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Watershed project highlights

In 2016, 12 watershed projects were completed. This section highlights several representative projects, which includes AMD remediation efforts and bacteria reductions. *Appendix 4* provides a list of all our projects from 2012-2016. Summaries of additional completed projects are provided by embedded links from EPA's Grant Records Tracking System (GRTS) [public access portal](#).

Sleepy Creek Phase II

The goal of this project was to reduce fecal coliform counts in the watershed and meet the TMDL through the establishment of riparian buffers, urban tree plantings (reforestation) and stormwater management practices. Additionally, this project funded water quality monitoring to detect sources of fecal coliform impairment and public education events that included agricultural field days and stormwater management training.

Problem Description

Sleepy Creek is impaired relative to numeric water quality criteria for fecal coliform bacteria. The watershed (stream code WVP-9, TMDL SWS 9001-9063) is in Morgan County, West Virginia (87%) and Fredrick County, Virginia (13%). It flows 42 miles north into the Potomac River.

Project highlights and results

The total estimated reduction of all practices installed through this project to date is 4.48E+12 cfu. *Table 4* illustrates all the BMPs installed throughout the projects lifespan and the estimated reductions achieved through each practice.

Table 4. BMP implementation Sleepy Creek Phase II

Practice	Acres	Efficiency	Reduction
Bioretention	4.5	1	6.48E+11
Porous pavers	0.6	0.8	7.22E+10
Riparian buffers	3.6	0.8	3.32E+12
Urban planting	7.8	0.7	4.44E+11
Totals	16.5		4.48E+12

Project highlights

In addition to BMP implementation, several educational events were held including agricultural field days and a stormwater management training. [Cacapon Institute](#) (CI) conducted water quality monitoring and measured levels of fecal coliform bacteria. Their final report can be downloaded [here](#).

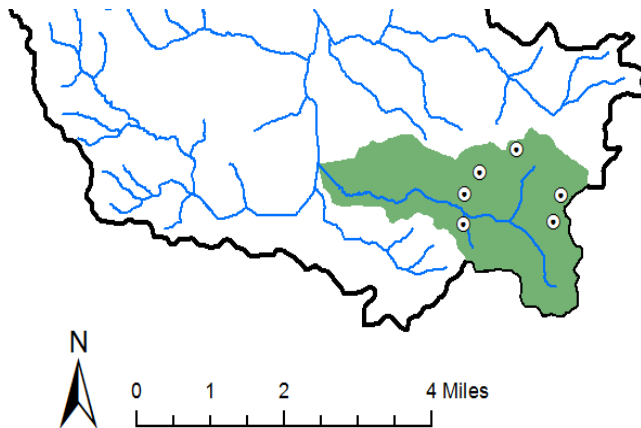
Partner and funding

A wide variety of partners were involved in the implementation of this project, including *WVCA*, *Eastern Panhandle Conservation District* (EPCD), CI, *WV Division of Forestry* (WVDOF), USDA, *Natural Resource Conservation Service* (NRCS), *Region 9 Planning and Development Council*, *Sleepy SCWA* volunteers, landowners, local schools and others. The riparian buffer project shown provides an example of the effort. It consisted of 393 trees and several days of hard work from 36 volunteers as well as local, state and federal agency representatives. Other efforts in the watershed brought together diverse groups, but this riparian buffer planting provides the best example of the dedication to protecting and restoring the Sleepy Creek watershed.



The project was completed on-time and within budget using \$70,200 in §319 funds, and \$43,000 in state and local match for a total of \$113,200.

Ingrand Mine AMD Remediation



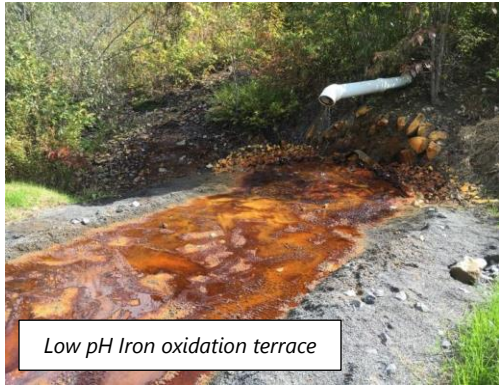
The purpose of this project was to treat water draining from the abandoned Ingrand Mine before it enters an unnamed tributary to Kanes Creek. FODC received fiscal year 2013 funds to design and install a passive treatment system to capture and clean the AMD emanating from the Ingrand Mine. The completion of this project marks the sixth AMD remediation site installed by FODC within the Kanes Creek subwatershed (*Figure 3*).

