

It was a great season on the river!

Our big partnership event, Family Fun Day on Smith Creek, started things off with a splash in May. Here children learn how to kick up rocks to drive “stream bugs” (benthic macroinvertebrates) into a net. See more of the season’s fun inside.



Thomas Stevens Named Chief Ranger at Seven Bends State Park

Years in the making, Seven Bends State Park is one step closer to opening for regular public use. The Park's first employee has arrived in Woodstock. Chief Ranger Thomas Stevens is looking forward to meeting local folks and getting to know the community. Stevens, who grew up over the mountains in Pendleton County, West Virginia is a graduate of West Virginia University. He has most recently served as Chief Ranger of Westmoreland State Park along the Potomac on Virginia's Northern Neck. Tom, his wife Danielle, and young daughter Cora are just getting settled in Woodstock.

Tom is working hard to have the Park open in 2018.



Stay tuned for news on Park planning and volunteer opportunities.

Wood Duck Boxes Provide Habitat at Seven Bends

Volunteer Adam Smith of Strasburg and his friends at the Strasburg Ruritan Club did a great job building and installing nine wood duck boxes near the banks of the river at Seven Bends State Park. This is a great example of the kind of enhancement project we hope to see more of as the Park opens up.

Long-time Board Members Share Parting Reflections

We have been honored to have so many dedicated board members over the years. At the end of the year, Barb Halvorson, Gael Shaffer, and April Moore each finish up a nine-year run of service to the North Fork. We caught up with them for some reflections on the changes they have seen and what may lie ahead.

Gael Shaffer

My knowledge of the science involved in caring for the river and the environment has grown quite a bit since I have joined the Friends board. I have enjoyed this learning process so much that if I had my life to live over again, I would probably pick a profession in the environmental science field.

Barbara Halvorson

No matter where I go when people ask where I'm from and I say the Shenandoah Valley, their eyes light up and they say how beautiful it is. I hope that the importance of the environmental health of the river and surrounding land are recognized as the gift and the responsibility that they are to the overall ecological and economic health of the valley where we live.

April Moore

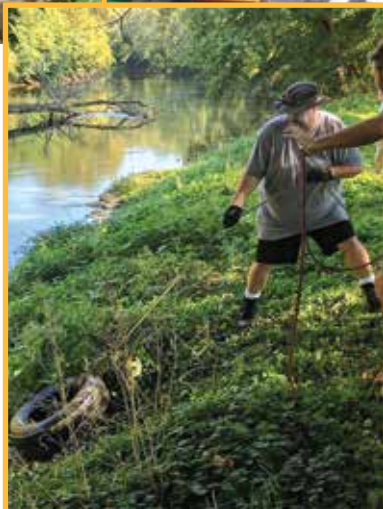
In the nine years I have served on the board, we have reached more and more children and young people. By reaching kids in the schools and by getting them out in the river in the summer,

we are showing them the importance of caring for our river. And more kids are caring about the river because they're having fun in it and learning about it.



Left to right: Retiring board members, Gael Shaffer, Barbara Halvorson, and April Moore

Big Tire Haul a North Fork Record



Our river cleanups are perhaps the simplest, purest expression of our core belief: Sometimes you've got to get dirty to get things clean.

Thanks to the watchful eye of Alan Lehman with Shenandoah Riverkeeper, we were alerted to a large concentration of tires along a narrow channel upstream of Sandy Hook near Strasburg.

We contacted our go-to tire crew at Virginia Eagle Distributing in Winchester—the people who bring you Budweiser and many other fine beverages—and set a date with the landowners to see how many tires we could pull out of the river. Together with our regular volunteers, on September 16th we had over 25 people help out.

Before noon we had 163 tires, a new Friends record. Between a willing landowner with a tractor and a volunteer who just happened to have a dump truck nearby, we were able to haul all the tires up the steep banks and get them to the landfill. No surprise—someone happened to have a big cooler full of cold ones to toast this victory for the river.

Thanks to Shenandoah Riverkeeper, Virginia Eagle Distributing, and the many other Friends volunteers who lent a hand for this big project. Please let us know if you are aware of other problems in the river. We're feeling stronger all the time!

A River of Education in 2017



Family Fun Day gets everyone in Smith Creek, thanks to the help of volunteers, local, state, and federal agencies and other nonprofits.

Dozens of families enjoyed looking for stream creatures, meeting a wood turtle, learning about fishing, archery, watersheds, and much more at Family Fun Day.



The young Shenandoah River Players had fun learning outside all week!



Teacher Training participants spent a week in West Virginia and around the North Fork learning about how mountain watersheds connect to our river and the Bay.



Our School Programs with local elementary and middle schools reach over 1,500 students every year.



North Fork Explorers Summer Camp for high school students included camping, hiking, caving, and reaching the top of the Chesapeake Bay watershed at Spruce Knob, West Virginia.



