

State Technical Committee Meeting
March 9, 2017 at 10:00 a.m.
Keezletown Ruritan Club
1118 Indian Trail Road
Keezletown, VA 22832

A G E N D A

10:00 – 10:10	Welcome and Opening Remarks	NRCS – Jack Bricker
10:10 – 10:25	Value Added Marketing Piece- <i>Boots on the Ground: Our Conservation Legacy in the Commonwealth</i>	NRCS – Jack Bricker
10:25 – 10:45	Smith Creek Partnership – <i>Year in Review</i>	NRCS – Philip Davis
10:45 – 11:05	<i>Water Quality of the Smith Creek Watershed: Applying lessons learned to the Chesapeake Bay</i>	USGS – Jimmy Webber
11:05 – 11:35	<i>Analyzing Data in the Smith Creek-Gap Creek Watershed</i>	James Madison University– Alfredo Gutierrez- Velasquez
11:35 – 12:00	<i>Smith Creek Family Fun Day</i>	FNFSR– John Eckman
12:00 – 12:45	LUNCH-You are encouraged to bring your lunch.	
12:45 – 1:45	Agricultural Conservation Easements	NRCS – Diane Dunaway
	Conservation Innovation Grants	NRCS – Blaine Delaney
	Regional Conservation Partnership Program	NRCS – Blaine Delaney/ Patrick Vincent
	Environmental Quality Incentives Program	NRCS – Patrick Vincent
1:45-2:15	Partner Updates	All
2:15	Adjourn	

Next State Technical Committee Meeting – TBA
Next Smith Creek Partnership Meeting- August 29, 2017



State Technical Committee Meeting

Programs Report – 3/9/2017

Environmental Quality Incentives Program (EQIP)

- FY17 Total Funding - \$27,882,000
 - o EQIP General Funding - \$16,607,000
 - Chesapeake Bay Funds - \$2,929,656
 - 60% - Livestock Applications
 - 5% - Wildlife Applications
 - 10% - Beginning Farmer/Socially Disadvantaged Farmers
 - Remaining Funding – Cropland, Aquaculture, High Tunnels, Forestry, Conservation Activity Plans, Conservation Innovation Grants
 - o National Initiatives - \$11,505,000
 - StrikeForce Initiative - \$10,00,000
 - National Water Quality Initiative - \$1,000,000
 - Longleaf Pine Initiative - \$175,000
 - Working Lands For Wildlife Initiative - Golden Wing Warbler - \$100,000
 - Organic Initiative - \$145,000
 - On-Farm Energy Initiative - \$85,000
- Current number of applications - 1,192
- Estimated cost - \$24,254,507
- Preapprovals will be made after the March 17th ranking deadline

Regional Conservation Partnership Program (RCPP)

- **RCPP-DCR - Accelerating Chesapeake Bay Watershed Implementation Plans**
Total EQIP Financial Assistance - \$1,450,000
FY16 – 21 contracts obligated for \$575,993
FY17 - 20 applications preapproved for \$865,943
Total EQIP Financial Assistance Remaining - \$8,064
- **RCPP-NFWF - Comprehensive Watershed Conservation in Dairy and Livestock Landscapes of the Chesapeake Bay Watershed**
Total EQIP Financial Assistance - \$992,000
FY16 – 8 contracts obligated for \$652,802
FY17 – 5 applications preapproved for \$323,368
Total EQIP Financial Assistance Remaining - \$15,830
- **RCPP-BRP - Blue Ridge PRISM Landowner Programs Expansion**
Total EQIP Financial Assistance - \$643,915
FY17 – 79 applications preapproved for \$498,751

Total EQIP Financial Assistance Remaining - \$145,164

- **RCP-P-TNC - Upper Clinch-Powell Watershed Partnership**

Total EQIP Financial Assistance - \$2,040,000

Preapprovals will be made after the March 17th ranking deadline 25 pending/eligible applications received for \$906,750

Conservation Stewardship Program (CSP)

- Current Number of Applications – 99
- 24,132 acres allotted for enrollment
- Preapprovals will be made after the May 26th ranking deadline.

Smith Creek

Virginia's Chesapeake Bay Showcase Watershed



43 percent of this intensively farmed watershed is agricultural land with significant amounts of cropland (5,713 acres) and hayland (13,105 acres). From 1992 to 2011, almost 2,465 acres of agricultural land were converted to other uses.

Supporting State Goals

NRCS is partnering with more than 20 groups and organizations in the watershed to improve water quality and support the current Smith Creek Total Maximum Daily Load (TMDL) Implementation Plan.

Overview

USDA Natural Resources Conservation Service (NRCS) and more than 20 partners are helping farmers and residential landowners voluntarily implement conservation practices to reduce nutrient and sediment runoff into the Chesapeake Bay.

NRCS has established three Showcase Watersheds – Smith Creek in Virginia, Upper Chester River in Maryland, and the Conewago Creek in Pennsylvania.

These watersheds are designed to show what can be accomplished when people and groups come together to solve natural resource problems in a targeted area.

NRCS implemented the Smith Creek Watershed project in FY2010 using Farm Bill funds. The goal of the project is to reduce nitrogen, phosphorous, and sediment contributions from soil erosion, over-application of nutrients, poor pasture management, and uncontrolled animal access to streams.

Smith Creek Profile

The Shenandoah Valley is home to 75 percent of Virginia's poultry operations and approximately 46 percent of its dairies. This concentration of animal farms has contributed to nitrogen, phosphorus, sediment, and bacteria pollution in local streams, the Shenandoah and Potomac Rivers, and the Chesapeake Bay.

The Smith Creek Watershed covers 67,335 acres and includes four sub-watersheds: Dry Fork, Mountain Run, War Branch, and Gap Creek. Karst topography dominates the area with 329 sinkholes and 35 caves.

Seventy-five percent of the watershed is in Rockingham County and 25 percent is in Shenandoah County. Of 286.9 miles of streams, 64.34 miles (22 percent) are impaired.