Figure 3. Location of Kanes Creek projects

Problem description

The Deckers Creek Watershed, located in Preston and Monongalia counties in north-central West Virginia, is contaminated by acid mine drainage (AMD) emanating from various abandoned coal mines. Kanes Creek (WV-M-14-V), a major tributary to Deckers Creek (WV-M-14; HUC 0502000302) is in the south-eastern portion of the watershed and contributes a substantial load of AMD to the mainstem.

Project highlights and results



The project was completed in August of 2016. It captures AMD discharging from four discrete seeps at the top a hill. The water is piped across private property and directed to most of the treatment components on the property. Note: FODC purchased the property in 2014. The mine water collected from the first discharge is sent to a low pH iron oxidation terrace designed to precipitate ferrous iron out of solution prior to entering the treatment cells that contain the alkalinity. This component improves the longevity of the project and reduces maintenance by allowing additional iron to settle out before entering the limestone pond.

The remaining discharges were routed into the same pipe that the low pH iron oxidation terrace drains into. The water is then brought to an auto flushing limestone pond which leads to a settling pond with a baffle curtain and a vertical flow wetland before traveling down an open limestone channel. The limestone channel further leads to a second settling pond with a baffle curtain and an aerobic wetland that is separated by a pervious limestone dam. The treated water discharges from this wetland and into the unnamed tributary to Kanes Creek.

Thus, far project performance is outstanding, significantly reducing the AMD pollutants entering the unnamed tributary to Kanes Creek. The first round of water quality data shows a 99.6% reduction, which is 21.8% better than the project’s goals. Acidity reduction is 40,540 lbs/year and the total metals are being reduced by 7,210 lbs/year. FODC expects even better results once the wetland treatment systems mature.

Partners and funding

This project was supported by WVDEP’s §319 Program, \$284,585 and OSM’s Watershed Cooperative Agreement Program (WCAP), \$107,000. FODC contributed \$68,415 as an in-kind match and further raised an additional \$7,000 to purchase the land for the project. The final breakdown of the funding requested versus what was spent can be found below (*Table 5*).

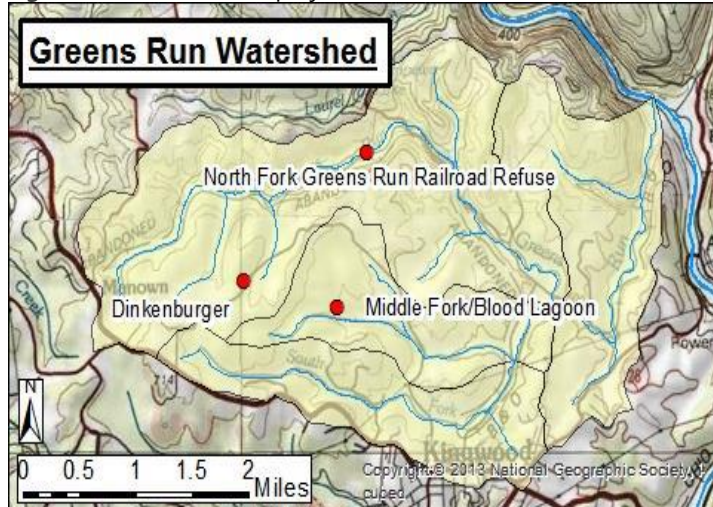
Table 5. Project funding (request vs. final expenditures)

Categories	Requested		Spent	
	Implementation	Non Implementation	Implementation	Non Implementation
Personnel	\$10,000	\$13,600	\$7,302	\$19,649
Contractual	\$218,385	\$10,000	\$228,737	\$350
Travel	\$500	\$1,000	\$577	\$363
Supplies	\$500	\$3,000	\$355	\$44
Operating cost		\$27,600		\$27,035
Totals	\$229,385	\$55,200	\$236,971	\$47,441

North Fork Greens Run

The project is located on the North Fork in the Greens Run watershed (*Figure 4*) in Preston County, West Virginia. The Greens Run watershed is located north of Kingwood and is a tributary to the Cheat River. FOC currently has one other project (Dinkenburger) on the North Fork of Greens Run, and one project (Blood Lagoon) on the Middle Fork of Greens Run.

Figure 4. NF Greens Run project sites



Problem description

The project treats non-point source runoff from the (Problem Area No. 1048) abandoned mine land site. AMD from 10 acres of refuse piles were reclaimed in 2003 by WVDEPs Office of Abandoned Mine Lands and Reclamation (OAMLRL). Greens Run is listed on the state’s 303(d) list for iron and aluminum impairments.

