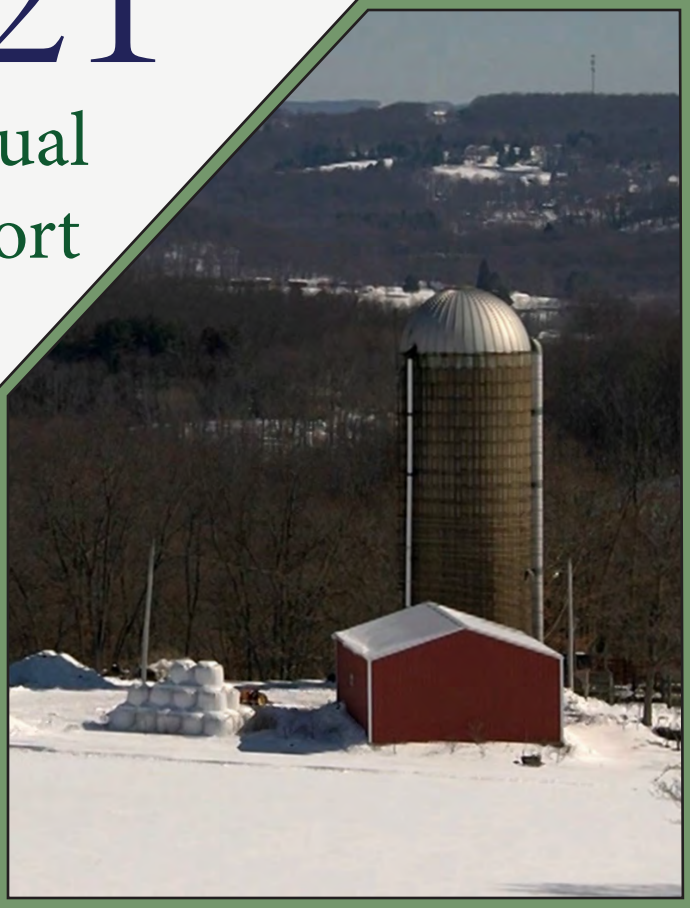
West Virginia
Conservation Agency

2021 Annual Report



West Virginia
Conservation Agency

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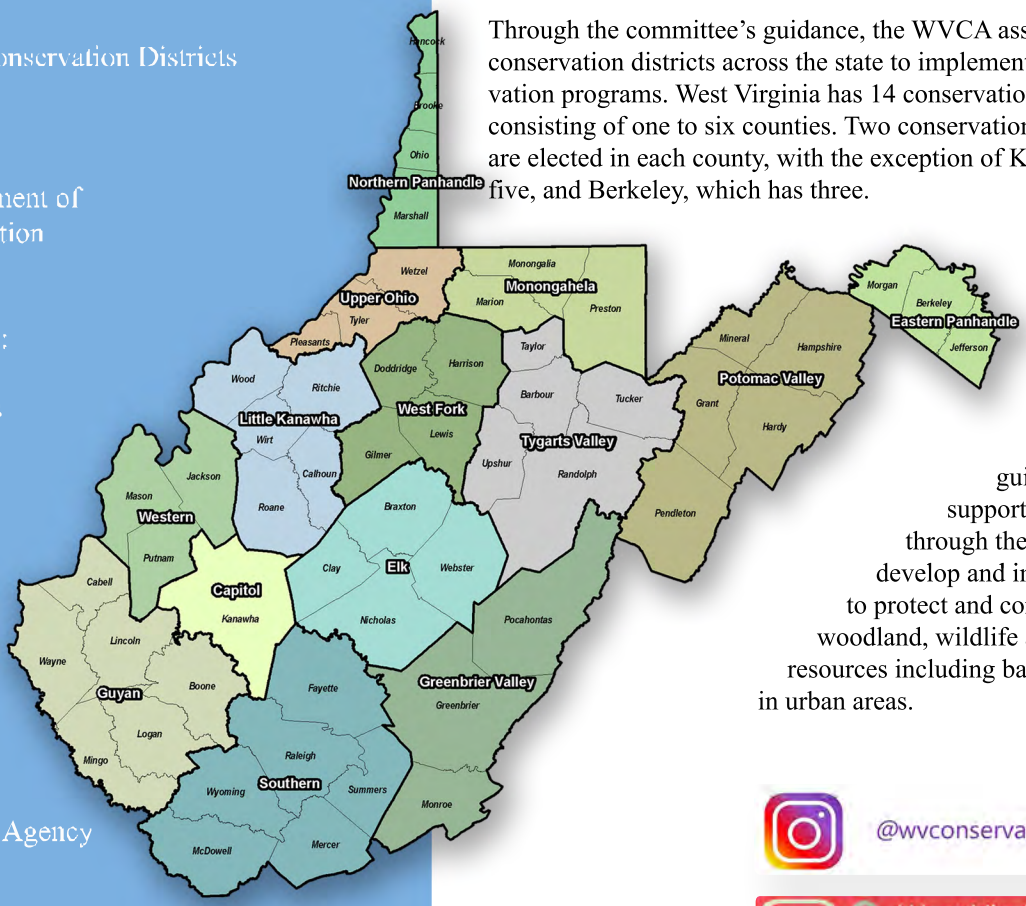
Introduction

The mission of the West Virginia Conservation Agency (WVCA) 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 (SCC) 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 SCC, 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.

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Inside

Watershed Maintenance Key Figures (FY 2021)

$1,169,453
Cost of maintenance and repairs to dams

By legislative dam safety rule, dams are inspected monthly or more frequently.

170
Dams considered "high hazard"

102
Dams are 50 years of age or older

$97.8 million*
In flood protection provided to West Virginia each year

*(Consumer Price Index, year 2022)

*** There are 170 small watershed flood-control dams and 22 flood-control channels in WV.**

*** "High hazard" means failure of the dam could result in loss of human life and/or property.**

*** Nearly 60 percent of West Virginians (1.06 million) are benefitted by the flood-control dams and channels.**

Major repairs are in the works for Warm Springs No. 7 dam in Morgan County

Top left: An emergency water drawdown of Warm Springs No. 7 was completed the first week of October 2021. Top and bottom right: State and local lawmakers met with WVCA officials on Nov. 5 to discuss the work that will be necessary to repair the dam in 2022.

