds available July 1, 2015 for residential, public and commercial land. VCAP is a voluntary program that provides financial incentives to property owners that implement small-scale best management practices for stormwater management and landscaping.

The District will work with individuals to assess their site and develop a list of potential practices that meet your needs. To receive financial assistance, individuals would need to submit an application and a final design. Once approved for funding, reimbursement is made upon practice completion and after a Landowner Agreement is signed. The Landowner Agreement details maintenance requirements for the life of the practice, which is typically 10 years. Most practices are eligible for 75 percent cost-share.

There are 13 eligible practices, include: conservation landscaping; impervious surface removal; pet waste stations; urban nutrient management plan; rain garden; dry wells; constructed backyard wetlands; rainwater harvesting; bioretention; infiltration; vegetated stormwater conveyances; permeable pavement; and green roofs.

For more information on this program, contact Richard Jacobs at richardj@culpeperswcd.org or Greg Wichelns at gregw@culpeperswcd.org. Both can be reached at 540-825-8591.

Conservation Incentive Programs

Available in the Culpeper Soil & Water Conservation District Updated June 2015

Program	Cost Share Rate to Establish Practices	Agreement Period	Requirements	Annual Rental and Other Payments	Other Cost-Sharing	Where & When to Sign-Up
Conservation Reserve Program (CRP)	50%	10 years	History of cropland during at least 4 out of 6 years	Soil rental rate + $5 maintenance	None	When announced
CRP Continuous	50%	10 years	Waterways & riparian areas plus cropland & pasture	Same as CRP + incentive payments	VA BMP Program	FSA Continuous sign up
Conservation Reserve Enhancement Program (CREP)	50%	10-15 years	Livestock exclusion, 35'-100' riparian buffers, marginal pasture or cropland	$75-$100 an acre	VA BMP Program	FSA Continuous sign up
Environmental Quality Incentives Program (EQIP)	Incentive payment	2-5 years Must be part of conservation plan	Threat to soil, water, air, and related natural resources on land; wildlife habitat	None	VA BMP Cost Share Program	NRCS
Reforestation of Timberlands (RT)	Up to 75% of estimated costs	10 years	Water quality BMP's must be installed. Pines only. 100-acre maximum.	None	None	VA Department of Forestry
U.S. Fish & Wildlife Service Partners for Fish & Wildlife	75% to 100%	10-year-minimum	Priority areas include Upper James, Roanoke, SW Virginia and Eastern Shore watersheds	None	VA BMP	Culpeper SWCD USFWS Gloucester
Virginia Ag BMP Program	up to 80% plus incentive	5 - 10 years	Existing water quality problems	Tax credit options	None	Culpeper SWCD
Virginia BMP Loan Program	Low interest 3% loans – no maximum.	Up to 10 years	Must be an eligible practice	None	None	Culpeper SWCD
BMP Tax Credit Program	25% of out-of-pocket expenses	5 - 10 years	Existing water quality problem	None	BMP Program	Culpeper SWCD
Virginia Small Business Environmental Compliance Assistance Fund	Low-interest (3%) loan of up to $100,000	variable	Small business finance compliance with Federal Clean Air Act, voluntary pollution prevention, or Agricultural BMP's	None	None	DEQ Culpeper SWCD
Emergency Conservation Program (ECP)	50 - 64%	10 years	Damage to agricultural production due to declared agricultural emergency	None	None	FSA When announced
TMDL Septic Cost Share Program	50-75% depending on income	5-10 years	Inspections, pumpouts, repairs or replacements of septic systems in selected watersheds	None	Some opportunities for very low income	Culpeper SWCD
Forestry Quail Habitat Program	60-80% of costs depending on practice	3-5 years	Payments to convert to forestry practices that promote quail habitat	Variable	EQIP	Department of Forestry
VA Conservation Assistance Program (VCAP)	Variable depending on practice	1-10 years depending on practice	Urban/residential water quality improvement required	None	Yes (variable options)	Culpeper SWCD

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Switchgrass breaks winter dormancy in late April and can provide some grazing in late May, but makes the most of its growth in June, July, and August. Since it is a tall-growing grass, the management must differ from that used for cool-season grasses. Switchgrass provides excellent erosion control when used as filter strips, grass hedges, or cover such as river levee banks. It is also beneficial for wildlife. The upright growth provides wildlife some overhead cover for protection, quality nest sites, and free movement which facilitates food searching. In established stands, there is little disease problem and no insect pests. Since it is a perennial, properly managed SG should never need to be replanted. See http://pubs.ext.vt.edu/418/418-013/418-013.html for the rest of the article.

Planning Fencing Systems for Controlled Grazing; by Gay, Smith and Grover (Publication 442-130)

Controlled grazing can be an economical way to provide forage to grazing animals. Utilizing pasture as a major portion of the forage plan can significantly reduce feed costs during the grazing season. Virginia's soils and climate are especially favorable for the growth of a wide range of productive, high-quality grasses and legumes suitable for grazing. However, optimizing a controlled grazing system requires careful planning and good management of a fencing system.

Controlled grazing works by allowing livestock to intensively graze a portion of pasture followed by rotation to a "rested" paddock. This permits plant regrowth on the grazed pasture while letting animals forage on the highly nutritious plants in the rested paddock. Livestock typically remain on a given paddock for as little as 12 hours and up to two weeks. The timing of animal rotations is based on forage growth in the paddocks rather than a rigid time schedule.