The goal of this project was to design and construct a passive treatment system that will discharge neutral pH water with less than 1 mg/L of aluminum, less than 5 mg/L of iron, and additional alkalinity into Greens Run.

Project highlights and results

BMPs constructed during this project include an oxidation precipitation channel, an automatic flushing vertical flow limestone pond, a settling pond, a Jennings-style vertical flow pond and a constructed wetland. The vertical flow pond utilizes an automatic bell siphon with high and low flow settings. The image is an aerial photo of the treatment system.

Water quality from the wetseals at the top of the limestone channel is acidic (pH 3) with high concentrations of iron (200 mg/L) and aluminum (50 mg/L). After being treated, water discharging from the system is neutral (pH > 7) with low concentrations (<0.5 mg/l) of iron and aluminum. *Table 6* provides a summary of the treatment’s effectiveness.

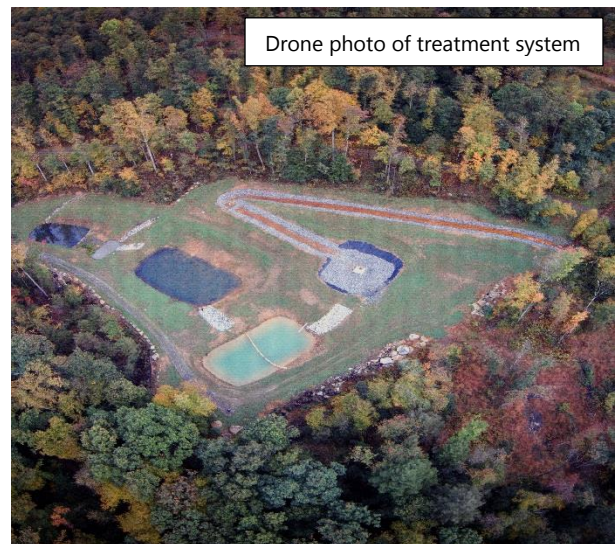


Table 6. System in and system out pollutant load reductions

System	Flow gpm	pH	Acidity load lbs/yr	Al load lbs/yr	Fe load lbs/yr
In	21	2.9	24.9	1,617	5,951
Out	39	7.3	-3.8	0	17
Load reduction			28,723	1,617	5,934
Percent			115.1%	100%	99.7%

Partners and funding

Funding was provided through WVDEPs \$319 program, \$127,997, Stream Restoration Fund (SRF), \$11,523 and WCAP, \$100,000. The project engineer, BioMost, Inc. \$3,700, landowner, \$4,000 and FOC, \$22,000 in matching resources. Total

project costs were \$369,220. Overall, FOC is very satisfied with the design and construction of the project. The engineer (BioMost, Inc.) and contractor (Solid Rock Excavating) worked well together, and the landowner continues to support the project and our organization.

Success stories

Protecting Source Water in West Virginia

US Environmental Protection Agency (EPA) funds helped West Virginia residents and utilities engage in source water protection efforts in the wake of the Elk River chemical spill of 2014. The spill contaminated the water supply of more than 300,000 people in the capitol city of Charleston and surrounding counties (nearly 1/6th of the state’s population).

WVDEP used \$15,000 from its EPA [\\$319 grant](#) to support a community education and engagement project to actively involve citizens in plans to protect their drinking water sources. The \$15,000 was the largest contribution to the \$50,000 project.

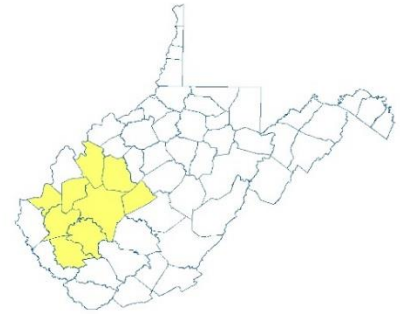
The “Safe Water for WV” project led by the West Virginia Rivers Coalition (WVRC) included a series of public forums, social media, educational tools, local partner network building and technical assistance to provide citizens with information on source water planning and their role in the process. A key activity was the development of a [“Citizen’s Guide to Drinking Water Protection.”](#)

The overall goal of the project was to help protect drinking water supplies throughout the state by ensuring that watershed groups and other community stakeholders assumed a constructive role in the source water planning process.

A law passed by the state after the spill ([SB-373](#)) required public water systems across the state to draft or update source water protection plans with the public’s involvement. The plans are designed to help manage pollution from general sources that could endanger drinking water supplies.

