

## A SMALL "BIRD'S EYE VIEW" OF ENVIRONMENTAL EDUCATION TOPICS IN LOCAL ELEMENTARY SCHOOLS



VALLEY ELEMENTARY-BUILD A BUG PRESENTATION



VALLEY ELEMENTARY-BUILD A BUG ACTIVITY



Millboro Predator/Prey Environmental Relationships game



EAR PROTECTION TEAMWORK



CALLAGHAN ELEMENTARY- LEAF PACKS



SHARON ELEMENTARY- LEAF PACK

### Soil Surveys

Bath, Highland, and Allegheny County surveys are available on the internet Web Soil Survey at <http://websoilsurvey.nrcs.usda.gov>. There are instructions to help guide the user in outlining an area of interest and producing a soil map and information. Additional soil reports and descriptions can be obtained at Soil Data Mart @ <http://soildatamart.nrcs.gov> which is a website fairly easy to navigate.

### Thank You

We would like to thank all cooperating agencies and governmental units at the federal, state, and local levels, as well as the fine people that encompass the Mountain District for their cooperation and support. The Mountain Soil and Water Conservation District program is a program for the people, and only through the cooperation of the people will it succeed.



We work with the people who work the land.

The Mountain Soil & Water Conservation District, a legal subdivision within the state of Virginia, is charged with conserving the soil and water resources of Highland, Bath, and Allegheny Counties, and the City of Covington. The District works closely with the following agencies in order to help farmers, other landowners and land managers, businesses, and local units of government in the wise management and protection of their natural resources.

### U.S. Government

**National Resource Conservation Service (NRCS)**-Technical Assistance and Planning in conservation, Soil surveys

**Forest Service**-Management of National Forests and related Environmental Issues

**Farm Service Agency (FSA)**

Cost Sharing for conservation practices

### STATE OF VIRGINIA

**Virginia Division of Soil & Water Conservation**-The Administrative Agency for Conservation Districts provides guidance for employees, Erosion and Sediment Control, Conservation Tax Credits, and Nutrient Management Planning

## ANNUAL REPORT 2017

ALLEGHANY COUNTY, BATH COUNTY, HIGHLAND COUNTY, and the CITY OF COVINGTON July 1, 2016-June 30, 2017

## MOUNTAIN SOIL & WATER CONSERVATION DISTRICT

65 Courthouse Hill Rd.

P.O. Box 310, Warm Springs, Virginia 24484

540-839-4616 or 1-800-254-3854 Fax: 540-839-5246

**Virginia Association of Soil & Water Conservation Districts**

**Virginia Department of Game & Inland Fisheries**-Wildlife Conservation, Planting materials and Fish Stock

**Virginia Cooperative Extension Service**- Education and information

**Virginia Department of Forestry**- Management of privately owned forests and related environmental issues

**Vocational Agriculture (Vo-Ag)**-Training high school students about proper conservation practices

**Department of Environmental Quality (DEQ)**-Environmental management and regulations

The District is governed by a Board of Directors, who serve without salary and are elected by the voters of the District. Two Directors are elected from each county unit. Douglas P. Horn, Extension Agent, Bath/HighlandCounty, is appointed by the Virginia Soil & Water Conservation Board for a 4-yr. term.

Ellen Ford, Bath County, is also appointed by the Board to serve as a Director-At-Large for a 4-yr. term. The composition of the Board as of June 30, 2017 is as follows:

**Chair** Ellen Ford  
**Bath County**

**Vice Chair** Terry King  
**Bath County**

**Secretary** Dave Peters  
**Asso. Director Bath County**

**Treasurer** Dean Beverage  
**Highland County**

**Members:**  
Allen Dressler  
**City of Covington**

Jim Sponaugle  
**Highland County**

Nicholas B. Pillow  
Christine Hodges

**Allegheny County**  
Floyd C. McCoy, Jr

**Bath County**  
Douglas Horn

**Ext. Agent Appt.**

The Commonwealth of Virginia supports the Mountain Soil & Water Conservation District through financial and administrative assistance provided by the **Department of Conservation and Recreation. (DCR)** Also, with the help of local funds, and self-generated funds from the equipment program, the District employs Lorie Baldwin, Office Administrator; Sue Ailstock, part-time BMP Coordinator; and Chris Swecker, Conservation Specialist. Teresa Reed and Debrena Gordon serve part-time as the Environmental Educators. This position is also supported by a grant from the Allegheny Foundation. They provide programming, professional development training for teachers, and assist in building outdoor classrooms at local schools located within the District.



