





West Virginia Conservation Agency







2015 Annual Report

For the year ended June 30, 2015

West Virginia
Conservation Agency

Brian Farkas
Executive Director
bfarkas@wvca.us

1900 Kanawha Blvd., E.
Charleston, WV 25305-0193
Phone: (304) 558-2204
Toll Free: (800) 579-8643
Fax: (304) 558-1635
www.wvca.us

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State Conservation Committee

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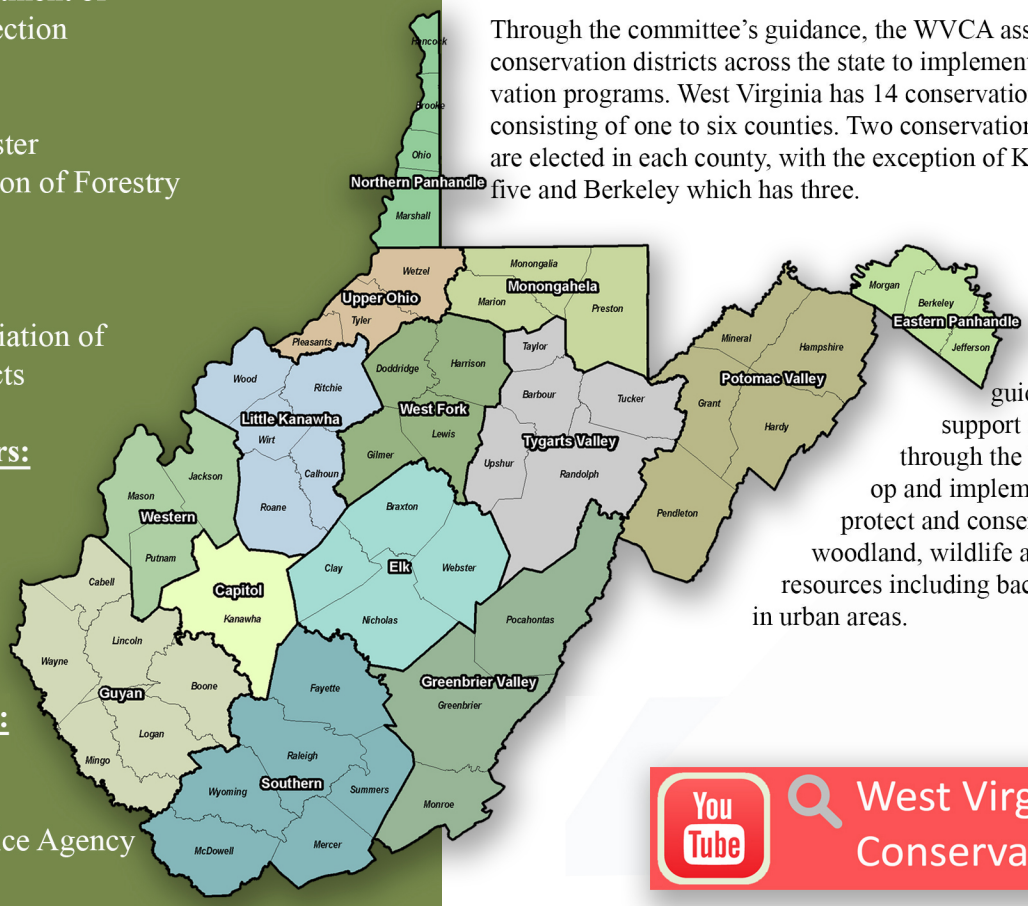
Introduction

The mission of the West Virginia Conservation Agency is to provide for and promote the conservation of West Virginia's soil, land, water and related resources for the health, safety and general welfare of the state's citizens. The state Conservation Committee serves as the governing body of the WVCA.

Through the committee's guidance, the WVCA assists and works with conservation districts across the state to implement a variety of conservation programs. West Virginia has 14 conservation districts, each consisting of one to six counties. Two conservation district supervisors are elected in each county, with the exception of Kanawha which has five and Berkeley which has three.



These local boards operate under the guidance and with the support of the committee, through the WVCA, and develop and implement programs to protect and conserve soil, water, woodland, wildlife and other renewable resources including backyard conservation in urban areas.