Per WVRC, the Elk River chemical leak and ensuing water crisis was an awakening for many to the sources and vulnerability of their water supplies. It was the first time many people thought about where their drinking water comes from and the connection between watershed protection, public health and economic security.

Among the results of the Safe Water for WV project were five public forums attended by at least 345 community members, 72 local partners and 10 public water utilities. The Citizen’s Guide was distributed at the forum and was discussed in a statewide webinar. WVDEP will use funds from its 2017 \$319 grant award for a pilot project, which integrates Source Water Protection Plans and Watershed Based Plans in two watersheds. Contact *Timothy Craddock* for more information.



AT A GLANCE

- Above: Counties impacted by the Elk River spill.
- Safe Water for WV project engaged citizens across the state after the spill.



U.S. Environmental Protection Agency
EPA Region 3 Water Protection Division
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WVDEP Watershed Improvement Branch, [NPS Program](#)



NONPOINT SOURCE SUCCESS STORY

West Virginia

Installing Limestone Dosers Improved Three Fork Creek

Waterbody Improved

Approximately 9,100 acres of untreated mine pools discharging acid, iron and aluminum into headwater tributaries left Three Fork Creek discolored and lifeless. As a result, the stream was added to West Virginia's 1996 Clean Water Act section 303(d) list of impaired waters list for not meeting the state's water quality standards for pH and metals. In-stream dosing of lime was implemented in the watershed, which reduced metals, increased pH and improved biological conditions. As a result, Three Fork Creek was removed from the state's impaired waters list for aluminum in 2014.

Problem

Most of the 103-square-mile Three Fork Creek watershed is in West Virginia's Preston and Taylor counties (Figure 1). The creek discharges into the Tygart Valley River, which in turn empties into the Monongahela River.

Extensive underground coal mining within the headwater tributaries (Birds, Raccoon and Squires creeks) of Three Fork Creek occurred before the enactment of the Surface Mining Control and Reclamation Act (SMCRA). This left behind approximately 9,100 acres of mine pools that continued to discharge acid mine drainage (AMD) into surface waters. In the Three Fork Creek watershed, the majority of pre-SMCRA mining was conducted in the headwaters section in the Upper Freeport coal seam.

Three Fork Creek (assessment unit WVMT-12-00) was placed on the state's list of impaired waters in 1996 for not meeting the water quality standards for metals and pH. The applicable water quality standards require that dissolved aluminum must be less than 0.75 milligrams per liter (mg/L) and pH must not be less than 6.0 nor greater than 9.0. A total maximum daily load was approved in 2001 to address the metals and pH impairments in the watershed. In 2004 the West Virginia Division of Natural Resources (WVDNR) determined that Three Fork Creek was the second highest contributor of AMD in the Monongahela River basin.

Project Highlights

The Three Fork Creek Watershed Restoration Project was initiated through a combined effort of the West Virginia Department of Environmental Protection's (WVDEP's) Office of Abandoned Mine Lands and Reclamation, West Virginia University (WVU), and the

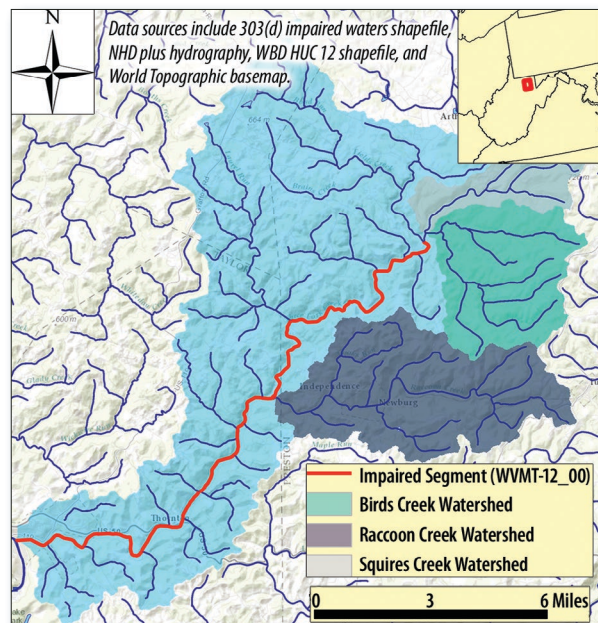


Figure 1. The Three Fork Creek watershed is in northern West Virginia.

Save the Tygart Watershed Association. A new cost-effective approach to treating multiple discharges was necessary to achieve the desired watershed improvement. Ultimately, it was determined that in-stream, active treatment using lime dosers was the most viable option for treating the creek. Construction of the dosers was initiated in July 2010. Each system was completed and actively treating water by April 2011 (Figure 2).