**MOUNTAIN SOIL & WATER CONSERVATION DISTRICT STAFF**

Sue, Chris and Lorie

**District donations and activities**

The District made a donation again this year to be used by a student for Forestry Camp held at Holiday Lake.

++++++

The District donated to the 4-H Dominican Republic Environmental Service Program



2016 4-H Day Camp  
Dominican Republic

++++++

The Mountain Soil & Water District supports Environmental Education in schools located in Allegheny, Bath, and Highland Counties and the City of Covington.

++++++

The Mountain Soil & Water District meets the third Wednesday of every month at the Bath County Library in Warm Springs, VA at 9:30 a.m. The meeting is open to the public.

++++++

All of the District's programs and services are offered on a nondiscriminatory basis, regardless of age, color, race, disability, gender, gender identity, gender expression, political affiliation, religion, sexual orientation, genetic information, veteran status, marital or familial status, or any other basis protected by law.

**2016 CONSERVATION FIELD DAY**

The Mountain Soil and Water Conservation District Field Day took place on Wednesday, August 17, 2016 in Allegheny County beginning with registration and welcoming remarks at Merry Go Round Farm at 9:45A.M. The program proceeded with Jacob Wright, current owner of Merry Go Round Farm giving the history of the property and how it is currently being used. Then the group heard from John Wright, VDOF about current forest health and how that related to wildlife health and habitat. Melissa Kelley, FSA, updated the group with current programs and opportunities for landowners. The group then walked down to steam to hear from Sammy Vest, Trout Unlimited, about water quality and how that affects trout habitat. Also, informed those present of the numerous conservation programs available within the Upper James River Watershed. Everyone then traveled to the Eastern National Children's Forest Trail where USFS staff briefed the group on history and current status of the forest. The tour ended with complimentary lunch at Merry Go Round Farm. There were 36 in attendance for the field day.



JOHN WRIGHT, VDOF TALKS TO THE GROUP ABOUT FOREST HEALTH AND HOW IT IS CURRENTLY BEING USED.



SAMMY VEST-TROUT UNLIMITED TALKED TO THE GROUP ABOUT WATER QUALITY AND HOW THAT AFFECTS TROUT HABITAT



ELIZABETH MCNICHOLS, DISTRICT RANGER, US FOREST SERVICE, AND TWO MEMBERS OF THE USFS STAFF AT THE EASTERN NATIONAL CHILDREN'S FOREST TRAIL



JACOB WRIGHT, OWNER OF MERRY GO ROUND FARM, GAVE THE HISTORY OF THE FARM AND HOW IT IS CURRENTLY BEING USED.

**YOUTH ACTIVITIES**

**Environmental School Programs**

The following outreach programs are a sampling of available programs:

- 1. Soil Conservation
- 2. Macro-Invertebrate Study/Leaf Pack
- 3. The Enviro-Scape
- 4. Worms, Worms, Worms
- 5. Vermicomposting



Teresa Reed, Environmental Educator—Talks about Soil Health & Pollinators at the Agriculture Natural Resources Day. Ag Day was sponsored by Virginia Cooperative Extension. Lorie Baldwin, MSWCD, also volunteered for the day.



SHARON ELEMENTARY  
CRAYFISH



SHARON ELEMENTARY SCHOOL-Ear protection STEM projects

**Year End Report for the Mountain District 2016-2017**

Even with seeing student classes once a month instead of twice a month, I have stayed very busy for the 2016-2017 school year. I was able to complete post-tests for each of the schools. Overall the students had a decent amount of knowledge about the topics in question. I provided programming for all schools; Callaghan, Sharon, Mountain View, Edgemont, Valley and Millboro Elementaries.

Lessons from this programming correlated to the VA Standards of Learning. I hear time and again what a tremendous help this is for our teachers. The students have really enjoyed the hands on experiences. STEM proves to be effective and beneficial. It is critical to learn the skills STEM's teamwork brings. Of course we are educating their minds, but also developing better health and wellness ideals. They have enjoyed these experiences. We are working to bridge what children are taught in school to practicing it in their daily lives. Our experiences always bring in more than the school system can accomplish with the SOLs. Thank you for supporting me with this programming. It has been a pleasure for all involved.