West Virginia Conservation Agency

@wvconservation

West Virginia Conservation Agency

Nonpoint Source Program Key Figures



Nonpoint source pollution is water pollution caused by widely dispersed sources of pollutants. Examples include excess fertilizers, herbicides and insecticides from agricultural lands and residential areas.

Watershed Project	Federal Funding	State Match	Totals
Milligan Creek, Greenbrier County Third Congressional District	$137,741	$91,828	$229,569
Annual 319 Grant	$80,138	$53,425	$133,563
Second Creek, Greenbrier County Third Congressional District	$96,065	$64,043	$160,109
Cup Run, Pocahontas County Third Congressional District	$17,069	$11,380	$28,449
Four Pole Creek, Cabell County Third Congressional District	$5,000	$3,333	$8,333
Lost River III, Hardy County Second Congressional District	$120,000	$80,000	$200,000
Muddy Creek, Greenbrier County Third Congressional District	$57,112	$38,075	$95,188
Back Creek, Berkeley County Second Congressional District	$19,950	$13,300	$33,250
Knapps Creek, Pocahontas County Third Congressional District	$17,686	$11,791	$29,478
Elks Run, Jefferson County Second Congressional District	$5,699	$3,799	$9,499
Sleepy Creek, Morgan County Second Congressional District	$8,291	$5,527	$13,819

8,426

Tons of soil saved under sediment and erosion control plans annually

299

Individuals reached by stormwater management workshops

MONITORING OUR STREAMS

In FY15, the West Virginia Conservation Agency monitored a total of 81 stations on 11 streams throughout the state. In addition, numerous stream monitoring workshops were held to educate the public.
At right, Ben Heavener, a conservation specialist from the WVCA's Moorefield Field Office, assists a student in collecting benthic macro-invertebrates, which are insects, crustaceans and various types of worms that live in West Virginia's streams and rivers and serve as excellent indicators of water quality.



Reaching the community

The WVCA hosted a rain barrel workshop during the Master Gardeners of Mineral County's annual expo in Keyser to engage the community in natural resource-related concerns.

Sixteen participants were able to make their own barrels during the class and learned about the importance of rain barrel management.

The city of Moorefield agreed to have storm drain labels made by local elementary school students for the most publicly visible drains around town.

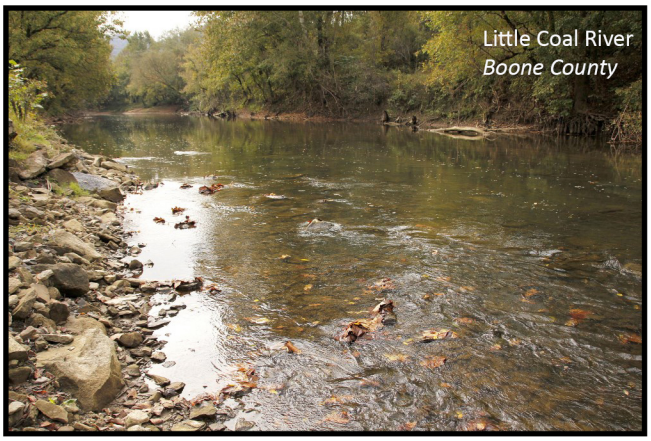
Once students made their drawings, local officials determined the winners. The importance of storm water management was discussed, along with the importance of public awareness of non-point source pollution.

Romney Elementary School fifth-graders took time to learn about the importance of storm water management and pollution prevention as they installed labels they made for storm drains in Romney.

STATE RANKS FIRST IN REDUCING POLLUTANT

In the proper concentrations, nitrogen and phosphorous are part of a healthy aquatic ecosystem. They nourish the growth of algae and plants, which provide food and habitat for various organisms.

But when levels of these nutrients get too high, they become hazardous pollutants. Nutrient pollution harms rivers, lakes, bays and coastal waters all over the U.S., resulting in serious environmental and human health issues. It's also bad for the economy.


Little Coal River
Boone County

With its reliance on fertilizers, the agricultural industry is a major contributor to nutrient pollution, but farmers are learning they can greatly reduce how much phosphorous and nitrogen get into our water. Many states are reducing this kind of pollution, and thanks to its Nonpoint Source (NPS) Program, West Virginia is in the lead.