Figure 2. This lime doser was installed as part of the Three Fork Creek restoration.

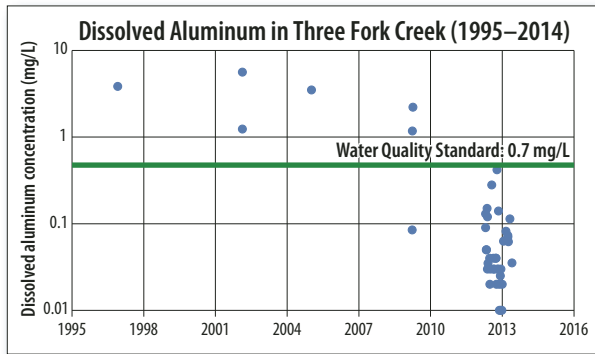


Figure 3. Dissolved aluminum levels in the Three Fork Creek watershed met state standards beginning in 2012.

In-stream treatment devices require constant maintenance and adjustments because of the dynamic conditions of the individual tributaries. WVDEP conducts sampling and adjustments of the doser systems twice per week. Volunteers from Save the Tygart sample the stream once per week.

Results

A post-construction water quality survey showed improvements in waters quality as seen in decreases in acidity and increases in pH and alkalinity (Table 1). With increases in pH, dissolved aluminum concentrations in Three Fork Creek also decreased (an almost 98 percent decrease in average concentrations in samples collected throughout the segment), meeting state standards (Figure 3). Because of these improvements, the 19-mile-long segment of Three Fork Creek (WVMT-12-00) was delisted for its dissolved aluminum impairment in 2014.

Table 1. Water quality (values are means) improved after lime doser installation

Stream	Dosing	pH	Acidity (mg/L)	Alkalinity (mg/L)
Birds Creek	before	3.9	85.1	0.8
Birds Creek	after	6.7	10.5	18.8
Squires Creek	before	3.4	101.6	0.8
Squires Creek	after	6.5	16.9	25.7
Raccoon Creek	before	4.1	96.2	1.7
Raccoon Creek	after	6.0	9.8	7.8
Three Fork Creek	before	5.1	21.9	2.3
Three Fork Creek	after	7.1	5.4	19.6



Figure 4. Raccoon Creek before (inset photo) and after (main photo) lime dosing was implemented upstream.

Restoration has led to improved biological conditions, as shown by increased populations of fish and benthic macroinvertebrates (including pollution-intolerant mayflies, stoneflies and caddisflies, collectively referred to as EPT—short for the order names Ephemeroptera, Plecoptera and Trichoptera). Pre-construction bio-surveys in the watershed found a limited number of benthics (eight total taxa and three EPTs) and a single fish. Post-construction biosurveys in 2012 found positive benthic diversity (15 total taxa and eight EPTs) and a dramatic fish response. A total of 1,605 fish were collected, representing 21 species. Physical conditions have also improved (Figure 4). The local residents have noticed; many are taking advantage of the recreational opportunities now available in the watershed.

Partners and Funding

The restoration of Three Fork Creek was supported by the collaboration between WVDEP’s Abandoned Mine Lands (AML) program and the Save the Tygart Watershed Association. WVDEP’s AML Set-Aside account is used to fund the costs of operation and maintenance (O&M) and support monitoring. Capital construction cost for the dosers was \$750,491. Since completion, O&M costs have totaled \$274,440; the average cost per month is \$18,296. The average cost per year for the past four years from October 2010 thru October 2014 for all nine dosers is \$176,673. The total thus far is \$1,060,036.

Save the Tygart volunteers perform monitoring at all doser sites. In FY 2014 they collected 1,144 samples (7,237 parameters) at an estimated cost of \$41,503. The dosing effort continues and the typical cost seems to be decreasing slightly.



U.S. Environmental Protection Agency
Office of Water
Washington, DC

EPA 841-F-16-001C
January 2016

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Three Fork Creek Restoration Website