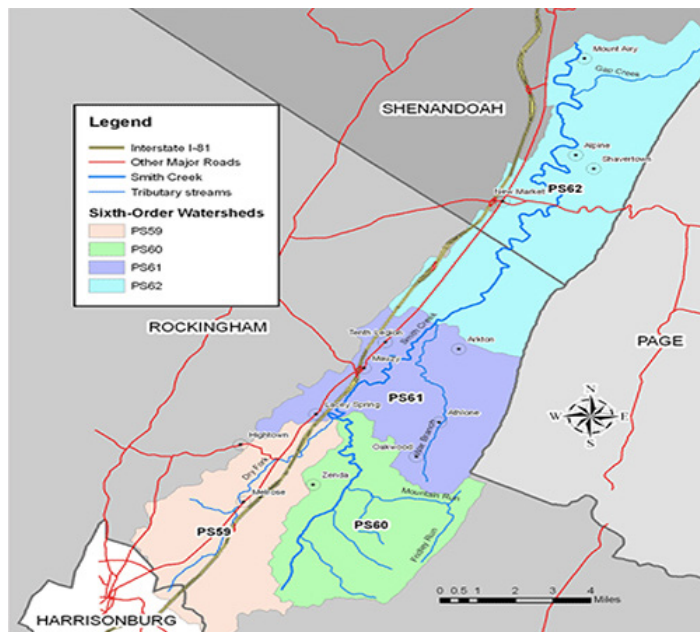
Thirty-three percent of the land is prime or important farmland. Pastureland (10,408 acres) is the dominant agricultural land use. Approximately

Best management practices to address resource concerns include installing riparian buffers, cover crops, rotational grazing and alternative watering systems; constructing waste storage facilities; excluding livestock from streams; and implementing nutrient management practices. Smith Creek is the only small agricultural watershed in Virginia where the U.S. Geological Survey (USGS) is monitoring progress as BMPs are installed.



Landowners in the Smith Creek Watershed are receiving financial assistance to install stream crossings (above left), riparian forest buffers, and other practices to help improve local water quality.

Smith Creek Counties and Subwatersheds



Map Key:

PS59 - Dry Fork

PS60 - Mountain Run

PS61 - War Branch

PS62 - Gap Creek



With over five years of data already collected in this 10-year study, USGS intends to identify the locations of major nitrate sources throughout the watershed and how they are generated (i.e., manure, commercial fertilizer and septic fields) to focus further practice implementation.

- Planting 3,319 acres of cover crops
- Developing plans for 20 waste storage facilities
- Implementing prescribed grazing on 726 acres

Highlights for 2010-2016

The Smith Creek Partnership has conducted extensive outreach over the past five years, personally contacting more than 330 producers and landowners and having multiple partnership meetings each year.

Across the watershed, NRCS and partners have completed 350 Farm Resource Inventories on 70 percent of the watershed's acreage used for agriculture.

In fiscal years 2010-2016, NRCS approved 102 contracts totaling \$2,923,858 on 5,205 individual acres.

Farmers have helped to improve water quality by:

- Applying nutrient management practices on 5,601 acres
- Installing over 21.5 miles of livestock fencing

Contact Information

Smith Creek Partnership Website
<https://smithcreekwatershed.com/>

Philip Davis, NRCS Smith Creek Watershed Coordinator
Email: philip.davis@va.usda.gov or
Phone: 540-433-2853, ext. 117

Rockingham County Landowners
Harrisonburg NRCS Field Office and the Shenandoah Valley Soil & Water Conservation District
Phone: (540) 433-2853, ext. 3 (NRCS) or ext. 4 (District)

Shenandoah County Landowners
Strasburg NRCS Field Office and the Lord Fairfax Soil & Water Conservation District
Phone: (540) 465-2424, ext. 3 (NRCS) or ext. 5 (District)



Family Fun Day (FNFSR)

Outreach Success Story

The Grace family has been active partners in Smith Creek restoration for many years, enrolling 15.9 of their approximately 190 acres in the Continuous Conservation Program and 34.3 acres in the Conservation Reserve Enhancement Program.

Water quality practices at Susie Q Farm include buffers planted to hardwood trees and shrubs and cattle exclusion from streams on the property. They also worked with multiple partners to complete a stream restoration project, which will reduce streambank erosion and improve the water quality and aquatic habitat for native brook trout.

On May 30, 2015, they welcomed more than 120 neighbors to the farm to get a closer look at the conservation practices and the benefits of land-owners and partners working together to get conservation on the ground. The Friends of the North Fork of the Shenandoah River coordinated the **Family Fun Day on Smith Creek**, which included activities like catch-and-release fishing, river bug exploration, and making and racing boats made from natural materials.

Visitors could also take farm tours, watch a "Birds of Prey" demonstration from the Wildlife Center of Virginia and learn more about streamside trees and aquatic species from representatives of the Virginia departments of Forestry and Game and Inland Fisheries.

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Applied Practices for the Smith Creek 10 digit HUC for the period of FY2010-FY2016 - Report Date 03/07/2017