Teresa Reed – Environmental Educator, MSWCD



MOUNTAIN VIEW ELEMENTARY- LEAF PACKS

**AREA I ENVIROTHON 2017**

Bath County High Schools students participated in the Area I Soil & Water Conservation District annual Envirothon Competition at Natural Chimneys Park in Mt. Solon, VA, on April 26, 2017. The Envirothon program is field-oriented, community based competition that gives students the opportunity to apply their problem solving skills and Knowledge of natural resources in an exciting outdoor competition.

Teams of students from Augusta County, Rockingham County, Shenandoah County, Page County, Fredrick County and Bath County participated in this year’s event. The competition required students to rotate between stations, answering questions presented to them by representatives from local conservation and natural resource agencies including: Virginia Department of Forestry, Virginia Department of Environmental Quality, and the Natural Resources Conservation Service. This year’s environmental issue was **agricultural soil and water conservation stewardship**.

At the competition, students competed in aquatics, forestry, invasive species, soils and wildlife testing stations and answered questions in both written and hands-on formats. Students applied their knowledge of these topics and problem solving skills through an oral presentation, where teams proposed a management solution related to the current environmental issue to a panel of judges consisting of natural resource professionals.

The goals of the Envirothon are: to promote a desire to learn more about the natural environment and develop knowledge and skills to apply the basic principles and practices of resource management and ecology; to promote the stewardship of natural resources and develop critical thinking skills, cooperative problem solving skills, and decision making skills of students to balance the quality of life and quality of the environment; and to provide students with experience in environmentally oriented activities that enables them to become environmentally aware, action oriented. The competition held on April 26<sup>th</sup> was sponsored by the Mountain Soil and Water Conservation (local office) and the Area I Soil and Water Conservation District with financial support provided by Dominion Resources. Lorie Baldwin & Ellen Ford, MSWCD volunteered for the Day.



**BATH COUNTY HIGH SCHOOL TEAM**

**L to R: Caleb Reist (back), Sarah Lane, Brandon Ryder (back), Easton Yohe, Eli Durnan (back) Amber Yohe (Coach), Kayala Jordan (Coach), Faith May, Austin Dean, Samantha Stinespring**

**CHESAPEAKE BAY COST-SHARE PROGRAM**

The Mountain Soil and Water Conservation District includes both the James River Watershed, and is the headwaters for the Potomac River. The Virginia Agriculture Best Management Practices Cost-Share Program (VACS) is administered by (DCR) Department of Conservation & Recreation through local SWCD’s as well as the state portion of the Conservation Reserve Enhancement Program (CREP). The program’s goal is to improve water quality in our rivers, streams, and the Chesapeake Bay. We paid out the following in Cost-Share Payments from July 1, 2016 to June 30, 2017:

**VACS Total Paid : \$279,791.81 (\$28,221.30 for FY17, \$56,705.79 for FY16 carried forward to FY 17 and \$194,864.72 for FY 15 but approved in FY 16 and carried forward to FY 17)**  
**CREP Total Paid: \$ 9,267.00 CB CREP (SB) FY17**

Several Best Management Programs (BMP’s) funded by the state, help the district to implement the Nutrient reduction strategies. Some of the more popular practices currently being used are:

<b>FR-3</b>	<b>Woodland Buffer and Filter Area</b>	<b>SL-1</b>	<b>Long Term Permanent Vegetative Cover on Cropland</b>
<b>SL-6</b>	<b>Stream Exclusion w/ Grazing Land Management</b>	<b>SL-8B</b>	<b>Small Grain Cover Crops</b>
<b>SL-8H</b>	<b>Harvestable Cover Crops</b>	<b>WP-2</b>	<b>Stream Protection</b>
<b>WP-2A</b>	<b>Streambank Stabilization</b>	<b>WP-4</b>	<b>Animal Waste Control Facilities</b>

**WILLOW CUTTING 2017**

We offered free locally grown willow cuttings for streambank stabilization projects. This year we had (7) landowners from Alleghany, Bath, and Highland Counties receive a total of (400) cuttings to plant on their properties to help with streambank stabilization.