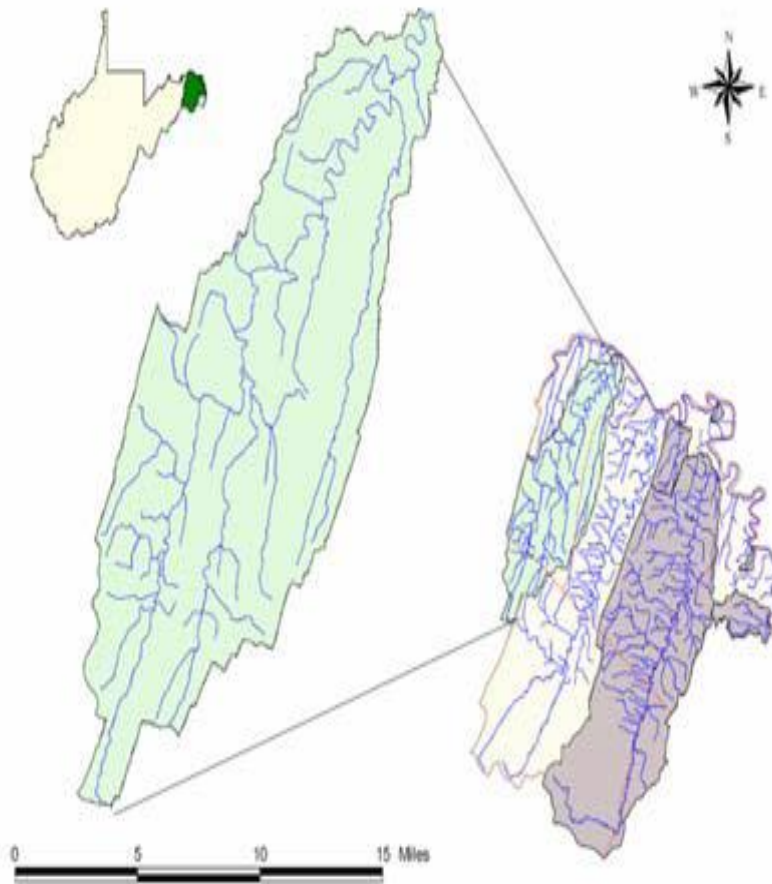
Watershed based plan highlights

Watershed planning includes development of new plans and revisions or upgrades to existing plans. In 2016 WVCA submitted a watershed based plan (WBP) for Beaver Creek, which was approved by EPA in late 2016. EPA also approved revisions to the North Fork of Blackwater River WBP, which was originally developed in 2005. In 2016 \$319 watershed project work continued in 16 watersheds. These include:

- Knapp Creek, Sleepy Creek, Elk Run, Tuscarora Creek, Mill Creek – Opequon, James River, Milligan Creek, Second Creek, and Lower Coal River. ^(WPP) The focus of these WBPs is primarily bacteria reduction and sediment reduction.
- AMD remediation efforts continue in West Run, Upper Buckhannon River, Deckers Creek, Wolf Creek, Lower Cheat River, and Morris Creek. ^(WPP)
- The first project in the Piney Creek WBP focused on sediment and iron reduction. ^(WPP)

Visit the NPS Program's [WBP website](#) to learn more. Two WBPs, Sleepy Creek and Upper Buckhannon River, are highlighted.

Sleepy Creek



Sleepy Creek flows 42 miles north into the Potomac River. The watershed begins in Frederick County, Virginia, draining approximately 13,000 acres, and flows north into Morgan County, West Virginia where it covers 69,440 acres. Approximately half of the watershed area is forested, one-third is in agricultural use, and the remaining area is residential or small commercial operations. [The Sleepy Creek WBP](#) was developed by Tetra Tech, WVCA and local stakeholder groups. It was approved in 2008

The plan focuses on reducing fecal coliform levels through repairing failing septic systems and implementing a variety of agricultural and urban BMPs. The WBP [Total Maximum Daily Load](#) (TMDL) allocations are listed in [Table 7](#).

Thus far, project support, implementation and results have been successful. As a result of CI's [2011 water quality monitoring report](#), Indian Run was [delisted](#).

Sleepy Creek watershed

Project highlights

The Project Team (consisting of WVCA, EPCD, SCWA, WVDOF, Morgan County Health Department, CI, Region 9 and others) have pursued four separate grants to implement the WBP (Table 8). In total, \$921,646 has been allocated through federal, state, and local partners to implement the WBP.

Table 7. Sleepy Creek TMDL allocations

	Baseline LA	LA	LA% Red
Indian Run (Delisted in 2012)			
WV Component	1.43E+14	2.28E+12	98.41%
Sleepy Creek Inclusive of Indian Run			
WV Component	5.51E+15	5.90E+13	98.93%
Sleepy Creek only	5.37E+15	5.67E+13	98.9%

Table 8. Sleepy Creek WBP progress

Phase	Funding	BMPs	Federal	Match	Total	Status
1	§319	Septic	\$292,550	\$195,036	\$487,586	Complete
2	§319	Tree plantings/buffers/stormwater	\$70,200	\$53,000	\$123,200	Complete
3	§319	Septic repair/replace/pumping	\$74,600	\$50,000	\$124,600	Ongoing
4	CB Grant	Tree plantings/buffers/stormwater	\$93,130	\$93,130	\$186,260	Ongoing
Totals			\$530,480	\$391,166	\$921,646	

One of the §319 projects were completed in 2011 and another in 2016. There is currently one active §319 project (scheduled for completion in 2017) and one active CB Implementation grant (scheduled for completion in 2020). The practices outlined in Table 9 have been implemented using §319, WVCA state match and other leveraged funding sources.