In September, a red flag at Warm Springs No. 7 dam in Morgan County alerted West Virginia Conservation Agency officials to what could be one of the most important dam safety projects ever undertaken by the Agency.

Nearly 4 inches of rain fell in the area around Berkeley Springs on Sept. 1st and 2nd. WVCA watershed technician Geoff Brinker conducted an inspection after the storm and noted an increased water flow and particulate flowing beneath the dam's principal spillway pipe. Fine sands used in dam construction were seen in the flow.

WVCA Engineer Levi Cyphers said a seep had been watched at the site for quite some time, and that it had been on an inspection list for a long time to keep extra attention on.

But the September rainfall brought a significant change to the flow that had been seen before.

"What really raised the red flag on this one is the deposition of soil particles at that outlet," Cyphers said. "When we start moving particles from inside the embankment, that is telling us we've got unstable conditions there."

The water and particulate flow indicated "a void in that embankment."

"It will get bigger and bigger much faster as water continues to flow through there … and lead ultimately to a full failure," Cyphers said. "There's several documented cases of that type of failure nationwide. We call that 'piping' or internal erosion.

"So you basically have a hole through your dam, so you're not going to have any water impounded back there anymore."

Adding to the problem was the unknowns. While the water was up in the reservoir after the rainfall, the pool was in fact a little bit below its normal level because of dry conditions in the area this summer, Cyphers said.

When particles are flowing at the outlet of a seep, you can't really quantify how long it's going to continue to move material through the dam. Further, it's a matter of how much material and how fast the material has eroded from the inside of the embankment, Cyphers said.

See **WARM SPRINGS** on Page 13

Agricultural Enhancement Key Figures (FY 2021)

The Agricultural Enhancement Program supports West Virginia's farm community with cost-share practices to reduce soil erosion, provide alternative water for livestock and improve the productivity of farmlands in the state's 14 conservation districts.

The program is administered by the conservation districts with assistance from the West Virginia Conservation Agency. Supported practices are determined at the local level. Financial and technical assistance are offered to implement best management practices.

117,869
feet of pasture division fence

60,342
feet of exclusion fence

9,124
acres of lime spread

1,362
acres of nutrient management

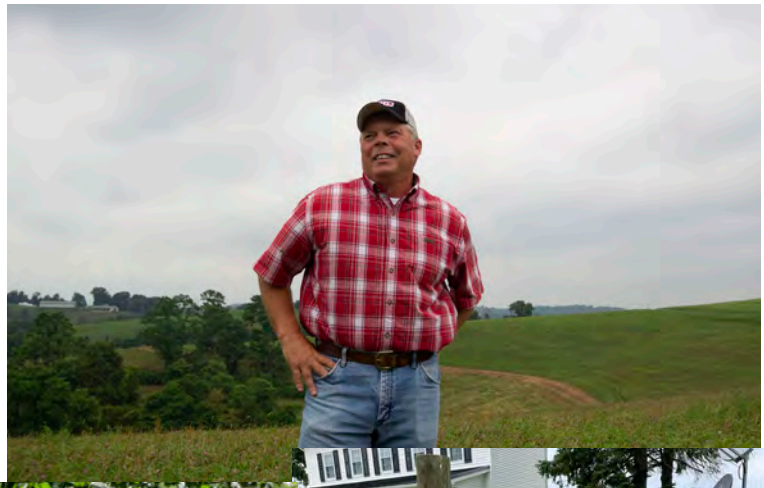
3,116
acres of frost seeding

1,456
acres of invasive species management

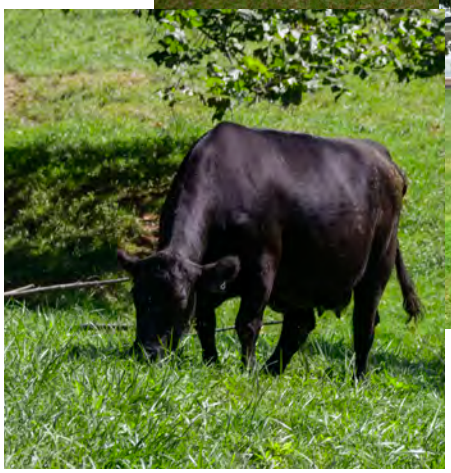
Allens win 2021 WV Conservation Farm of the Year

A cow/calf farming operation near Moundsville in Marshall County whose owners implemented numerous best management conservation practices over 15 years won the 2021 West Virginia Conservation Farm of the Year award during an annual awards ceremony in October.

The West Virginia Conservation Awards Council presented the award on Oct. 19 to Meadow View Farm, which is owned by Jeff and Janet Allen. The Allens, along with their daughter, Kelsey, have operated their nearly 202-acre Northern Panhandle farm since 2006.



Due to COVID-19, this year's award was presented during a virtual ceremony. In addition to being named Conservation Farm of the Year, Middletown Tractor will provide the Allens with the use of a new tractor for 90 days or 200 hours of use. The Allens will have the option to purchase the tractor at a discounted price after the 90 days/200 hours of use is up, according to Brandon Thomas with Middletown Tractor Sales.



The Allens have shown a commitment to conservation practices that protect soil, streams, water, grasses, wildlife, and other natural resources.

The Allens also have re-built nearly five miles of fencing to divide cattle into five pastures, and to exclude them from getting into streams, forests, and crops. Nearly 4,000 feet of wildlife friendly fencing increases visibility of the fencing to animals to prevent entanglement and injury.

Every three to five days, the Allens rotate the cattle from one pasture to the next. This frequent "prescribed grazing" practice is good for the farmland's grasses and soils and prevents erosion problems.

"The rotational grazing has been a big plus for us in the fact that when we bought the farm it was basically two pasture fields, so we've divided it up with divisional fence to where we have five pasture fields now," Jeff Allen said.