**THANKS TO STAFF, DIRECTORS, AND VOLUNTEERS ON WILLOW CUTTING DAY!!!!**



**ELLEN FORD, CHAIR-MOUNTAIN SWCD  
HARD AT WORK CUTTING WILLOW CLIPPINGS**



**GARRY SHANKS AND RICKY BALDWIN , VOLUNTEERS  
FINISHING UP A BUSY MORNING OF CUTTIING AND  
GATHERING WILLOW CLIPPINGS**



MAKING A SPIDER WEB FROM DENTAL FLOSS ON GREEN PAPER



SCAVENGER HUNT/TRAIL WALK



THE STUDENTS BUILT A BEAVER DAM USING TAPE, PLAYDOUGH, AND POPSICLE STICKS



BUILDING A VEHICLE OUT OF MINTS, INDEX CARDS, AND STRAWS (NO TAPE) TO GO DOWN A TEXTBOOK ELEVATED RAMP



STUDENTS BUILT A BIRDS NEST FROM THE SCAVENGER HUNT. OUTSIDE TIME ALSO INCLUDED A TRAIL WALK AND A VERNAL POOL LESSON

#### 2017 4-H FORESTRY FUN DAY

The 2017 4-H Forestry Fun Day was held on May 31, 2017 at Millboro Elementary School. This was a free program sponsored by Virginia Cooperative Extension and Mountain SWCD, partnering with Millboro Elementary School. The 4-H Forestry Fun Day was attended by (14) youth and (4) adult volunteers. Leaders were Kim Manion , Millboro Elementary Teacher, Kari Sponaule and Paxton Grant with Virginia Cooperative Extension. There were (4) activities planned for the group plus a snack break furnished by Mountain SWCD. The 1st activity was building a beaver dam using tape, playdough, and popsicle sticks. The 2nd activity was making a spider web from dental floss on green paper. After snack time, the group ventured outside for each student to build a birds nest from a scavenger hunt in the woods. Outside time also included a trail walk and a vernal pool lesson. The last activity of the afternoon was building a vehicle out of mints, index cards, and straws (no tape) that would go down a textbook elevated ramp.

## RENTAL EQUIPMENT

### GRASSWORKS WEED WIPER

The Mountain Soil & Water Conservation District's newest piece of rental equipment is a GrassWorks Weed Wiper. It helps eliminate noxious weeds fast, effective, and economically. It allows the landowner to run the specialized synthetic carpet covered steel rotating drum very saturated. Therefore an ample amount of chemical is available to apply to the targeted weeds. With this constant rotation, any drip issues are eliminated. It applies the chemicals to the stems and the underside of the leaves. This is the weakest portion of the plants which provides an excellent kill. With the adjustment height chemicals are only applied to the targeted weeds and not wasting chemicals on the desirable crops, grasses, and clovers that the landowner wants to keep. (6) landowners rented the Weed Wiper this year which resulted in 97 acres being treated.

### PASTURE & CROP DRAG

The MSWCD owns a pasture drag to better distribute manure into the ground and reduce runoff in early spring months. We had (12) landowners rent the Drag with 610 acres being treated.

### NO-TILL SEEDER

A major emphasis of any soil & water conservation district is reducing soil erosion and improving water quality. One thrust of the Mountain Soil and Water Conservation District is to promote the use of no-till seeding. The District owns three seeders. During the year 852 acres of orchard grass, clover, timothy, rye, and alfalfa were seeded, resulting in a soil savings of 2,340 tons of soil that would have been downhill, possibly entering our streams and rivers, and the Chesapeake Bay.

### POULTRY LITTER SPREADER

The Mountain Soil and Water Conservation District own three poultry litter spreaders. They are used to help landowners spread their litter more efficiently and therefore help to improve water quality. It gives landowners a better understanding of nutrient management and the importance of following nutrient management plans. The District rents the spreaders out on a daily basis. During the year 76 days were utilized spreading litter and lime ( 74 days for poultry litter and 7 days of spreading lime.). This resulted in 3,435 acres being applied using "Mini-Nutrient" Plans.

+++++

### MULTI FLORA ROSE PROGRAM

The Mountain Soil and Water Conservation District is heavily involved in the administration and coordination of Bath County's multi-flora rose program. During the year 64 landowners were serviced with 2270 acres of land treated. This resulted in 109 mixes of spray being distributed. The County of Bath purchased 143 (2 oz.) containers of Ally and 71 gallons of Aquagene. containers of Ally and 71 gallons of Aquagene.



Above: SL-6 project in Highland County. Rob and Kathy Robertson standing at a Tire Trough

Left: SL-6 project on Buxton Farm in Bath County Mr. Jim White, Renter, looking at a "Ritchie" 4 hole Water Trough