In March 2015, the federal Environmental Protection Agency recognized the program, ranking it first nationally in reporting phosphorous load reductions (more than 394,000 pounds per year) and fourth nationally in nitrogen load reductions (more than 595,000 pounds).

Pam Russell, division director of conservation services for the West Virginia Conservation Agency, said staff members have earned the recognition.

"The WVCA Nonpoint Source Program has a relatively small staff who consistently accomplish amazing things due to their dedication, commitment and relentless endeavors," Russell said.

"They provide farmers across the state of West Virginia with the best technical skills and knowledge available. WVCA being identified as No. 1 in phosphorus load reductions and No. 4 in nitrogen load reductions in the nation came as no surprise to me."

Elevated nitrogen and phosphorus levels cause algae to grow faster than ecosystems can handle, damaging water quality and decreasing the oxygen fish and other aquatic life need to survive. Large growths are called algal blooms and they can eliminate oxygen in the water, leading to the death of large numbers of fish. Some algal blooms are also harmful to people.

That's why nutrient management plans are integral parts of West Virginia's plan. They serve as foundations for educating farmers on maximizing productivity of soil while also keeping pollutants out of waterways.

The NPS Program assesses, develops and manages federal Clean Water Act Section 319 programs relating to agriculture, construction and urban storm water management. States must provide matching funds to receive the federal dollars that make these vital programs available.

Clean Water Act Section 319 Watershed Grant Projects allow the WVCA to address water quality concerns with a targeted approach. These funds are used to install projects that decrease sediment and pollutants from entering waters. The grants also assist the WVCA's Chesapeake Bay Program.



Salem was once plagued by severe flooding, with some of the most devastating events occurring in 1896, 1904, 1947 and 1950 (the worst on record). But the construction of seven watershed dams, which simultaneously reduce erosion and runoff while slowing stream flow, have reduced flooding in the Harrison County town by an estimated 53 percent.

The state's flood-control watershed dams:

PROTECTING PEOPLE AND PROPERTY

The WVCA and 13 conservation districts are responsible for the operation, maintenance and repair of 170 watershed dams and 22 channels. These dams play a vital role in protecting people and property.

In addition to flood control, they also provide water supply and recreation benefits to 1,060,655 of the state's 1.8 million residents. Their estimated annual monetary contribution is more than $76 million.

Many of the dams are aging and suffering deficiencies such as seeps, erosion, deteriorated metals, easement encroachments, damaged risers and plugged drains. More than 40 exceed 50 years of operation and by 2017, 41 more will exceed 50 years.

The West Virginia Department of Environmental Protection – Dam Safety designated 169 of these dams as "high hazard," which means they pose threats to life and property. Of these dams, about 100 do not meet current design standards.

Take for example the seven watershed dams found along Salem Fork, a tributary of Tenmile Creek, in Harrison County.

Repairs to flood control structures on three of the dams, which are the oldest of their kind in the state and the second oldest in the nation, will ensure they continue to function properly for many decades to come, said Jim Roy, a WVCA watershed technician who is overseeing the repairs.



Workers repair a dam riser in Harrison County.

The dams, most of which are located off of U.S. 50, were built as part of the Salem Fork Watershed Pilot Project between 1954 and 1959. They were one component of a 16-million-acre, 12-state watershed control project authorized by the 1944 Flood Control Act (Public Law 534).

The project also led to a 60-million-gallon reservoir that provided water supply to many farmers in the region, the first of its kind in the nation.

The city of Salem was once plagued by severe flooding, with some of the most devastating events occurring in 1896, 1904, 1947 and 1950 (the worst on record).

However, these dams, which simultaneously reduce erosion and runoff while slowing stream flow, have reduced flood damage by an estimated 53 percent.

"They allow for homes to be built where there used to be floods," Roy said.

Extensive repairs to risers on three of the dams are expected to wrap up in early FY 16. Repairs were needed because of deterioration to the concrete and exterior coating.

The total cost will be about $38,600. Roy said repairs were much-needed.

"The exterior coating was by far the worst I have seen in my time with the agency, and I have been here for 18 years and have seen every dam in the state of West Virginia," he said, adding that the concrete repairs will make the risers stronger and more durable than originally designed.

These efforts are just one part of the $1,032,089 spent on dam operation, maintenance and repair in FY15.