The five pasture fields allows for the shorter rotational grazing times of three to five days – five days in the larger fields.

"By being able to do that, they never get the grass picked clear down to where it takes a long time to recover," he said.

The farm also has nine watering troughs that provide cattle with easy access to water in the pastures. A roof runoff system attached to the farm's winter-feeding facility also supplies water to one of these troughs. Also, five new spring developments and two existing springs were redone on the farm to provide plenty of water for the animals.

"When we rotate these cattle, we're set up pretty well as far as water systems in each field," he said.

Also, to prevent erosion problems, 4,200 square feet of heavy-use area protection is provided at the winter-feeding facility and at other points around the farm, which prevents soil loss and mud at areas where cattle tend to congregate, feed or drink water.

The winter-feeding facility also has allowed the Allens to reduce hay waste. Before the facility was built, Jeff Allen fed each cow about seven bales during the winter. He has been able to reduce that to 5 and 1/2 bales per cow.

The Allens also use soil samples to help them determine when and how much lime or fertilizer to apply to their fields to improve the grasses and soil.

"We have applied just under 400 ton of lime to this farm since we started the programs," he said. "I tell everybody that's the place to start: Pull your soil samples, it's going to tell you what each field needs, and then you apply accordingly."

For instance, Jeff has been using custom fertilizer that meets the specific needs of his fields and leaves out chemicals like added nitrogen that isn't needed.

See **MEADOW VIEW FARM** on Page 15

Chesapeake Bay Program

Encouraging the use of voluntary best management practices to promote cleaner water in the Chesapeake Bay watershed in West Virginia.

Project	Federal	State	Total
Eastern Panhandle	$150,000	$150,000	$300,000
Potomac Valley	$150,000	$150,000	$300,000
Chesapeake Bay Communications and Website	$7,000	$7,000	$14,000
PVCD Most Effective Basin Funding for Ag Best Management Practices Implementation	$54,681	$54,681	$109,362
EPCD Litter Transfer	$25,000	$25,000	$50,000
District Support for Education and Outreach	$10,000	$10,000	$20,000
Sleepy Creek Best Management Practices Implementation	$15,000	$15,000	$30,000

Nonpoint Source Program Key Figures

Nonpoint Source Definition: Pollution that results from land runoff due to rain or snowmelt, and may include pollutants like fertilizers, insecticides and herbicides from agricultural lands and residential areas.

Project	Conservation District	Federal Grant	Match	Total
Back Creek Phase IV	Eastern Panhandle	$156,000	$162,824	$318,824
Indian Creek	Greenbrier Valley	$150,000	$100,000	$250,000
Mudlick Run/Anderson Run	Potomac Valley	$110,000	$73,335	$183,335
Elks Run Phase III	Eastern Panhandle	$96,800	$64,780	$161,580
Green Infrastructure Workshop	Southern	$15,000	$13,750	$28,750
Roof Runoff Management	Eastern Panhandle	$5,000	$3,633	$8,633
Nonpoint Source Program Base Grant	none - agencywide	$116,900	$77,933	$194,833

Pipestem Creek and Meadow River/Mill Creek projects to meet conservation goals, help landowners

Two new projects in southern West Virginia are designed to promote water quality and conservation practices but also help landowners correct problems with their septic systems.

The first is in the Pipestem Creek watershed in Summers County in the Southern Conservation District, and the second is in the Meadow River/Mill Creek area of the Greenbrier Valley Conservation District.

Both are "319 projects" – meaning funding is available as part of the Environmental Protection Agency Section 319 Program to address nonpoint source water quality issues -- with a septic system component to them. Yet one project has an agricultural best management practice (BMP) component to it and the other has a streambank stabilization/stream restoration component.

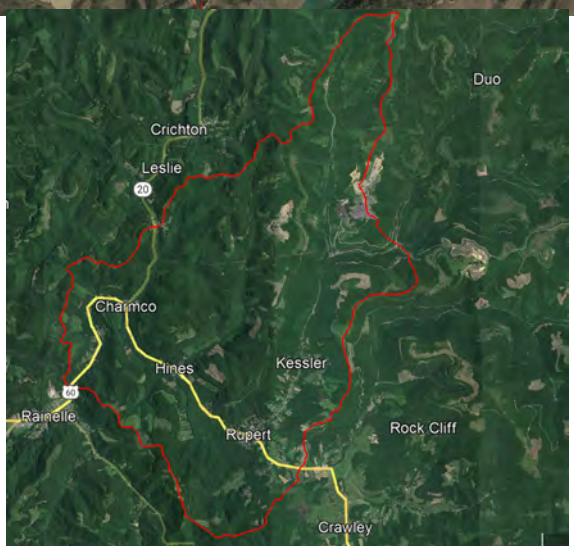
Using EPA funding, the West Virginia Department of Environmental Protection awarded grants to the Pipestem Creek project in the amount of $117,663; it awarded $111,200 for the Meadow River/Mill Creek project. Each grant requires a match that exceeds $78,000.

The Pipestem Creek project is intended to address wastewater from malfunctioning septic systems, which is one of the leading causes of elevated fecal coliform in streams in the Pipestem Creek area.

Also, agricultural BMPs available for cost-share through the project include exclusion and pasture division fence and alternative water development (such as watering troughs, water pipeline, drilling a well or developing a spring).

That's because farm runoff is contributing to the high levels of fecal coliform bacteria in Pipestem Creek.

"Those are kind of our bread-and-butter-type ag practices that we normally do – fencing and alternative water development, in a lot of our 319 projects," said WVCA Conservation Services Manager - South Mike McMunigal.



A postcard was mailed out to let potential cooperators know about the Pipestem Creek project, said Conservation Specialist Kenny Maiolo.

In addition to outreach to spread the word about the project, the WVCA will work with local health departments, McMunigal said, because a sanitarian will need to determine that a septic system is failing so that the Agency and conservation districts can cost-share with a landowner on repair or replacement of that system.