Table 9. SC BMP implementation 2008-2016

2008-2016 Implementation		
BMPs	Quantity	Unit
Tree planting	7.8	acres
Riparian buffers	3.6	acres
Rain rardens	1796	square ft.
Porous pavers	7899	square ft.
Septic pumping	136	systems
Septic repair	46	systems

Results

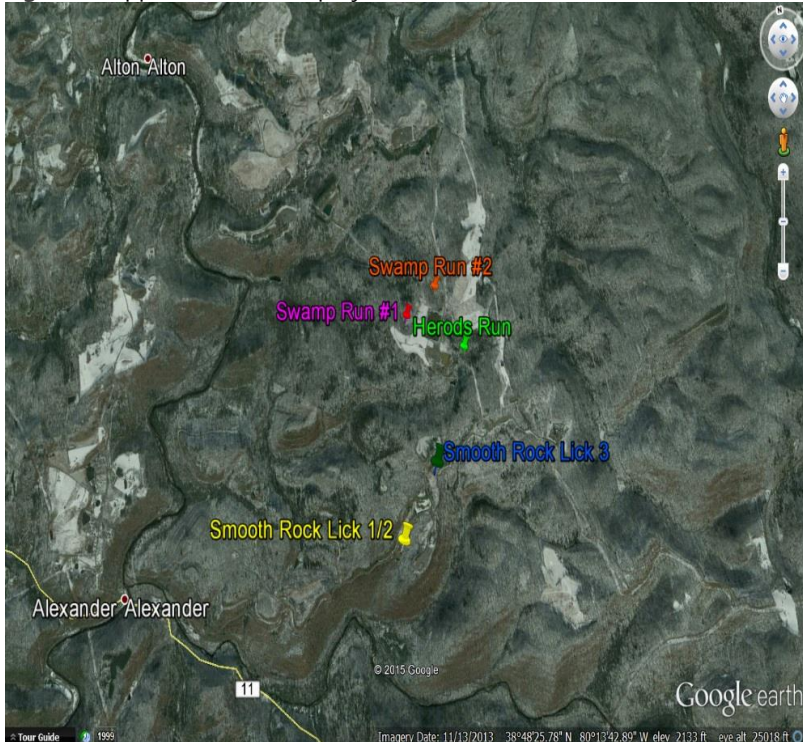
A [2015 water quality monitoring report](#) completed by CI, indicates that there are still exceedances of water quality standards for bacteria during rainy periods, however, sites that previously had frequent exceedances only had occasional exceedances in the 2015 study, suggesting some improvements.

Upper Buckhannon River

The Upper Buckhannon River watershed consists of approximately 127,623 acres located in north-central West Virginia. It is a sub-watershed of the Tygart Valley River Watershed and includes most of Upshur County and parts of Barbour, Lewis, Webster, Harrison and Randolph counties. The dominant water quality problems within the watershed are metals, acidity, sediment, and bacteria. The main sources of these contaminants are coal mining, acid precipitation, agriculture, logging, and wastewater. This WBP elucidates the sources of contamination and describes the steps that will need to be taken to achieve load reductions in metals, acidity, sediment, and bacteria due to NPS sources of these pollutants. The [Upper Buckhannon WBP](#) was approved in 2004.

Beginning in 2004-2005 a project team consisting of representatives from BRWA, NMLRC, WVDOF, WVDNR, WVDEP, WV Wesleyan College and others began planning passive treatment systems and working towards funding to install those systems. *Figure 5* indicates the location of current and future systems.

Figure 5. Upper Buckhannon projects



Project highlights

Smooth Rock Lick 1-2

The project area is in the headwaters of an unnamed tributary (UNT) and was selected based on its positive impacts on the receiving stream. The site had an existing impoundment and numerous seeps. Treatment consisted of collecting seeps and conveying the water to the impoundment via a limestone channel. The impoundment acted as a settling pond, and was retrofitted to better treat the acidic water. From here the water moved to a limestone leachbed and then discharged. To better control volume and allow for easier maintenance an agri-drain was installed.