Practice Code	Practice Name	Units	Sum of Applied Amount	Count of Applied Amount
103	Comprehensive Nutrient Management Plan - Applied	no	Does not meet the aggregation standard for public release	
122	Agricultural Energy Management Plan, Headquarters - Written	no	Does not meet the aggregation standard for public release	
313	Waste Storage Facility	no	20	20
314	Brush Management	ac	Does not meet the aggregation standard for public release	
315	Herbaceous Weed Control	ac	274.7	36
316	Animal Mortality Facility	no	Does not meet the aggregation standard for public release	
327	Conservation Cover	ac	Does not meet the aggregation standard for public release	
328	Conservation Crop Rotation	ac	1508.1	130
329	Residue and Tillage Management, No-Till	ac	999.6	64
340	Cover Crop	ac	3319	180
342	Critical Area Planting	ac	Does not meet the aggregation standard for public release	
344	Residue Management, Seasonal	ac	245.2	7
345	Residue and Tillage Management, Reduced Till	ac	841.9	21
351	Well Decommissioning	no	Does not meet the aggregation standard for public release	
367	Roofs and Covers	no	7	7
382	Fence	ft	113674	90
390	Riparian Herbaceous Cover	ac	Does not meet the aggregation standard for public release	
391	Riparian Forest Buffer	ac	Does not meet the aggregation standard for public release	
395	Stream Habitat Improvement and Management	ac	Does not meet the aggregation standard for public release	
422	Hedgerow Planting	ft	Does not meet the aggregation standard for public release	
449	Irrigation Water Management	ac	Does not meet the aggregation standard for public release	
472	Access Control	ac	305.2	82
484	Mulching	ac	17.9	10
512	Forage and Biomass Planting	ac	424.1	49
516	Livestock Pipeline	ft	58859	64
528	Prescribed Grazing	ac	726.3	48
533	Pumping Plant	no	13	13
558	Roof Runoff Structure	no	12	12
561	Heavy Use Area Protection	ac	20.8	33
575	Trails and Walkways	ft	2259.5	6
578	Stream Crossing	no	16	15
580	Streambank and Shoreline Protection	ft	2133	6
590	Nutrient Management	ac	5601.9	333
591	Amendments for the Treatment of Agricultural Waste	ani unt	3474	11
595	Integrated Pest Management (IPM)	ac	9.8	6
612	Tree/Shrub Establishment	ac	Does not meet the aggregation standard for public release	
614	Watering Facility	no	92	83
620	Underground Outlet	ft	Does not meet the aggregation standard for public release	
633	Waste Recycling	ac	1102.5	103
642	Water Well	no	9	9
645	Upland Wildlife Habitat Management	ac	86.5	8
647	Early Successional Habitat Development/Management	ac	14.2	10
659	Wetland Enhancement	ac	Does not meet the aggregation standard for public release	
798	Seasonal High Tunnel System for Crops	sq ft	Does not meet the aggregation standard for public release	
911	TA Design	no	Does not meet the aggregation standard for public release	
912	TA Application	no	Does not meet the aggregation standard for public release	
913	TA Check-Out	no	Does not meet the aggregation standard for public release	
Grand Total			201424.4	1506



United States Department of Agriculture

Boots on the Ground: *Our Conservation Legacy in the Commonwealth*



Virginia

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nrcs.va.usda.gov/

Helping People Help The Land: A Holistic Approach



JACK BRICKER
STATE CONSERVATIONIST

If you hire exceptional people, you can do extraordinary things. At NRCS, that's not just a motivational quote. It's the foundation of our business model. There aren't many places you can go to find the breadth of expertise we offer. Our technical assistance is unmatched and we work hard to keep local experts available to you, bringing back retired staff in a part-time capacity and bringing in students as Earth Team volunteers.

NRCS is also a strong believer in the team approach to conservation. We work closely with our sister agencies, state and local governments, and advocacy groups with like goals to protect Virginia's precious natural resources. We customize our approach for each operation and are one of the few agencies that still makes house calls to offer personalized service. From our new "organic champions" to private lands wildlife biologists, we've got "boots on the ground" to address a broad range of natural resource concerns.

As a Chesapeake Bay state, Virginia has focused significant resources on improving water quality. While we are making an impact every day, it's important to recognize that there is no one-size-fits-all solution to resolving water quality issues. A systems approach is the only path to real progress. Ninety-nine percent of the watershed's cultivated acres have at least one conservation practice in place, an achievement unmatched anywhere else in the United States.

One look at the map below will show you that the story is much the same across the state. Throughout Virginia, we are helping producers maximize efficiency while positively impacting soil health, water quality, and wildlife habitat.

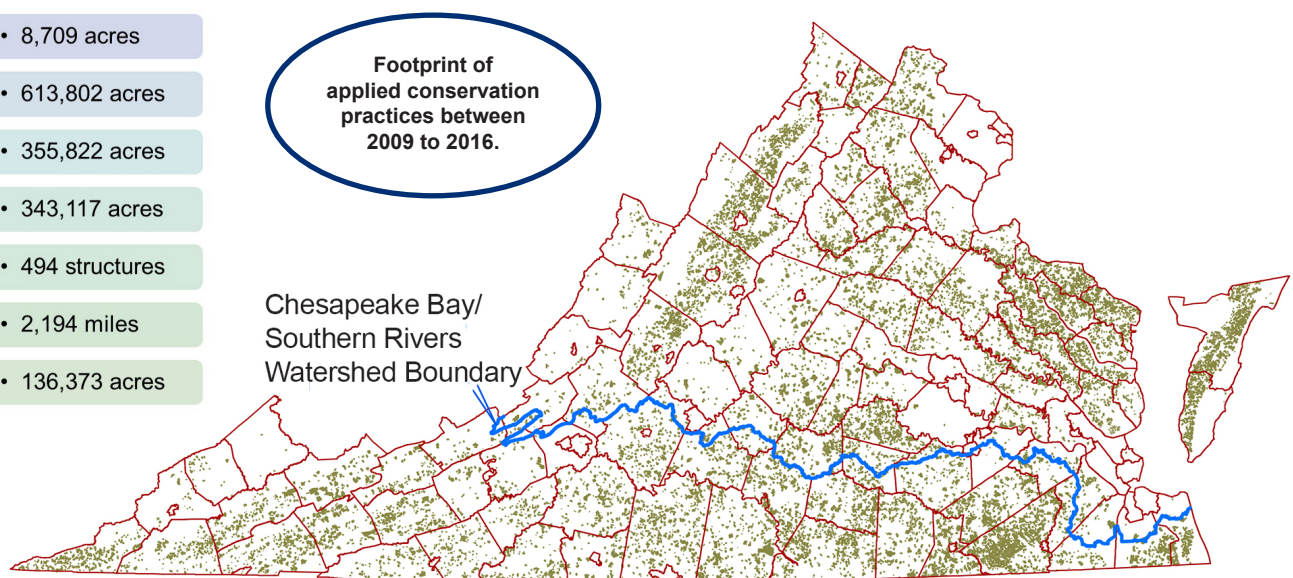
Making Our Mark in Virginia

Since 2009, NRCS and conservation partners have worked with Virginia farmers and forest landowners to install conservation systems on more than 1.2 million acres in the Chesapeake Bay Watershed alone. We have also provided more than \$291 million* in financial assistance to farmers throughout the state. That's a significant investment in family farms and communities.

Most of the conservation work in Virginia focuses on controlling nutrients on livestock operations and on cropland where farmers use manure as fertilizer. NRCS targets investments in high-priority watersheds where nutrient and sediment pollution is highest.