An effective controlled grazing system requires an adequate fencing system that provides the manager control of the grazing animals. Permanent boundary fences are used to hold grazing animals in the pasture area. Temporary or minimal interior fencing is required to subdivide the pasture into paddocks among which livestock are rotated. Proper fencing is usually a major capital investment. Therefore, the fencing layout should be carefully planned to save time and money. See http://pubs.ext.vt.edu/442/442-130/442-130.html for the rest of the article.

** For a detailed list of VCE publications and others, please visit our website www.culpeperswcd.org.

Students Chosen for Summer Camps

Culpeper Soil and Water Conservation District has chosen five students to attend summer camp. Holiday Lake Forestry Camp will be held June 15-20 at the Holiday Lake 4-H Center in Appomattox. Dylan Guida (Orange County High School) and Philip Hall (William Monroe High School) will represent the District.

Youth Conservation Camp will be held July 12-18 at Virginia Tech. Jessica Ryals (Culpeper County High School) and Trevor Haldeman (Culpeper County High School) will represent the District.

Septic System Health Care

By Henny Calloway, CSWCD Conservation Specialist

The Commonwealth of Virginia and Culpeper SWCD are currently offering a grant-based cost share program for significant portions of Rappahannock, Culpeper, Madison and Orange Counties. Homeowners that live in the eligible watershed areas of the Upper Hazel or Upper York watersheds are eligible for the assistance for the maintenance, repair or replacement of septic systems. Residents are eligible for reimbursement of 50% of the expense of maintaining, repairing or replacing on-site septic systems (the reimbursement may be as high as 75% depending on income). For the Upper Hazel watershed, all of Rappahannock County that drains to the Hughes, Hazel, Thornton, Covington and Rush Rivers, including all of Battle Run is eligible. This is essentially most of the county except a small area north of Amissville and the Flint Hill and north area. The Etlan and Nethers areas of Madison County and Culpeper County west of Reva, Griffinsburg and Monumental Mills are also included. For the Upper York watershed, nearly all of Orange County south of Route 20 and east of US 15, except for very small areas along the county border with Spotsylvania and Louisa Counties, is in the eligible area.

It is important for homeowners to understand their septic systems. A typical septic system consists of three main parts: the septic tank, the distribution box and the drainfield. Septic system problems may be identified by gurgling noises when fluids leave the home and the slow draining of sinks, toilets and/or the bathtubs, for example. Also, wet spots and strange odors above your septic system components may be a symptom of septic system malfunction as this is usually due to sewage seeping above the ground.

To evaluate a septic system problem the homeowner may want to consider a few factors. If only one fixture is not draining, the problem may be in that line only. If liquids are not leaving the house the problem could be in several areas. If the septic tank is opened and the liquids are at the tank inlet level, the problem may be at the inlet or between the home and the inlet. If the liquid is above the tank inlet level, the problem may be at the tank outlet or further after your tank. Correcting problems quickly will help to ensure that your family and the environment will not be harmed by the presence of raw sewage in your environment.

Septic system failures are caused by many factors. For example, the tank outlet tees may become clogged from solids causing sewage backup into the home. Grease, paint and large amounts of cleaning solution flushed down the drain and thus added to the septic system can kill essential bacteria that break down sewage solids. Also, cigarette butts, disposable diapers, plastic and trash should never enter a septic system. A garbage disposal should not be installed unless the drainfield has been designed for it. One of the major causes of drainfield failure is the lack of regular pumping maintenance. The Virginia Department of Health recommends that septic tanks be pumped every 3-5 years to help prevent excessive buildup of solids in the tank. The frequency that it actually needs to be pumped depends on the size of the tank and the number of people in the household.

Another frequent cause of system malfunction is the presence of tree roots in one or more components of the septic system. Protecting your drainfield is another way to ensure that your septic system continues to operate efficiently. Water-loving shrubs and trees should not be planted near the drainfield because root damage may occur. It is a good idea to check with an arborist to determine the appropriate distance away from your septic system to plant your trees and shrubs. Also, heavy machinery and equipment should not be parked on or driven over your septic system because their weight causes soil compaction, which will reduce the soil's ability to receive and treat wastewater, and because system components such as the septic tank and distribution box are not designed to support the weight of a vehicle larger than a riding mower. Water being added to a drainfield faster than it can percolate down through the soil can also result in failure. This could be caused by a leaking faucet or toilet, or by having a downspout, gutter, basement drain, or foundation drain from the house empty onto the drainfield.

If you take care of your septic system, you will protect the health of your family and neighbors as well as the water that humans, wildlife, aquatic life and the environment are extremely dependent upon. The Upper Hazel River and Upper York River grant-based cost-share programs are funded by the Commonwealth, and homeowners in these watersheds are eligible. The program is entirely voluntary. Its purpose is to improve water quality in and downstream from these areas. An application is required prior to commencement of septic cost share projects. Upon completion of maintenance, repair, replacement installation the homeowner will be reimbursed promptly. The Conservation District can help with a free assessment. For more information call 540-948-7531 or 540-825-8591.

Rain Barrels Update!

Rain barrels are available in again! Prices are $75 for one and $140 for two. For more information, contact Stephanie DeNicola at 540-825-8591 or send an email to: stephanied@culpeperswcd.org.

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