The septic system cost-share amounts for both projects are: 50 percent up to $300 for septic system pumping or 75 percent up to $5,000 for septic system repair or replacement.

Eligible landowners must be within the project boundaries (see maps above) for both the Pipestem Creek and Meadow River/Mill Creek projects.

See **PIPESTEM & MEADOW RIVER** on Page 16

TOP MAP: The Pipestem Creek 319 project in Summers County. BOTTOM MAP: The Meadow River/Mill Creek 319 project in Greenbrier County.

Soil Tunnel Trailer

The West Virginia Conservation Agency Soil Tunnel Trailer was back on the road in late spring of 2021.

Following local and state COVID-19 health and safety guidelines, the trailer was able to visit several schools, fairs and festivals. Conservation Agency staff ensured the safety of the public with regular sanitation practices and limited numbers of visitors allowed in the unit at once.

The Soil Tunnel Trailer is an immersive environment that provides students and adults across West Virginia with a unique educational experience that they can see, and touch.

The sculpted three-dimensional walls of the unit feature the ecosystems in the soils and water that lies only inches below our feet, allowing students to not only visualize but also feel the root systems, microorganisms, animals, aquatic life and invertebrates that live below. With a focus on soil and water health, agricultural specialty crops and nonpoint source pollution, the Soil Tunnel Trailer offers diverse learning opportunities and provides curriculum that follows the West Virginia Department of Education's Content Standards and Objectives.

The educational unit is fully ADA accessible and available to all West Virginia counties through the West Virginia Conservation Agency.

In 2021, the Soil Tunnel Trailer reached more than **16,040** children and adults across the state.

Outreach and Education

More than 32,500 direct interactions with the West Virginia Conservation Agency's outreach efforts were made with people in measurable ways over a year's time.

The outreach included direct mailings of seeds and information about agricultural best management practices, posts on Facebook and Instagram and clicks and "likes" in response, emailed brochures, flyers and messages, exposure at large events to the West Virginia Soil Tunnel Trailer and participation at agricultural field days and fairs and festivals that returned in 2021. Educational videos, virtual teleconferences and sharing information about poster and photo contests are other ways we sought to reach out.

As we first saw in 2020, new interest in gardening was very high, and we sought to meet demand with our spring seed giveaway in 2021 and by sharing gardening and conservation information with people who were interested.

Distribution of informational brochures like the one (below left) has continued to be a good way to reach people during the COVID-19 pandemic, as face-to-face contact has remained limited at times.

We also were directly involved in organizing and promoting the 2021 West Virginia Envirothon, a conservation education competition for high school students that awards thousands in college scholarships each year. The 2021 competition was a virtual event for the first time.

Brush Creek No. 4 and No. 5 repairs in Mercer County meant to give added life to 60-year-old dams

Concrete repairs were completed at two 60-year-old Mercer County dams in December of 2021.

Construction work began in September and corrections to concrete spalling problems at Brush Creek No. 4 and No. 5 were completed in December. New gates and hardware still need to be installed on both dams' risers.

Risers and gates play a key role in regulating the normal pool level and provide a means of draining the lake if necessary.

In recent years, camera inspections of the principal spillway pipes and the risers at sites No. 4 and No. 5 kept an eye on the dams. In the spring of 2020, a significant change occurred, when watershed technician Brian Fry noted that the pool level was below the riser's inlet yet was still allowing a significant amount of water to flow through and out of the dam's principal spillway pipe.

If the pool is below normal level, you should not see any water exiting the principal spillway pipe, so that tells you there's a problem, said WVCA Engineer Levi Cyphers.

The landowner at Brush Creek No. 5 noticed a similar, yet less severe, problem of water passing through when the pool level was below the riser's inlet.

The district engineer for the Southern Conservation District, CEC, followed up with an investigation and the reservoirs for both dams were drained. Substantial problems with Site No. 4 were discovered.

"We could visibly see damaged rebar there on Site 4," Cyphers said. "It was very obvious once we drained the reservoir that there were pretty big issues there."

In the summer of 2021, a job showing was held and the construction work was bid out. Meadows Enterprises, LLC, of Cool Ridge in Raleigh County placed and won a low bid of $175,000.

The solution for Brush Creek No. 4 called for some rebar replacement and newly poured concrete in three sections of the dam.

The corrections at No. 5 weren't as complicated, and included replacing an existing patch with new concrete and fixing a few other smaller areas.

The process of sounding – where a weighted carpenter's hammer is used to identify areas of concrete that give a hollow sound at damaged spots -- was used to check the integrity of the concrete and the extent of the problem.

On Brush Creek No. 4, bracing was temporarily installed in the fall of 2021 to give the riser the support it needed as degraded rebar and concrete were removed and replaced.

Both dams were built in 1962. The two are part of a 10-dam network in Mercer County that provide flood protection to area residents. All 10 dams are classified as being "high hazard," a regulatory classification that means human life and property could be lost if a dam were to fail. It does not refer to the dams' current structural integrity.