KEY CONSERVATION PRACTICES

Buffers	• 8,709 acres
Nutrient Management	• 613,802 acres
Cover Crops	• 355,822 acres
Residue & Tillage Management	• 343,117 acres
Waste Storage Facilities	• 494 structures
Fencing	• 2,194 miles
Prescribed Grazing	• 136,373 acres



**Figure includes funding provided through 10 conservation programs offered in the 2008 and 2014 Farm Bills.*



CONSERVATION PLANNING (Value: \$36.9 Million in Staff Time)

If you don't know where you're going, any road will get you there. People make plans for everything from vacations to retirements, so they can be prepared and get the results they desire. The same principles apply to conservation.

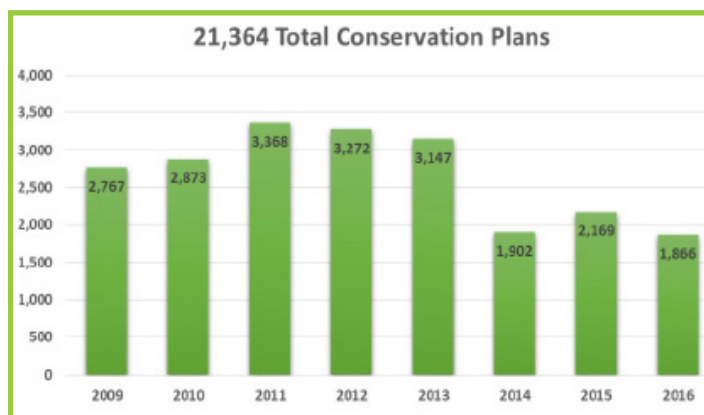
All over Virginia, conservation systems are helping agricultural operations be more efficient, productive, and profitable. These systems also help landowners reduce off-site impacts, comply with environmental regulations, and protect their eligibility for most USDA programs, including crop insurance.

NRCS works with all types and sizes of operations to develop conservation plans to better manage the natural resources on the land. We use a nine-step planning process to make sure each landowner reaches his or her desired destination.

We begin by walking the land to conduct a field inventory of each operation. Working with the landowner, we then develop a conservation plan tailored to the farm or working forest to ensure that the right suite of practices is installed to ensure the best return on investment.

Though all the steps work together as part of an overall system, the two most important components are the landowner's goals and objectives and identifying resource concerns that may present potential barriers.

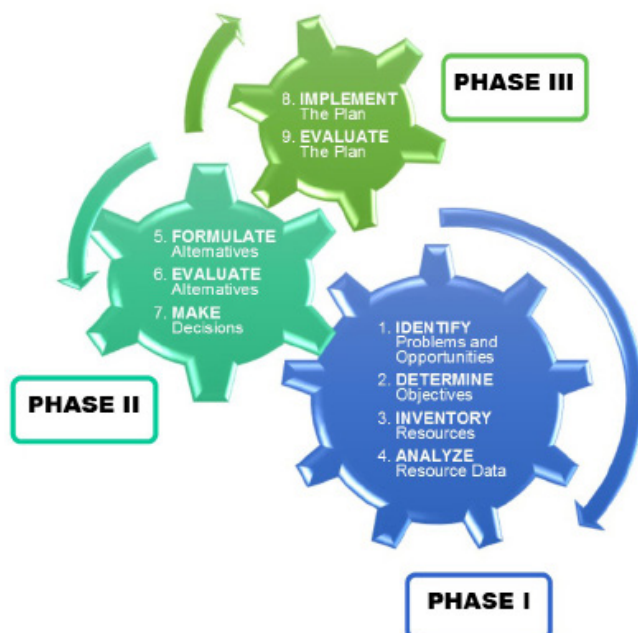
Landowner goals might include lowering production costs, increasing crop yields, improving soil health or water quality, conserving soil, increasing forage production, or providing water for livestock.



DID YOU KNOW?

It takes 40 to 80 hours of NRCS staff time to develop one conservation plan?

9-STEP CONSERVATION PLANNING PROCESS



TOOLS & PRACTICE STANDARDS (Value: \$2 Million in Staff Time)



NRCS has more than 80 years of experience designing solutions for today's natural resource challenges. Our team includes archaeologists, agronomists, biologists, economists, engineers, and specialists from other disciplines who work in concert to provide the most comprehensive technical

recommendations for clients. They also support science-based tools like soil erosion calculators (RUSLE2 and WEPS), C-Graze, Pasture Condition Score (PCS), wildlife habitat evaluations, and water quality risk assessments. These tools are offered at no charge for partner use along with resources like standards and specifications, job sheets, standard drawings, design guides, operations and maintenance documents, and technical notes.

SOIL SURVEYS (Value: \$121 Million*)

The NRCS Web Soil Survey consistently averages around 7,000 public, private, and government users per month. Engineers use the Hydrologic Soil Groups (HSG) to calculate and design Storm Water Management structures that directly affect the Chesapeake Bay.

Hydric Soils, the second most highly requested report, is one of three criteria used to determine whether wetlands are located in an area of interest.

NRCS soil scientists covered a lot of ground to map Virginia's 26,090,600 acres of land. Once completed, the state's **free** soil survey must be maintained and updated at an annual cost of more than \$2.4 million.

**If we were to recreate the survey today, the replacement cost would be more than \$121 million!*



ENGINEERING SERVICES (Value: \$32 Million in Staff Time)

NRCS ensures proper design and installation of conservation practices through an internal quality control process called Engineering Job Approval Authority (EJAA). Depending on the complexity of the practice and required EJAA, field, area, and state office staff may all be involved in the planning, design, and construction of that practice.



Most commonly installed engineering practices in Virginia include waste storage facilities, livestock pipeline, watering facilities, stream crossings, heavy use area protection, and animal mortality facilities. More than 12,000 engineering practices were installed in the Chesapeake Bay Watershed alone between 2009 and 2016.

NRCS also provides planning assistance for large river basin studies, water quality issues, flooding, recreation and water supply reservoirs, and resource inventories. Since 1950, NRCS has helped local sponsors construct 150 dams in 35 watersheds and 27 counties. Between 2005 and 2016, we helped communities rehabilitate 10 of those dams at a total project cost of over \$22.3 million. In addition to flood control protection, 15 of these structures provide community water supply and 37 are used for public recreation.