Lunice Creek Dam
Grant County

Watershed Maintenance Key Figures

510

watershed dam inspections yearly

$1,032,000

Annual cost of maintenance/repairs

169

Dams considered "high hazard"


Elkwater Fork Dam
Randolph County


Deckers Creek No. 4
Preston County

RESTORING THE LITTLE COAL

"It's not only a great success; it's also spawning new business."

-Kris Mitchell (Boone County Economic Development Corp.)

In FY15 the WVCA wrapped up a nearly four-year-long project restoring a 15-mile stretch of the Little Coal River.

The stretch of river, which starts near Danville and ends near McCorkle, is located in Boone County, part of the Guyan Conservation District.

The work began in 2011 under a Memorandum of Understanding with the state Department of Environmental Protection, and came to a close in early summer 2015, said Ross Tuckwiller, a WVCA watershed specialist.

Problems with the river ranged from sediment issues to lack of fish habitats, Tuckwiller said. The Coal River Watershed, which includes the Big Coal River, Little Coal River and the Coal River, has suffered serious impacts from mining and logging over the years. This has caused enormous amounts of sediment to build up in the rivers and destroy aquatic habitat.

"Sediment was the biggest problem. It was pretty impacted with mining and development. What you ended up with was this wide, flat channel that was devoid of any habitat," Tuckwiller said. "Biologists call it a 'wet dessert.'"

Most of the work involved placing more than 100 structures consisting of a combination of wood and rocks along the alignment of the rivers. The structures are placed so that they direct the water flow into the inner third of the river, thereby accelerating water flow and flushing away silt. This creates sediment-free pools where fish and other aquatic wildlife may flourish.



Appalachian Stream Restoration of Logan County performs in-stream work on the Little Coal River.

"The rock and log structures narrow the channel and increase the flow of water and expose the substrate that was already there," Tuckwiller said.

The Little Coal is very popular with outdoors enthusiasts. Boaters can paddle the Walhonde River Trail, an 88-mile-long river trail that covers the entire length of the Big, Little and main Coal Rivers. The area also has a water park and several miles of Hatfield and McCoy Trails.

Kris Mitchell, director of the Boone County Community and Economic Development Corp., said the community is already reaping the benefits of a healthier Little Coal River.

She said those who come to paddle the river are often seeing the region for the first time. She said a new business that rents kayaks and canoes is doing remarkably well.

"I spoke with them just a few months ago as they were winding down operations for the season and they were amazed at how well the business did. They are rented out most weekends," she said.

"The river is a huge draw for tourism," she said of events held on the restored Little Coal. "And it's not only a great success; it's also spawning new businesses."

The restoration project was funded mostly by the DEP's river restoration fund, made up of fines and penalties collected from coal companies. The total FY15 expense for the project was $1,425,565.

Stream Restoration Key Figures


Cobun Creek, Monongalia County

Every year, the WVCA removes dozens of blockages from streams throughout the state.

As part of the Stream Protection and Restoration Program, which covers non-emergency situations, stream blockage removals are initiated through citizen or legislative contact reports. WVCA staff then check the site to determine whether the blockage meets criteria for removal.

In FY15, 162 blockages were removed from West Virginia streams, improving quality of life for those living near them.

Stream Blockages Removed FY15

1st Congressional District	69
2nd Congressional District	36
3rd Congressional District	57
Total	162

FY15 also saw the completion of mitigation work on Aaron's Creek near the Fort Martin Power Plant in Monongalia County. It was the first of three streams to be addressed through natural stream restoration there.

The Aaron's Creek work addressed stream issues arising from human activity like unimpeded cattle access. Improvements include reduced soil erosion and nutrient run-off, increased aquatic habitat and terrestrial wildlife habitat, and floodplain reconnection.

Stream Restoration Projects FY15

1st Congressional District (Aaron's Creek and Cobun Creek)	$95,227
3rd Congressional District (Little Coal River)	$1,425,565
Total	$1,520,792

CREATING OPPORTUNITIES FOR WEST VIRGINIA FARMERS

Bill Canterbury purchased his 200-acre Monroe County farm in the late 1960s, and has been farming full time for several years, ever since retiring from his own lime and fertilizer company.

In FY15, Canterbury implemented a rotational grazing system with the assistance of WVCA conservation specialists. Under this system, livestock are continuously moved to fresh pastures to allow vegetation in previously grazed pastures to regenerate.