Envirothon 2021 Highlights

Nearly

$22,000

In scholarship money
and adviser/school stipends

56

Students
participated

2,920+

Students participated since 1997

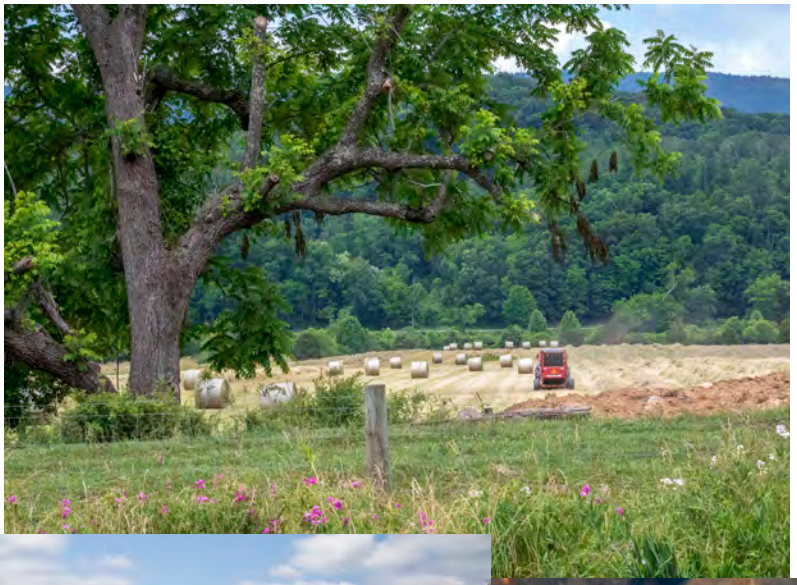
$230,000+

In college scholarships
granted since 1997

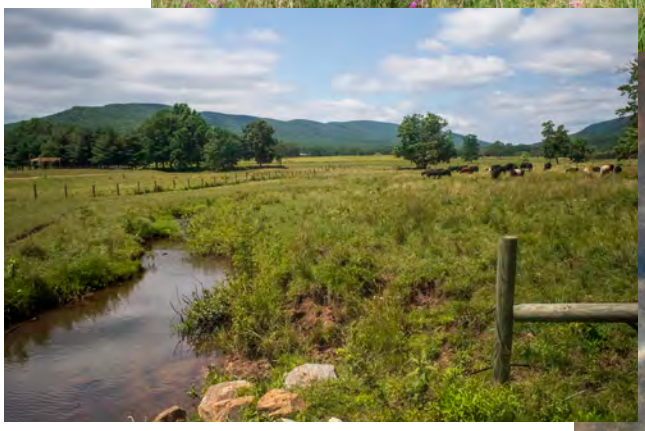
Conservation practices growing on Furrow Farm

With patience and persistence, a decade-long process to introduce and then sustain conservation practices on a Monroe County farm has paid off with real progress, thanks to a cooperator and the WVCA embracing what can come from a mutually beneficial relationship.

While slow at first, WVCA Conservation Services Manager-South Mike McMunigal said the partnership with David Furrow of Waiteville has been a neat process to experience, built on years of open and honest communication about ways to improve the farm.



The work done on Furrow's property – both during his time operating the farm and in his father's time, as well, have been unique projects, McMunigal said.



He began working with David's father, John, about a decade ago.

"We definitely had to juggle John's goals and do a lot of listening," McMunigal said.

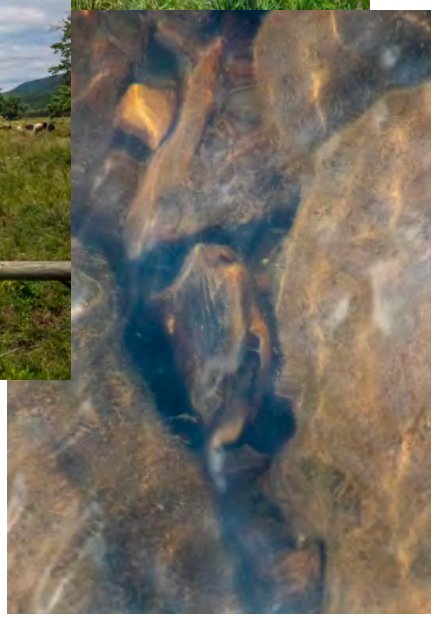
Initially, John was hesitant to do any projects. For instance, he was not interested in installing much exclusion fence along the creek, McMunigal said.

What he was interested in, however, was trying to improve the water distribution and the amount of water on his farm.

"So that provided us with a starting point to begin discussions with John and with David," McMunigal said. From there, things developed and the relationship between the Furrows and the WVCA strengthened, and both parties continued to work on various projects over the years, McMunigal said.

"It's grown to the point where initially John was just interested in trying to improve the alternative water options he had on his farm for his cattle, and it grew into water development and pasture division fence and rotational grazing and exclusion fence along the creek now, and doing riparian plantings along the creek and has gotten us to the point where we are today where we are looking at a comprehensive conservation plan with [David] on the entire farm," McMunigal said. "But it's a process to get to this point."

Over time and after continually working with the Agency on projects, John (who died in 2014) and David both were able to see the benefits they received by implementing some new practices. With rotational grazing, they found that they could grow more grass throughout the year and extend their grazing season and maybe increase their stocking rate.



"The benefit was real to them in that sense because they could realize more profit, they could graze more animals, feed less hay throughout the winter," McMunigal said. "And obviously, the benefit was real to us because we were improving the grassland on his farm and reducing the amount of overgrazing that was going on and that sort of thing."

From there, a natural next step was to exclude the riparian area along Potts Creek to improve David's ability to do more rotational grazing.

"We were able to convince David to put in some true exclusion fencing," McMunigal said. A total of 9,000 feet of exclusion fence is planned for the property.

See **FURROW FARM** on Next Page

FURROW FARM from Previous Page

In exchange, the WVCA assisted in installing a new pressurized watering system with waterline extensions and a new well on the Furrow property.

David Furrow said a new water system will be going into a previously unused pasture.

"That pasture will be in exchange for what we're losing from fencing the creek off," he said, adding that it will be a roughly 1-for-1 acreage exchange for what he'd be losing in the creek bottom.

WVCA Conservation Specialist Mike Yager, who has worked with David since this past winter, said he's been great to work with over the past several months.

"He knows what he wants and we know what we want, so we do a really good job working together to come up with a possible solution to any problem we find," he said.

Yager also has received assistance from the West Virginia Division of Forestry's Craig Okes, who developed a plan to plant hardwood saplings and other plants in the riparian zone.

"We're going to plant various species up and down either bank to stabilize the bank," Yager said.

The collaboration with the Furrows has gone on to include the involvement of and funding from the U.S. Fish and Wildlife Service, NRCS, the Chesapeake Bay Program and the U.S. Environmental Protection Agency.

Also, every five years, the West Virginia Division of Natural Resources conducts surveys of the endangered James spinymussel in Potts Creek.

David welcomes surveys that check the status of the James spinymussel.