NRCS has worked closely with the Virginia Department of Conservation and Recreation to digitize subsets of 17 major river basins and 47 nationally recognized watersheds at the two-, four-, six-, eight-, ten- and twelve-digit Hydrologic Unit Code (HUC) levels.



DID YOU KNOW?

If 40 people mapped 30,000 acres per year, it would take 21.75 years to recreate Virginia's soil survey?



FARMER/ PARTNER TRAINING (Value: \$5 Million in Staff Time)



NRCS technical staff conduct outreach and provide free training and direct technical assistance to farmers and partners throughout Virginia. State and local level courses are also offered to Soil and Water Conservation District (SWCD) staff to help them become more proficient in conservation planning and practice design/engineering.

From a week-long conservation planning boot camp to cultural resources and prescribed burn awareness training, NRCS offers a variety of options to help maintain/increase the number of certified conservation planners in Virginia. In fact, NRCS has offered 802 Continuing Education Units (CEUs) since 2012 and has 133 active certified planners.

Our field offices also contributed more than 28,000 hours of staff time to outreach events and demonstrations at local meetings, field days, and training events over the last eight years.

FARM & WETLAND PROTECTION (Value: PRICELESS)

Agricultural land easements protect our food supply and support environmental quality, wildlife habitat, historic preservation, and protection of open spaces. For more than 20 years, Virginia NRCS has been a leader in protecting the state's wetlands and productive farmland through conservation easements.

Working with private landowners and land trust groups, our experienced team of easement specialists has helped protect more than 13,000 acres in 132 easements.

SOIL HEALTH CHAMPIONS (Nearly 14,000 Trained*)



Virginia NRCS staff and partners are long-term champions of soil quality improvement, focusing on proven practices like cover crops, no-till, crop rotation, and rotational grazing. In 2013, Virginia NRCS launched a new soil health initiative to promote a culture of sharing among farmers, staff, soil and water conservation districts, and partners as we unlock the secrets of the soil together.

Our Soil Health Coalition of more than a dozen leading Virginia agricultural and conservation organizations is committed to promoting four core principles:

- **Keeping Soil Covered**
- **Minimizing Soil Disturbance**
- **Maximizing Living Roots**
- **Energizing With Diversity**



NRCS has brought in world renowned experts to speak at workshops and field days and promoted farmer to farmer networking with local soil health champions.

**In fact, we have helped initiate, organize, or support over 160 soil health events since 2013.*

DID YOU KNOW?

At least 85% of Virginia cropland is in no-till or other conservation tillage. (2012 Ag Census)



Protecting Wildlife Habitat and Restoring Critical Ecosystems



Virginia's Private Lands Biologist (PLB) program is now in its eighth year and leading the way on habitat creation and management efforts throughout Virginia. Hired through an agreement

with the Virginia Department of Game and Inland Fisheries and Virginia Tech's Conservation Management Institute, this team of five PLBs has moved beyond an initial focus on Northern Bobwhite quail to habitat management for pollinating insects, songbirds, rabbits, and big game animals in Virginia's open lands and forests.

The team helps administer state and federal financial assistance programs, reviews conservation plans for impacts on threatened and endangered species, and assists Virginia Department of Forestry staff in developing Forest Stewardship Plans for private timberland owners. They also conduct public outreach and mentor the next generation of conservationists through Envirothon events. As wildlife populations face ever increasing challenges, partnerships like this one are helping reverse declines and bring back threatened species.

Planting Seeds of Change



In 2016, Virginia Tech professor Megan O'Rourke received a grant to establish pollinator habitat on 10 Eastern Shore farms and monitor it for pollinating insects, beneficial insects, and wildlife species.

Southeastern Virginia PLB Bob Glennon helped Megan select project sites,

developed site specific seed mixtures tailored to the soil drainage and landowner preferences, assisted with seeding establishment, and recommended maintenance practices throughout the growing season.

Bob conducted two workshops at the Agricultural Research and Extension Center in Painter to teach landowners how to establish and manage pollinator habitat. NRCS and Eastern Shore SWCD employees worked with Bob to establish various seed mixtures in demonstration plots, which will be used in future workshops to demonstrate seed mixtures and management techniques.

LEVERAGING FUNDS

Reducing Runoff with Forestry Practices

NRCS may not have foresters on staff, but we certainly know where to find them! Through our strong partnership with the **Virginia Department of Forestry**, we have increased direct technical assistance to support Farm Bill Programs. A team of 47 field foresters, one Longleaf Pine Coordinator, two pine resource foresters, and 46 field technicians are available to help landowners develop Forest Management Plans.



They work with NRCS field staff to plan and certify practices like riparian forest buffers, tree/shrub establishment, and forest stand improvement. A shared DOF liaison also provides technical expertise and oversight for all forestry-related matters. Together, we have increased the development of forest management plans, trained more than 300 natural resource professionals, and tripled the number of technical service providers.

Restoring Bay Oyster Habitat

Successful growth and harvesting of shellfish contributes to and depends on clean water. The Virginia Aquaculture Program was designed to enhance the sustainability of aquaculture, while reducing adverse impacts on water quality for shellfish producers. Through a special partnership with the **Virginia Marine Resources Commission (VMRC)** and the **Virginia Institute of Marine Science (VIMS)**, NRCS is offering funding to help shellfish aquaculture growers improve water quality and increase oyster habitat in the Chesapeake Bay.



One VIMS staffer and two VMRC employees, funded through two agreements, have offered direct technical assistance to growers since 2010. Joint outreach efforts have resulted in 85 contracts for gear cycling and reef restoration practices valued at more than \$556,000.



FOR MORE CONSERVATION ON THE GROUND

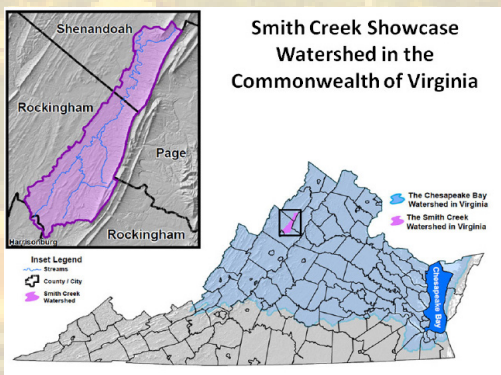
NRCS Virginia is leveraging Farm Bill funding with partner contributions to expand our cadre of technical experts available to work one-on-one with Virginia landowners and watermen. Between 2009 and 2016, Virginia contributed more than \$2.5 million through 27 cooperative agreements to put more boots on the ground throughout the state.