Managed grazing is shown to produce healthier cattle by ensuring they eat mostly fresh grass instead of grain, protect land by preventing erosion, and increase profitability by allowing the farmer to run more cattle on the same amount of land.

To accomplish this, The WVCA helped Canterbury install 4,200 feet of cross fencing on his farm. Alternative water sources also had to be developed so that cattle could have access to water in each of the newly partitioned pastures. So, the WVCA helped Canterbury develop a well that provides water supply to eight troughs around the farm.

It is still too early to tell just how much benefit he will reap, but some results were quick to reveal themselves.

Just a few months into the new system, his cattle already appeared fleshier and more content, Canterbury said. He plans to increase the number of cattle next season.

"The more you move them, the more they eat, and the more they eat, the more they gain," he said.

He was hesitant at first. Among other concerns, he feared it would be a hassle moving cattle every few days. But he said the animals know when it's time to move and are eager to get onto the fresh pasture where the most desirable grasses have begun to sprout tender new shoots.

"They hear the four-wheelers and they know it's time to move. They're waiting at the gate," he said.

He said his experience with WVCA conservation specialists was positive from start to finish.

"They get the job done and they get it done right," he said.



Helping farmers improve the land and protect their bottom lines

99,966

Feet of exclusion fence erected

14,426

Acres of lime spread

4,596

Acres of cover crop planted

2,818

Acres of invasive species management



WATER FROM THE SUN

Soil and water aren't the only things the WVCA helps farmers conserve; it also helps them save on energy bills.

Keeping livestock out of free-flowing waterways is crucial to the health of a stream or river. Fencing is used to keep the animals away from riverbanks and stream beds.

But once a farmer has fenced off that important water source, an alternative must be established for the livestock that live on the land.

A more environmentally friendly alternative to installing a grid-based pumping system is to help the farmer harness the sun's energy to get the water where it needs to be.

To date, 16 solar pumping systems have been installed on farms in Preston, Pendleton, Monongalia, Monroe, Greenbrier and Hardy counties with help from the WVCA. In FY15, conservation specialists in the Greenbrier Valley District helped three farmers install solar systems.

These systems can pump water hundreds of feet uphill into storage tanks, where gravity flow then takes the water to troughs for livestock. A signal wire placed alongside the supply line tells the pump when the system is full, causing it to shut off.

The typical cost for a solar pumping system is $3,000 - $7,000, said Dennis Burns, a Greenbrier Valley District conservation specialist.

Cost depends on the height and distance the water must be pumped, Burns said.

"For example, an average system in Greenbrier and Monroe counties seems to require about 200 feet of lift and about 1,500 feet of pipe," he said.

"This system should be able to be installed for about $5,000. Systems are usually sized by wattage. The more lift you need, the bigger the pump and the farther you have to run your pipe. Both increase the overall wattage of the system."

Matt Tuckwiller of Greenbrier County said the solar array installed on his farm has been a major help.

"I don't have to pay for city water," said Tuckwiller, a fifth generation farmer who runs about 300 head of cattle on his 720 acres of farmland near Lewisburg.

He said the new system will allow him to run even more cattle on his land.

This is one of numerous services made possible by the WVCA's 319 program, which uses federal and matching state dollars.





Outreach and education highlights

2,731
Students and professionals attended education programs

500+
Contractors educated on sediment and erosion control

43
Educational programs offered statewide





2015

Envirothon Highlights

Each year, more than 100 high school students from throughout West Virginia come together to compete in the Envirothon, a competition that tests their understanding of conservation science topics like forestry, aquatics, soil and wildlife.

To participate, contestants must first put together a team of five students and one adult adviser/chaperone. Teams can be created through school clubs, home school groups, classes, 4-H groups or Scout troops.

For the 2015 event, students used chemical tests to determine water pH, studied macro invertebrates as indicators of water quality, and identified tree and animal species. At stake were college scholarships of between $2,000 and $5,000.

A current topic is added each year. The new topic for the 2015 Envirothon, which was held at Camp Caesar in Webster Springs, was urban forestry. Students were asked to analyze the urban forestry plan for the West Virginia State Capitol Complex.

Several conservation districts also helped students pay the fee to attend Envirothon in FY15.