"I think it's important to check on the status of the James River spinymussel to make sure they're still here since they are on the endangered species list," he said. "If people want to come and take a look around, to try to find things that might help you in the future or help educate yourself, I always think that's a good thing.

"We've always sort of had the understanding that people can come and go as long as they ask and we know what they're doing," he said.

David also has been a cooperator with the Greenbrier Valley Conservation District for many years and has worked with district supervisors and with staff. In 2019, the district recognized his farm as the GVCD Conservation Farm of the Year.

David has future plans for conservation on the farm, as well as one long-term goal that he may never live to see.

"At one point in time there was native trout as far down as this property. And maybe with the right conservation practices and all maybe we can get native trout back down to the south fork of Potts Creek ... in someone's lifetime," he said. "And I think that's an important thing."

***PHOTOS**:*

***Top**: New waterline has been installed on David Furrow's farm in Waiteville in Monroe County. The waterline is a trade off for excluding his cattle from Potts Creek.*
***Left**: This water trough with heavy use area protection provides a source of water for cattle in this pasture on Furrow's farm.*

WARM SPRINGS from Page 2

And "piping" is the leading cause of non-flood related "sunny day" dam failures.

For these reasons, you can't predict whether the dam will fail in years, months, weeks or just days.

"You just can't predict those kinds of internal erosion failures," he said, later adding, "So just a lot of unknowns, and really the biggest unknown is how long before it fails, because it's going to."

Working with the Morgan County Commission and the Eastern Panhandle Conservation District, WVCA watershed officials moved on an emergency water drawdown of the pool at Warm Springs No. 7. Cyphers credited both for being good to work with on the project.

"It went smooth," he said.

Meadows Enterprises, LLC, was the contractor on the emergency water drawdown.

Draining the reservoir reduces the water storage of the dam down to nothing. Without any impounded water in the pool, the seep can no longer move water and particles through the dam.

Warm Spring No. 7's proximity to Berkeley Springs and U.S. Route 522, the main roadway through town, made the emergency water drawdown even more necessary.

The site is just over a half-mile from Rt. 522, and Warm Springs Run flows directly into Berkeley Springs and its schools, public works buildings, businesses, homes, state park and infrastructure.

Other problems identified with the dam include: both joints in the dam's drainpipe were disconnected, creating a potential source for water to tunnel through the dam; cracks were found in the dam's concrete riser, and damaged concrete inside the riser was allowing water to flow into the principal spillway pipe below the normal pool level.

During routine inspections of dams, WVCA watershed technicians like Brinker are looking for problems like the one he identified in September. Once a problem is identified, the dam is put on a priority list to keep an extra watchful eye out for them.

On Nov. 5, representatives of the WVCA, the Eastern Panhandle Conservation District, and local Morgan County emergency management officials met with top state legislators at the dam site outside Berkeley Springs to explain the extensive repairs that will be necessary at the dam. Senate President Craig Blair of Berkeley County, Senator Charles Trump of Morgan County, Delegate Ken Reed of Berkeley County and Daryl Cowles, an Eastern Panhandle regional representative and a legislative assistant with Gov. Jim Justice's office, attended the meeting at the dam site.

In January 2022, the next steps in the process to repair Warm Springs No. 7 were set to begin.

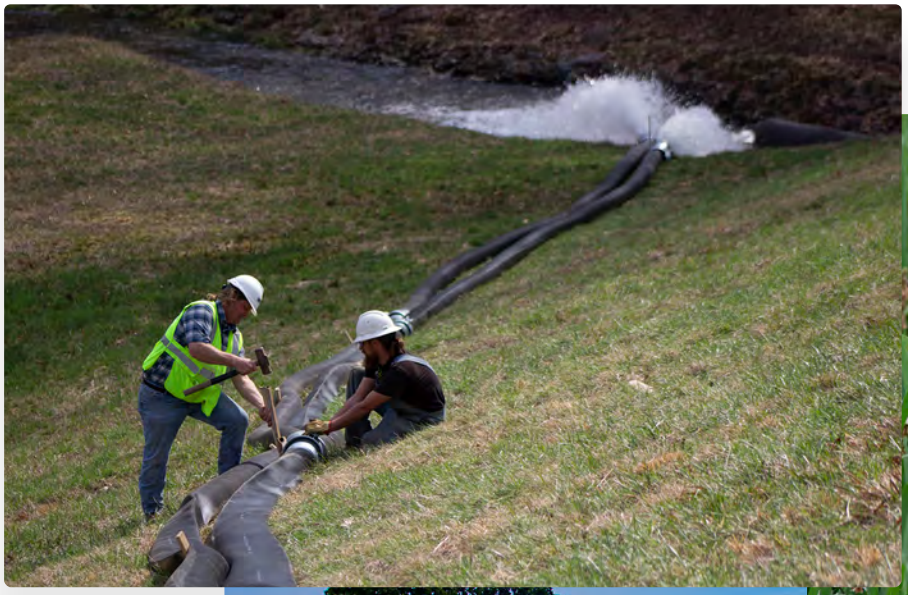
Drilling for soil and rock samples is needed to investigate the extent of the internal erosion. "That kicks off our deeper investigation there," Cyphers said.

He said the dam will be looked at top to bottom, including an analysis of the riser, the seep, the capacity of the auxiliary spillway, and the integrity of the principal spillway pipe.

Following the analysis is design of construction documents to correct the problems with the dam. Then, the first phase of construction is expected to begin in the fall and early winter of 2022.

Different phases of work are needed to make the major repairs at Warm Springs No. 7, including an investigation into the extent of internal erosion, an analysis of several aspects of the dam, and then designs for the repairs and the construction work itself.

Scenes from the Year



Clockwise from Top Left: Watershed Program Manager - North Ed Martin (left) and a worker secure a water drainage line at Upper Deckers No. 2 in the spring of 2021; red clover at Meadow View Farm in Marshall County in late August; a scene near twilight at Antram Farm in late August; a trench burn near Wheeling Creek No. 3 dam in early October; concrete sealant work at Brush Creek No. 4 dam in November in Mercer County.