In just two agreements with the Virginia Department of Forestry, we were able to tap the expertise of 96 foresters and technicians to help provide training and landowner services. Partner agreements also supported shellfish aquaculture, targeted conservation in the Smith Creek Showcase Watershed, restoration of quail habitat, and soil health outreach and education.

Targeted Conservation to Clean up Impaired Streams

Over the past six years, NRCS has partnered with more than 20 groups and organizations in the Smith Creek Watershed to improve water quality and support the current Smith Creek TMDL Implementation Plan. Outreach efforts have contributed to increases in the number of nutrient management plans and conservation practices implemented in the project area.

The **U.S. Geological Survey (USGS)** is monitoring water-quality progress as conservation practices are installed to help identify the major sources of nutrients and sediment in the stream. While USGS results indicate small increases in nitrate concentrations at the streamgage over the last 29 years, these activities are starting to turn the tide. It will likely be years before the cumulative effect of these practices can be detected in the Smith Creek water quality.



Establishing and Maintaining Riparian Forested Buffers in the Bay Watershed

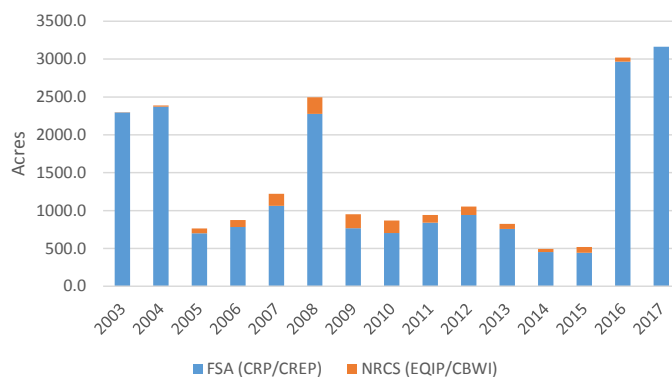
Riparian forests are a unique best management practice that not only help improve water quality but also reduce stream temperature, stabilize stream banks, and restore aquatic ecosystems. For more than 30 years, buffers have been a cornerstone of our strategy with more than 7,000 miles planted in Bay states.



Faced with significant declines in buffer establishment since 2002, USDA launched a Riparian Forest Buffer Initiative in 2014 to develop recommendations for accelerating practice implementation within the watershed. NRCS joined the Farm Service Agency (FSA), state, and private partners in establishing a Virginia task force to identify obstacles and challenges to adopting the practice.

The resulting Chesapeake Bay Riparian Forest Buffer Initiative will offer Virginia landowners increased financial incentives, enhanced technical assistance, and greater flexibility in species selection/stocking rates to promote a permanent land use change. The state team of NRCS, FSA, DOF, and the Virginia Department of Conservation and Recreation is already seeing a reversal on a seven-year decline in buffer establishment with close to 3,000 acres planted in 2016.

Riparian Forest Buffers Implemented in VA



LOCALLY-LED CONSERVATION (Value: \$10.5 Million)

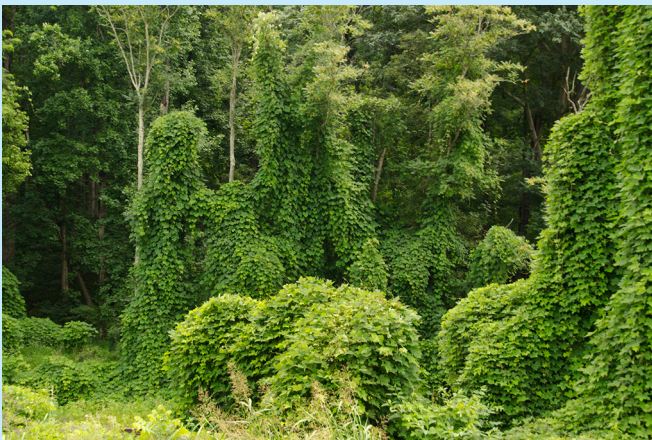
The Regional Conservation Partnership Program (RCPP) puts partners in the driver's seat to accomplish environmental goals. Virginia NRCS is drawing on local knowledge/networks to fuel conservation projects to improve water quality, wildlife habitat, soil health and other resources on working farms and forestland.

Forestry and Invasive Species



Awarded in 2015, our first state RCPP project focused on protecting and expanding the forests that are fundamental to conservation in the Commonwealth. The \$1.3 million project with the **Virginia Department of Forestry** is helping increase adoption of forestry practices among the state's 373,000 forest landowners to reduce sediment and nutrient runoff into the Chesapeake Bay,

control invasive species, and restore diminished tree species and habitat statewide.



©Susan A. Roth

Virginia's 1st Cooperative Weed Management Area, known as **Blue Ridge PRISM**, is aggressively tackling the daunting challenge of controlling invasive species in a 10-county area bordering the Shenandoah National Park. Working through this 2016 RCPP Agreement, we will tackle high-priority invasive species like Tree-of-Heaven, Autumn Olive, Kudzu, and Japanese Stilt-grass. Lessons learned in this five-year project will help Virginia landowners control invasives on a large scale.

Threatened and Endangered Species



Photo courtesy of The Nature Conservancy

The Clinch and Powell rivers are a leading hotspot for biodiversity and imperiled species. These rivers and their surrounding watershed sustain over 40 varieties of rare mussels, including 22 federally endangered species and at least 129 native types of fish, including 17 rare species.

Partnering with **The Nature Conservancy** and **Tennessee NRCS**, we will use a Geographic Information System (GIS)-Based Modeling program to target financial assistance to lands with the greatest restoration needs and potential to provide the most ecological benefits for these aquatic species.



Photo courtesy of The U.S. Fish & Wildlife Service

Brook trout are one of nature's most beautiful fish and the only native trout to inhabit cold, clear streams in the eastern United States. Their presence is also an excellent indicator of clean water and healthy aquatic ecosystems.

Offered in cooperation with the **National Fish and Wildlife Foundation**, this RCPP project is targeting resources in the Dry Fork (Smith Creek), Linville Creek, and Long Meadow-North Fork Shenandoah River watersheds because they show great potential for the recovery of local wild brook trout populations.