Nature Rangers dug into science through a wonderful summer camp partnership with Shenandoah County 4-H.

“Rain barrels help capture rainwater from your roof to irrigate your garden and lawn.”

Alison Sloop, LFSWCD



Partnerships Make for Great Homeowner Workshops

We all learned a lot about soil health and stormwater at our recent “make and take” Rain Barrel and Composter Workshop in Woodstock on October 22, 2017. It’s a pleasure to give gardeners and homeowners the tools they need to make a difference. All told participants put together 13 rain barrels and 15 composters to take home.

This event had two parts: the first half focused on building rain barrels and learning about stormwater pollution; the second focused on rotating compost barrels and basic instructions on composting.

“Composting enriches the soil, helps retain moisture, suppresses plant disease and pests, reduces the need for chemical fertilizers and encourages the production of beneficial bacteria and fungi.”

Jay Pinsky, LFSWCD

The workshop price of \$45.00 was affordable thanks to a grant from the Pure Water Forum. This workshop was a joint collaboration between the Northern Shenandoah Valley Master Gardeners, Friends of the North Fork, the Lord Fairfax Soil and Water Conservation District (LFSWCD), and the Town of Woodstock.

We are already planning our next rain barrel and composter workshop in June, as well as

another rain barrel workshop in Shenandoah County.

Our goal is to increase the number and diversity of local citizen stewards and local governments that actively support and carry out conservation and restoration projects that achieve healthy local streams, rivers, and a vibrant Chesapeake Bay.

Let us know if your town or business would like to help host or sponsor a workshop!



Linville Creek: Monitoring Improvements in an Intensive Agricultural Watershed



One of dozens of North Fork tributaries, Linville Creek originates just northwest of Harrisonburg and runs northward to Broadway where it joins the North Fork.

Like many of our tributaries, Linville Creek suffers from high levels of bacteria and too much sediment. This is pretty typical of small streams in intensive agricultural areas, but Linville Creek has two key distinctions: it contains the highest concentration of animal livestock operations of any watershed in the North Fork, and it also has the most sinkholes. You can imagine what this combination might mean for groundwater in this area, but that's a discussion for another day.

Working upstream in tributaries is a key to improving all water quality on the North Fork. Improvements in the smaller streams help feed downstream to make a cleaner main stem of the river. Efforts on the North Fork are wasted if we don't also address the troubled tributaries.

An original "Total Maximum Daily Load" study for Linville Creek was issued back in 2003. The TMDL has been referred to as a sort of "pollution diet" for a water body. By understanding what a creek should be able to handle and remain healthy, restoration specialists can then consider various factors. How much of the crop land is using "no-till" techniques? How many septic systems might need repair or maintenance? How many more miles of streams need to be fenced for livestock? These improvements then help to reach the pollution reduction goals for the stream, keeping pollutants within the TMDL limits.

Along with funding stream improvements through a mix of state and federal sources, the



Linville Creek Watershed, North Fork Shenandoah River, Rockingham County

biggest challenge is finding willing landowners who will participate in conservation and restoration programs. These are voluntary practices, not requirements. Good funding and plenty of staff out in the communities are essential.

The Shenandoah Valley Soil and Water Conservation District, based in Harrisonburg, received a TMDL Implementation Grant in 2015 to help reach Linville Creek's reduction goals by providing support for agricultural best management practices, septic tank pump outs and repairs, and even some urban stormwater practices.

Friends of the North Fork took on the task of monitoring the biological health of the stream during the two-year implementation grant. Long-time Friends colleague, Nancy Carr, worked with the District to test three sites in Linville Creek four times a year to survey the benthic macroinvertebrate communities.

These small "river bugs"—everything from damselflies to crayfish—can be a gauge for the health of a stream. Certain species are less tolerant of too much sediment in a creek. They have trouble laying their eggs and reproducing if the rock bottom of a stream is filled in with silt and sand. Knowing which creatures live in a stream then gives us a sense of how the stream is handling sediment.

We will report later on the results of Nancy's work, which is being submitted to the Virginia Department of Environmental Quality along with *E.coli* testing of Linville Creek done by our partners at Friends of the Shenandoah River. We look forward to learning more about how the new practices may be improving water quality over time.

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Fish Fry Brings Out the Best in Our Community

Once again, the North Fork community surprised us with your generosity by supporting this year's Fish Fry and Auction with dozens of sponsorships and donations. The Moose Lodge was filled with laughter and good food as auctioneer Richie Minton from Laughlin Auctions managed some spirited bidding wars. All the good fun resulted in tens of thousands of dollars to support river conservation and education.

We are deeply grateful to everyone who sponsored, donated, or participated in this year's Fish Fry, including the following business sponsors:

Regulus Group
Old River Creative

Cargill-Timberville
Muse Vineyards
Valley Proteins

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Bushong Contracting
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