ROMNEY FAMILY FARM TAKES TOP HONOR FOR CONSERVATION



Chimney Hill Farm in Romney, Hampshire County, is a 1,060-acre cattle farm owned by three siblings who take their roles as stewards of the land very seriously.

Every year the State Conservation Committee and the West Virginia Association of Conservation Districts convene a panel of judges to select one farm that exemplifies the best in agricultural conservation practices.

In 2015, the honor went to a Hampshire County farm that is operated by three siblings. Chimney Hill Farm, a 1,060-acre Romney property, is owned and operated by Tom, Laura and Andy Stump. The farm has been in the family since just after the Civil War.

The Stumps take their roles as farmers very seriously and consider themselves stewards of the land. They run 50 head of cattle on the farm but also have created areas to allow wildlife to flourish.

"There's also many other creatures that live on the farm and they deserve a place also," Tom Stump said. "They have a right to be here. It's a balance and I think we're getting pretty close to being there."

And although West Virginia's 14 Conservation Districts offer a variety of programs to help cooperating farmers pay for conservation-related upgrades to their properties, the Stumps have implemented the vast majority of improvements at Chimney Hill Farm entirely on their own dime.



Brothers Tom and Andy Stump receive their award from WVACD President Jim Moore, WVCA Executive Director Brian Farkas and State Conservationist Louis Aspey.

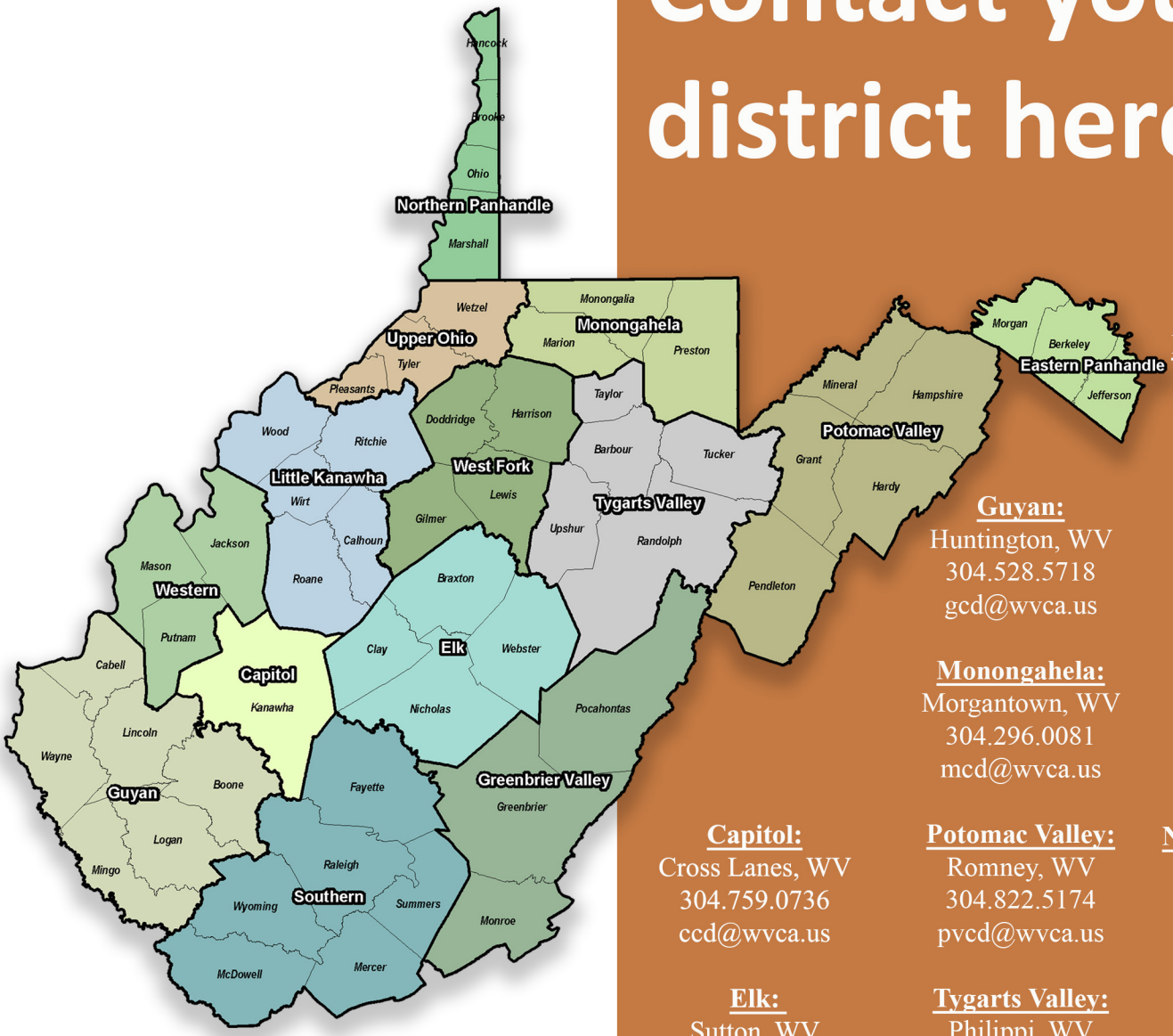
Receiving Second Place were Janet and Jeff Allen, owners of Meadow View Farm in Moundsville, Marshall County.