NRCS conservationists are working alongside **Trout Unlimited** and the **Shenandoah Valley SWCD** staff to conduct outreach and help participating farmers develop whole farm plans to address water quality concerns arising from livestock access to waterways; storage, handling and application of animal manure; and mortalities. By targeting funding for water quality improvement practices like waste storage and animal mortality facilities, riparian forest buffers, streambank stabilization/exclusion, and prescribed grazing, we can help restore habitat for this important species.

A new 2017 RCPP project with **Virginia Marine Resources Commission** and the **Virginia Institute of Marine Science** will help watermen purchase and deploy shells to prepare the beds for spat on shell seeding. The new shell



significantly improves the success rate in long fallow sites and creates the complex habitat important to many other species of fish, crabs, and other wildlife in the Bay.



CONSERVATION INNOVATION GRANTS (Value: \$1.4 Million)

The Conservation Innovation Grants (CIG) Program enables us to work with public and private partners to evaluate and accelerate adoption of new approaches to natural resource protection. In recent years, NRCS has focused CIG dollars on supercharging our soil health initiative, funding numerous demonstration projects including:

- **Hanover-Caroline SWCD** - Promoting adoption of multi-species cover crops in 13 counties through dozens of on-farm demos in central Virginia.
- **Virginia No-Till Alliance** – Demonstrating and promoting innovative cover cropping and manure injection in the Shenandoah Valley.
- **Virginia Forage & Grassland Council** - Spreading the soil health message through winter conferences, summer field tours, and on-farm demos.
- **Virginia Tech** – Scientifically assessing and demonstrating the soil health benefits of managed/mob grazing.

Other CIG projects have focused on slug management in corn and soybean fields, forestland conversion to silvopasture, nutrient management through precision farming, and incentives to increase adoption of riparian forest buffers.



“The state-level NRCS CIG Program has had a very positive impact on conservation agronomy in Virginia. The value of these grants significantly exceeds NRCS’ cash contribution. The close working relationships fostered by these grants have also caused multiple Virginia Tech/Virginia Cooperative Extension personnel, like myself, to align other aspects of our research and outreach more closely with NRCS priorities.”

— **Wade Thomason, Crop & Soil Env. Sciences, VA Tech**

VIDEOS AND SOCIAL MEDIA (12,000+ Online Views)

Augers and soil probes aren't the only tools NRCS uses to teach soil health principals. We are also breaking new ground with video products and social media outreach to Virginia farmers, partners, and the general public.



Gaining Ground, our first soil health video series, debuted in October 2011.

It featured 11 Virginia farmers sharing how soil health practices had improved their farms and lives. Produced by The Downstream Project, these spots marked the dawn of a new era in communicating conservation messages. To date, more than 6,000 DVDs have been distributed in and out of the state and the products can also be viewed online at www.gaininggroundvirginia.org.



With our newest video series, **Common Ground**, NRCS has joined forces with Virginia Cooperative Extension to share more Virginia soil health stories. Cross promotion of these products yielded more than 800 views of a new profile on “ecoganic” farmer Ellen Polishuk in just one month.



“I am very proud to be part of this project. I appreciate all you’ve done to help me learn and to help our community learn.” — Ellen Polishuk, vegetable farmer, educator, and subject of the Common Ground series

Social Media

Virginia NRCS also shares conservation messages and program updates via the government digital communications platform GovDelivery and to more than 400 Twitter followers.

DID YOU KNOW?

The Virginia NRCS YouTube Channel, launched in September 2015, now houses more than 20 locally-produced videos.



BREAKING DOWN BARRIERS

Virginia State University is one of our strongest partners in conducting outreach to new and beginning, historically under-served, and socially-disadvantaged farmers.

A 2009 cooperative agreement funded two outreach coordinators who worked with the historically black university and Virginia Cooperative Extension to connect with farmers who had not previously participated in conservation programs. A second agreement initiated in 2016 established three new small farm management agents who will work directly with NRCS field staff to enhance technical assistance and outreach to underserved groups in 13 targeted counties.

VSU hosts an annual USDA resource fair at their *Small Farm Berry & Vegetable Field Day* and provides numerous other opportunities for NRCS staff to promote our programs and services at workshops, field days, and demos. Their small farm outreach agents are also opening doors in 25 Virginia counties with the highest concentrations of limited-resource and socially-disadvantaged farmers.

With its Harding Street Urban Ag Center, VSU is on the vanguard of a new movement to bring nutritious food to the state's poorest residents. NRCS and VSU staff are helping the 31st Street Baptist Church and nonprofit Tricycle Gardens expand their urban farm in a Richmond "food desert." The team is using a NRCS-funded high tunnel to grow fresh produce throughout the year and a urban ag certification program is equipping the next generation to establish new farms.



DID YOU KNOW?

Since 2009, NRCS has awarded **1,457 contracts to Beginning Farmers, 66 to Limited Resource Farmers, and 322 to Socially Disadvantaged Farmers** in Virginia.

Veterans and Historically Underserved



Botanical Bites & Provisions, Spotsylvania County. Farming is actually a third career for U.S. Army veterans Tom and Anita Roberson who work alongside their son Julian to grow and sell fresh flowers, fruits and vegetables at their Northern Virginia farm.

Tom spent more than 30 years in the medical field and Anita had a successful federal career, but both found their true passion in farming. They attended VSU workshops and field days where they also learned about NRCS programs and services. With NRCS assistance, the Robersons have installed a high tunnel system, established pollinator habitat, and increased their water efficiency through irrigation practices. They are also planting cover crops to improve their soil health.

After serving in the era of "be all you can be," the Robersons approach farming as an "all or nothing" proposition and say their strong support network of NRCS, VSU, and the local farming community has helped them succeed.

Native American Tribes

Virginia's first people were the original protectors of our soil, water, air, plants, and animals. NRCS carries on that legacy today by working to preserve our state's natural AND cultural resources.

Virginia's Pamunkey Indians are the first of the state's 11 tribes to receive federal recognition. The tribe is part of the greater Powhatan Chiefdom, made up of 30 former Algonquian-speaking tribes.