Smooth Rock Lick 1-2 Phase II

In early 2013 following a routine maintenance visit, it was discovered that the limestone leachbed was compromised. Unexpected large flows caused the sides of the channel to erode, which added excess sediment to the leachbed. Phase II was completed to rectify the problem – the channel was angled to reduce erosive forces, and was grouted. The excess sediment was removed from the leachbed. The updates greatly improved system performance resulting in better water quality in the receiving tributary. The UNT was submitted as a success story candidate but did not meet minimum criteria. It is worth noting that the suspected cause of the high flows is not known; however, there is a large oil & gas pad upstream of this site.

Smooth Rock Lick 3

This site consisted of mine spoil and several smaller seeps. Treatment consisted of seep collection, an open limestone channel, and a finishing limestone leachbed. Treatment at #3 has increased alkalinity and substantially decreased AMD-metal concentrations.

Recent water quality data (*Table 10*) indicates these passive systems are operational and functioning as intended.

Table 10. WQ data for SRL sites

Site	pH su	Acidity mg/L	Alkalinity mg/L	Total Fe mg/L	Total Al mg/L	Total Mn mg/L
SRL1/2	4.0, 4.5,	52, 74, 68	0, ~5, 0	8.85, 58.0,	1.74, 2.37, 1.24	0.616, 1.19,
SRL2 outfall	7.4	0	65	~0.03	~0.09	~0.115
SRL3 inflow	6.1	0	30	19.8	~0.09	1.26
SRL3 outflow	7.6	0	82	0.28	0	1.86

Swamp Run 1

This site consists of a large ferric iron deposit and multiple seeps creating a mushroom area. This mushroom area has damaged a large section of the valuable hardwood forest on-site. Treatment for this project consists of collecting seeps and conveying the water via a sandstone channel, which will allow Fe⁺² to precipitate naturally into a collection area, then to a flushing limestone leachbed. The water from the leachbed is discharged to a settling pond, an aerobic wetland cell, and eventually to a tributary of Swamp Run. Project goals are to reduce current loads by at least 80 percent. Recent water quality data is shown in *Table 11*. Although progress is encouraging the system still needs time to mature (*Figure 6*).

Table 11. Swamp Run load reductions

Goals	Acid (lbs/yr)	Fe (lbs/yr)	Al (lbs/yr)
80% reduction	141,757	19,910	2,818
Current WQ	53,744	3,497	3,172
Performance	0.38	0.18	1.13

Note: Swamp Run phase II is currently on-going with an anticipated completion date of late 2018.

Herods Run

Herods Run is listed on WVDEPs 303(d) impaired streams list for pH; however, WQ sampling has also indicated AMD-metals present in high concentrations. The site is a

previous OAMLR site and consists of seeps draining into a stormwater/settling pond, then back to a channel that joins the Buckhannon River 2.3 miles downstream. Sampling has indicated the site contributes approximately 29,235 lbs/yr of acidity, 5,079 lbs/yr of iron and 332 lbs/yr of aluminum. By installing a passive system here, NMLRC and BRWA estimate reducing loads from Herods Run by 80 percent. Treatment system components consist of open limestone channels and large limestone leachbeds.

Table 12 provides cost and timelines for all projects in the Upper Buckhannon watershed.

Table 12. Upper Buckhannon WBP projects

Project	Completed	Cost	Funding sources
SRL 1/2	2010	\$219,007	§319-WCAP-Match
SRL 3	2010	\$107,107	§319-WCAP-Match
SRL1/2 (II)	2013	\$34,082	§319-Match
Swamp Run 1	2016	\$660,000	§319-WCAP-SRF-Match
Herods Run	2017*	\$335,000	§319-WCAP-Match
Swamp Run 2	2018*	\$357,193	§319-WCAP-Match
		\$1,712,389	Total

* anticipated completion FY

Final thoughts



Watershed restoration is a long-term commitment. With the financial assistance of USEPA; volunteers, agencies, universities and other nonprofit and private partners in West Virginia have been working on watershed planning and implementing water quality improvement projects since the early 1990s. While there has been some turnover in staff and volunteers, we've continued to work with many of the same organizations who have dedicated their missions to helping the WVDEP and the citizens of West Virginia. At the same time, we have fostered new organizations who fear their watershed is threatened. The message of how we manage and reduce polluted runoff is one that must be told over and over to educate new

stakeholders in our watersheds. WVDEP's WIB is dedicated to continuing this effort and thanks our many partners for their dedication. – *Teresa Koon*, Assistant Director