Kenneth and Norma Allen, owners of Morning Mist Farm in Ballard, Monroe County, came in third. A banquet was held to honor all recipients.

To be in the running for West Virginia Conservation Farm of the Year, each farm first had to win at the county, district and area levels. Judges then toured each of the three farms over the summer and ranked them based on the implementation of conservation plans in conjunction with other community-based activities.

The Stumps will receive a $1,000 check, plaque and the use of a John Deere tractor for 200 hours.

Questions? Contact your district here



Eastern Panhandle:
Martinsburg, WV
304.263.4376
epcd@wvca.us

Guyan:
Huntington, WV
304.528.5718
gcd@wvca.us

Greenbrier Valley:
Lewisburg, WV
304.645.6173
gvcd@wvca.us

Monongahela:
Morgantown, WV
304.296.0081
mcd@wvca.us

Little Kanawha:
Parkersburg, WV
304.422.9088
lkcd@wvca.us

Capitol:
Cross Lanes, WV
304.759.0736
ccd@wvca.us

Potomac Valley:
Romney, WV
304.822.5174
pvcd@wvca.us

Northern Panhandle:
McMechen, WV
304.238.1231
npcd@wvca.us

Elk:
Sutton, WV
304.765.2535
ecd@wvca.us

Tygarts Valley:
Philippi, WV
304.457.3026
tvcd@wvca.us

Southern:
Beckley, WV
304.253.0261
scd@wvca.us

Upper Ohio:
Middlebourne , WV
304.758.2512
uocd@wvca.us

Western:
Point Pleasant, WV
304.675.3054
wcd@wvca.us

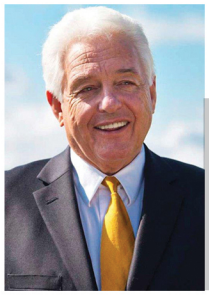
West Fork:
Mt. Clare, WV
304.627.2160
wfcd@wv**ca.us**

VISIT US ONLINE:

www.wvca.us

State Conservation Committee

Ex-Officio Members



Chairman:
Walt Helmick, Commissioner
WV Department of Agriculture
304.558.3550
whelmick@ag.state.wv.us



Randy Dye, Director/State Forester
WV Division of Forestry
304.558.2788
c.randy.dye@wv.gov



Dr. Daniel Robison, Dean
WVU Davis College of Agriculture,
Natural Resources & Design
304.293.2395
djrobison@mail.wvu.edu



Randy Huffman, Cabinet Secretary
WV Department of
Environmental Protection
304.926.0440
randy.c.huffman@wv.gov



Steve Bonanno, Director
WVU Cooperative Extension Service
304.293.5691
scbonanno@mail.wvu.edu



Jim Moore, President
WV Association of Conservation Districts
304.754.8035
jimmoore48@aol.com