Since their federal recognition in July 2015, the tribe has been working on a master plan with short- and long-term goals for their reservation located on a 1700-acre peninsula of land and wetlands along the Pamunkey River in King William County. Although NRCS hasn't yet worked with the Pamunkey tribe on a government-to-government basis, we have helped one member get funding for a high tunnel system and developed a conservation plan for a farmer renting Pamunkey land.



DID YOU KNOW?

Between 2014 and 2016, NRCS awarded 106 contracts to veteran farmers in Virginia.

Total value: \$1.9 million

Over the past eight years, NRCS awarded 991 contracts to female farmers or women-owned entities in Virginia. **Total value: \$18.3 million**



Photo courtesy of Copper Cricket Farm

Women Farmers

Waterpenny Farm, Rappahannock County.

If you want to know how and why Rachel Bynum farms, you need look no further than the name she and husband Eric Plaksin chose for their 10-acre vegetable and flower farm. The moniker “waterpenny” refers to beetle larva that can



only live in clean water and highlights their commitment to running a sustainable operation that allows waterpennies and the local ecosystem to thrive.

Rachel and Eric grow in harmony with the environment using ecologically-based sustainable farming methods with no chemical pesticides or fertilizers. Their core strategy of building and nurturing soil health includes cover crops, no-till and strip-till. Today, they provide vegetables, plants, cut flowers, and eggs for sale on their farm, at farmer’s markets, and through a Community Supported Agriculture (CSA) subscription program.

Learn more about their unique journey by watching her “Common Ground” spotlight on the Virginia NRCS YouTube channel.

Beginning Farmers

Copper Cricket Farm, Northampton County. Carol and Arthur Upshur established their farm on the premise that nutritious and flavorful vegetables come from the most natural and non-invasive production methods. They intensively farm a little less than two of the farm’s 42 acres of tillable land in diverse vegetable, herb, fruit and flower production and grow hay mulch on another six acres.

The land is rarely rototilled to preserve underground fungal networks and maintain a balanced subsoil environment. The Upshurs do not use inorganic fertilizers or pesticides, and received a Sustainable Agriculture Research and Education (SARE) grant to develop a hay mulch system

that helps with fertilization and weed suppression. Carol and Arthur also received NRCS funding to plant a hedgegrow that provides a wildlife habitat corridor, pollinator forage, and a northern windbreak.

Now in its ninth season, the CSA provides members with weekly vegetable baskets from early May to the first week of December and also sells at nearly farmers markets. The Copper Cricket team hopes the farm can be a model for those who would like to start farming with minimal upfront investment.

Bethel Bend Farm, Inc., Rockingham County.

Willis Heatwole is no stranger to farming or conservation. His father was an early adopter in their Elkton community, so it was only natural for Willis to follow in his footsteps. Now a co-owner of the family dairy, Willis purchased Bethel Bend in 2011 and



runs it as an extension of that operation. Willis is raising 80 replacement heifers and 25 acres of corn and soybeans to feed the herd. He also raises more than 125,000 chickens for George’s Foods in three broiler houses.

Willis prides himself on running a tidy operation, implementing numerous conservation practices that help keep his pastures green. His practices include livestock exclusion from the stream that runs through his property, a dairy loafing lot management system for his heifers, nutrient management/no-till practices on his cropland, and litter storage for his poultry operation.

Willis and his wife Krystal have won numerous awards for their good stewardship, including the 2014 Clean Water Farm Award from the Shenandoah Valley SWCD. He has also inspired many other farmers in his community to start protecting natural resources on their land.





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Virginia • February 2017



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Technical Excellence and Time-Tested Methods



Deliver Proven Results

YEAR	FARM BILL PROGRAMS (TECHNICAL ASSISTANCE)	OTHER TECHNICAL ASSISTANCE
2009	\$5,058,654	\$12,114,073
2010	\$7,898,453	\$12,125,245
2011	\$8,099,958	\$11,616,862
2012	\$9,131,021	\$10,018,900
2013	\$9,782,973	\$7,837,362
2014	\$7,120,987	\$9,576,210
2015	\$8,504,685	\$9,149,715
2016	\$8,862,990	\$8,142,427
Totals	\$64,459,721	\$80,580,794
TOTAL ALL FUNDS		\$145,040,515

Other technical assistance includes conservation technical assistance, reimbursables, the soil survey, watershed operations, emergency conservation, small watershed rehabilitation, and the Wetlands Reserve Program.

CLIENT SERVICES (2009-2016)

Conservation Planning	\$36.9 Million
Soil Surveys	\$19.2 Million
Engineering	\$32 Million
Tools & Practice Standards	\$2 Million
Farmer/Partner Training	\$5 Million
Total	\$95.1 Million



"I'm grazing more cattle on less ground in a better fashion, and feeding less hay. The returns just keep coming." — Ronnie Nuckols, Goochland farmer and CIG participant



Bringing More Expertise to the Table

AGRICULTURE CONSERVATION EXPERIENCED SERVICES (ACES)

YEAR	NUMBER	INVESTMENT
2009	9	\$151,828
2010	9	\$91,087
2011	9	\$185,741
2012	9	\$217,042
2013	15	\$223,083
2014	20	\$395,117
2015	20	\$481,530
2016	20	\$493,767
Total		\$2,239,195

The ACES Program enables NRCS to bring in experienced workers, age 55 and older, on a part-time basis to help our employees provide technical services in support of conservation.



Earth Team is a program that allows NRCS to stretch available resources by partnering volunteers with employees to provide a wide range of service to private landowners and the public.

These services can include conservation technical assistance, office support, and teaching and generating awareness about conservation through community projects.

VOLUNTEER CONTRIBUTIONS THROUGH THE VIRGINIA EARTH TEAM

YEAR	NUMBER OF VOLUNTEERS	HOURS CONTRIBUTED
2009	1,500	20,839
2010	1,676	13,117
2011	1,003	11,893
2012	653	9,612
2013	1,076	15,796
2014	1,275	16,763
2015	1,631	16,451
2016	2,653	22,159
Total		126,630

In 2016, the value of volunteer time to the agency was calculated to be \$23.07/hour (as established by the Independent Sector and utilized by the Federal Interagency Team for Volunteerism).

DID YOU KNOW?

About 17% of current Virginia NRCS employees started as Earth Team volunteers.