MEADOW VIEW FARM from Page 4

Over the past 15 years, the Allens have worked with the Northern Panhandle Conservation District, the West Virginia Conservation Agency, the USDA-Natural Resources Conservation Service, West Virginia University soil scientists, WVU Extension, the state Division of Forestry and others to help benefit their operation.

Jeff Allen said the reason he has implemented best management conservation practices is to preserve the land and maximize what the land can do for his farming operation.

"By doing the right thing for the land, then it pays you back in the other respect, and that's what we like, to see that," he said. "And we're to the point now we're seeing a pretty big difference in that, from what it was when we showed up here."

The Allens also are active in their community. Janet Allen is a co-organizer for Ohio Valley Night to Shine, which is a prom for people with special needs ages 14 and older. They are active members of Limestone Presbyterian Church, hosting hayrides and bonfires over the years, and have been active with the Marshall County Fair for many years. Kelsey is currently a member of the fair's board.

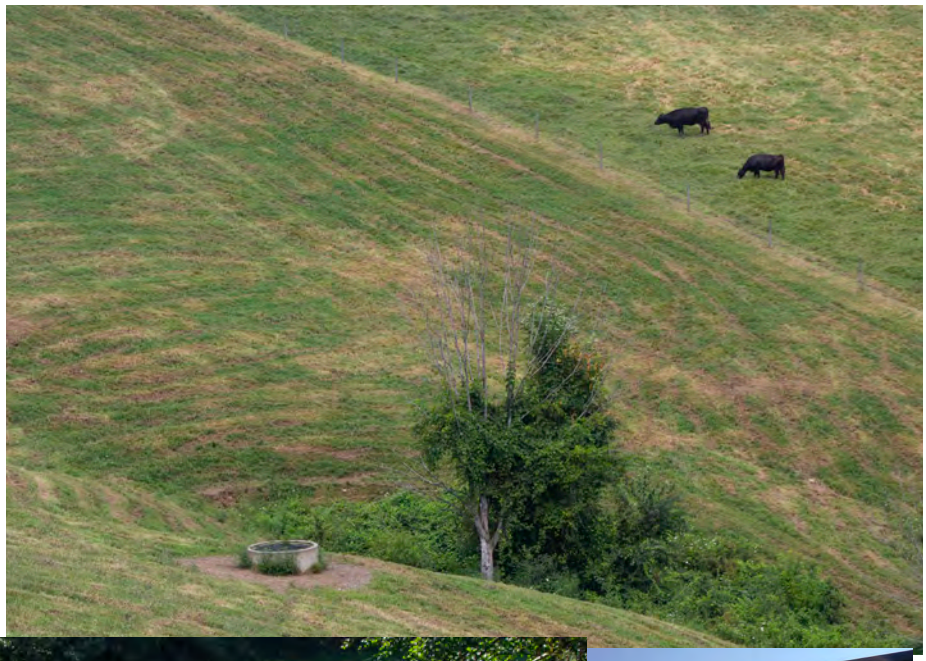
The Allens also have hosted "farm field days" and have found other ways to share what they've learned about conservation practices with others, including talking to other local farmers.

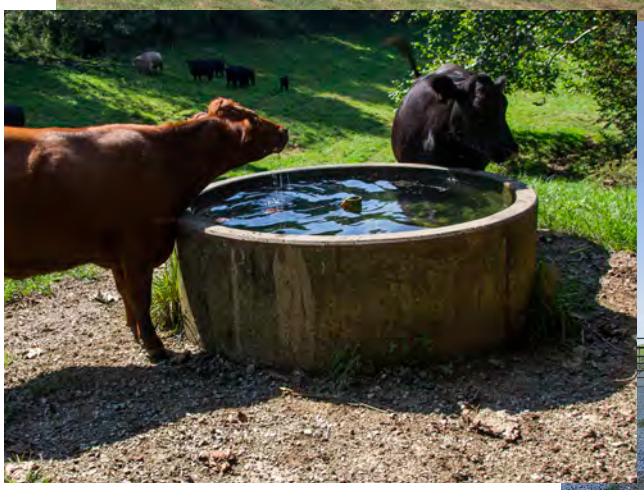
Jeff Allen has advised some new farmers through a WVU Extension program and shares what he's learned about conservation with other farmers in his community, letting them know that healthy soils and proper lime and fertilizer application will allow them to get more production out of their land.

"You may not have to run all over the country to make what hay you need, you can get it right here on your own place," he said.

The Allens' farm was in the running for the 2021 West Virginia Conservation Farm of the Year against the Antram Farm near Hedgesville in Berkeley County, owned by Randy and Shelley Brock and Tyler Butts.

The West Virginia Conservation Awards Council, which presented the 2021 award, is comprised of representatives of the West Virginia Association of Conservation Districts and the State Conservation Committee.





Clockwise from Top Photo: *The water trough in this field on Meadow View Farm near the Allens' home is fed by a roof runoff management system seen in the photo at bottom right. Cattle have access to plenty of troughs throughout the farm, which helps make regular rotational grazing possible, Jeff Allen said.*

PIPESTEM & MEADOW RIVER from Page 6

McMunigal said Agency and district officials also will ask health department sanitarians to assist them in identifying landowners with failing septic systems and help spread the word that funding is now available to do this type of work.

"And as they hear about someone with a failing system, they can direct them to us and we can develop a contract with them to do a project," he said.

Southern Conservation District had been interested in trying to increase their footprint and work on new types of projects within their conservation district, McMunigal said. Some supervisors with the district were interested in trying to develop some 319 projects, and eventually decided on the Pipestem Creek project as a likely candidate, he said.

The Meadow River/Mill Creek project in Greenbrier County is an extension of a prior 319 septic project on Sewell Creek, which is also a tributary of the Meadow River, that was spearheaded by WVCA Conservation Specialist Dennis Burns several years ago.