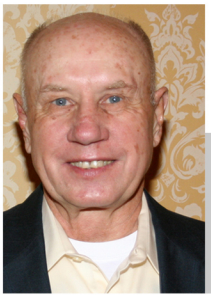
Appointed Members



Angie Rosser
304.637.7201
arosser@wvrivers.org



Boyd Meadows
P.O. Box 549
Milton, WV 25541
304.743.9558



Tom Warner
Rt. 1 Box 159-A
Beverly, WV 26253
304.636.6458



Eli McCoy
2020 Piper Circle
Charleston, WV 25311
304.342.1400

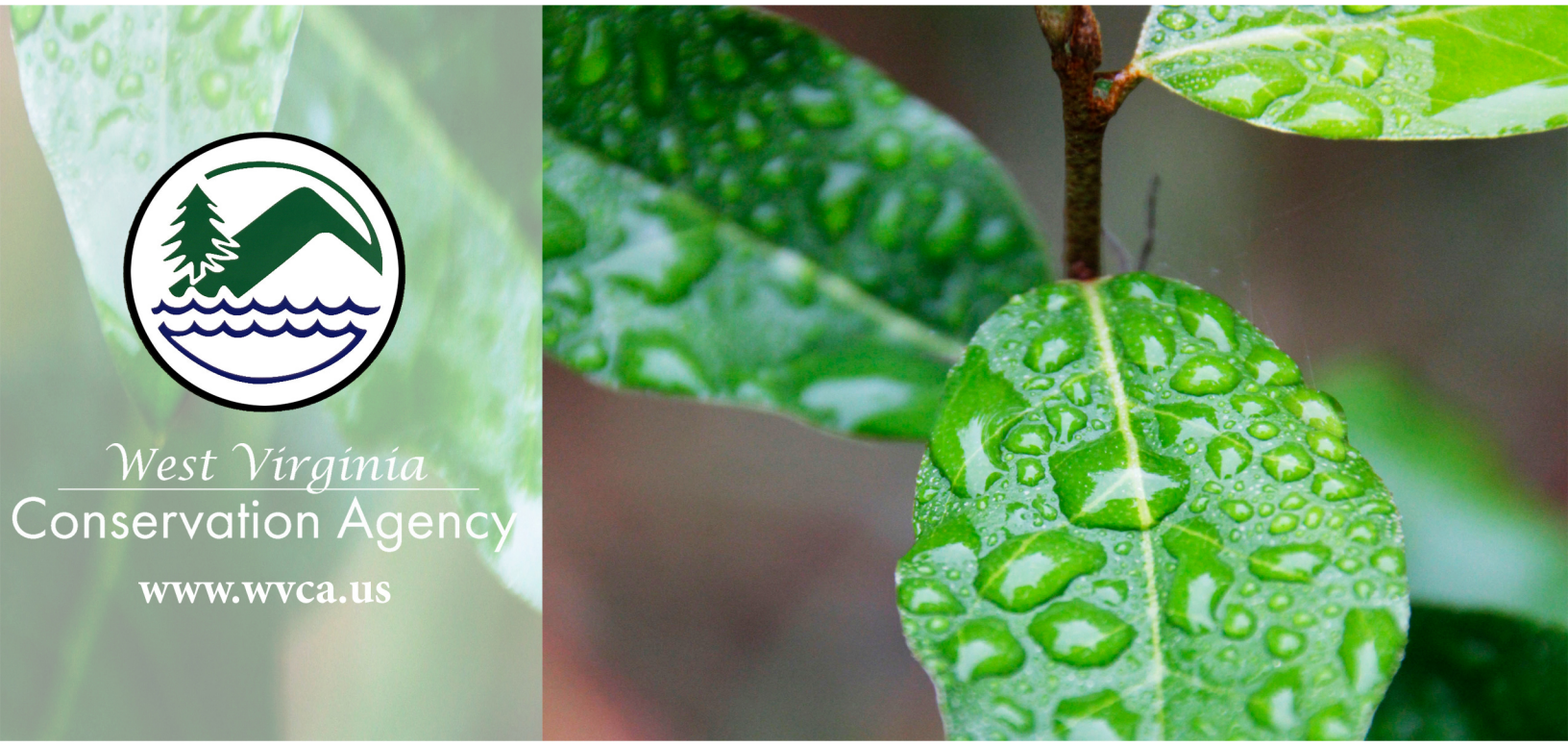
Advisory Members



Rick Snuffer
USDA - Farm Service Agency
304.284.4800
rick.snuffer@wv.usda.gov



Louis Aspey
USDA - Natural Resources
Conservation Service
304.284.4845
louis.aspey@wv.usda.gov



1900 Kanawha Blvd. E.
Charleston, WV 25302-0193
304.558.2204