"In the Meadow River/Mill Creek project we're working on failing septic issues as well as addressing trying to stabilize some of the streambanks in that watershed and reduce the mass erosion that's going on, in particular with the Meadow River in that area," McMunigal said.

The Sewell Creek project only had a septic component; this new project adds the streambank stabilization component.

McMunigal's team will coordinate with WVCA watershed technicians on stream design, stream permitting and surveying for the project.

WVCA Conservation Specialist Mike Yager is taking a leading role on the Meadow River/Mill Creek project and is distributing flyers to businesses in the Rupert and Rainelle areas to attract potential cooperators.

For both projects, McMunigal explained how the efforts grew out of watershed-based plans for the areas being addressed and data-driven Total Maximum Daily Load (TMDL) information for the watersheds. The TMDLs act as pollution budgets that help "dictate where we can work and how we can work and what we need to do."

"So it allows us to narrow our focus to target those specific areas and have a greater impact in that particular watershed or sub-watershed," he said, adding, "and address those water quality issues and bring a stream back up to state water quality standards."

The projects benefit landowners, help affected communities and should also help improve water quality.

"So we're addressing water quality issues within a watershed and we're also at the same time assisting landowners as far as the septic projects go. We're assisting those landowners by providing that service of being able to cost-share with them to repair or replace a failing system or even just provide pumping as part of a routine maintenance of a system," McMunigal said. "And at the same time, encourage them and educate them on the proper upkeep and maintenance of a septic system.

An education component about routine maintenance is achieved by getting information in the hands of the landowners about practices such as septic system pumping every three to five years and what can and cannot be flushed down the toilet.

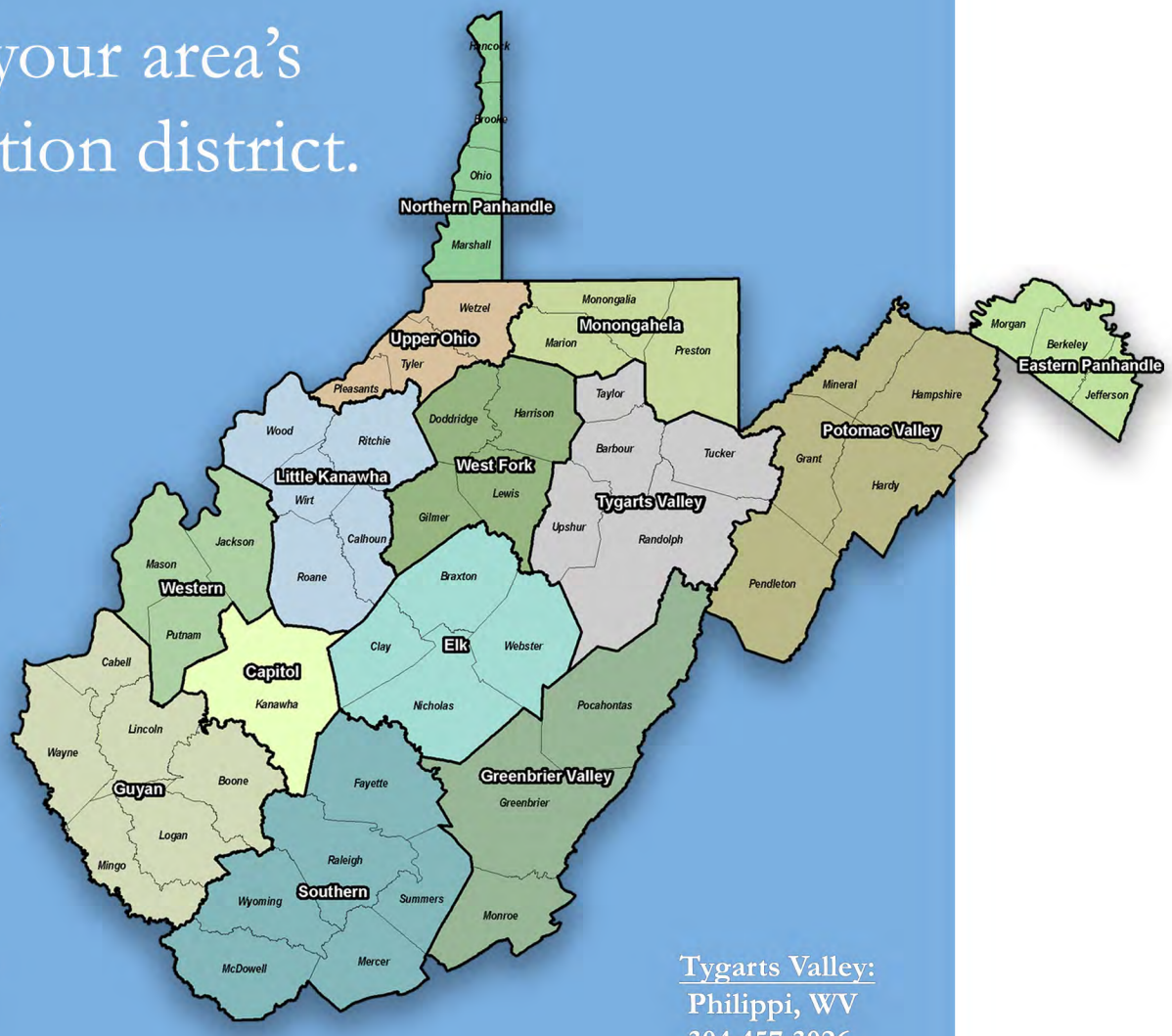
"Because that's one thing that a lot of us are bad about is really understanding or keeping up with the maintenance of a septic system," McMunigal said. "It's one of those things that you don't know you have a problem until you have a problem, or you don't know that it's something you need to regularly maintain until there's a problem."

The performance period for the current Pipestem Creek grant runs through the end of September of 2023. The period for Meadow River/Mill Creek runs through the end of December 2022.

The photo to the left shows several of the newly fabricated trash racks that are set to be installed on dam risers across the state in the coming months. Trash racks prevent large, often woody debris from clogging up a riser structure's low-stage intake.

Questions?

Contact your area's conservation district.



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