



west virginia department of environmental protection

**Division of Water and Waste Management
Watershed Improvement Branch
Nonpoint Source Program**

Nonpoint Source Program Annual Report

Submitted March 2021. Revised and re-submitted following USEPA comments May 2021.

Statement of policy regarding the equal opportunity to use and participate in programs.

It is the policy of the West Virginia Department of Environmental Protection (WVDEP) to provide its facilities, services, and programs to all persons without regard to sex, race, color, age, religion, national origin, or handicap. Proper licenses/registration and compliance with official rules and regulations are the only sources of restrictions for facility use or program participation. WVDEP is an equal opportunity employer.



West Virginia's Nonpoint Source (NPS) Program is funded by a Clean Water Act §319 Grant administered by the U.S. Environmental Protection Agency (USEPA).

Report prepared by
Timothy Craddock, NPS Program Coordinator

This report summarizes activities that occurred primarily in calendar year 2020. It is important to note that projects and programs are multi-year efforts so those highlighted in this report were completed in 2020 but in some a portion of the implementation occurred in earlier years.

Introduction

In 2020 West Virginia’s NPS Program provided technical and financial support to more than 100 programs and projects ranging from general administration to outreach, planning, monitoring and a wide variety of implementation. Most of the projects focus on priority areas identified within our watershed based plans (WBPs), but other partners and stakeholders implement projects in non-priority areas using their required matching funds, or by taking advantage of periodic *additional grant opportunities* (AGOs). *Table 1* provides a summary.

Table 1. §319 Program status.

FFY	NPPF	WPF	AGOs	Total	Complete	%
2016	5	8	12	25	19	76.0%
2017	5	10	9	24	8	33.3%
2018	3	9	12	24	4	16.7%
2019	4	8	6	18	0	0.0%
2020	4	9	0	13	0	0.0%
Totals	21	44	39	104	31	29.8%

NPPF: Nonpoint Program Funds

WPF: Watershed Project Funds

AGOs: Additional Grant Opportunities

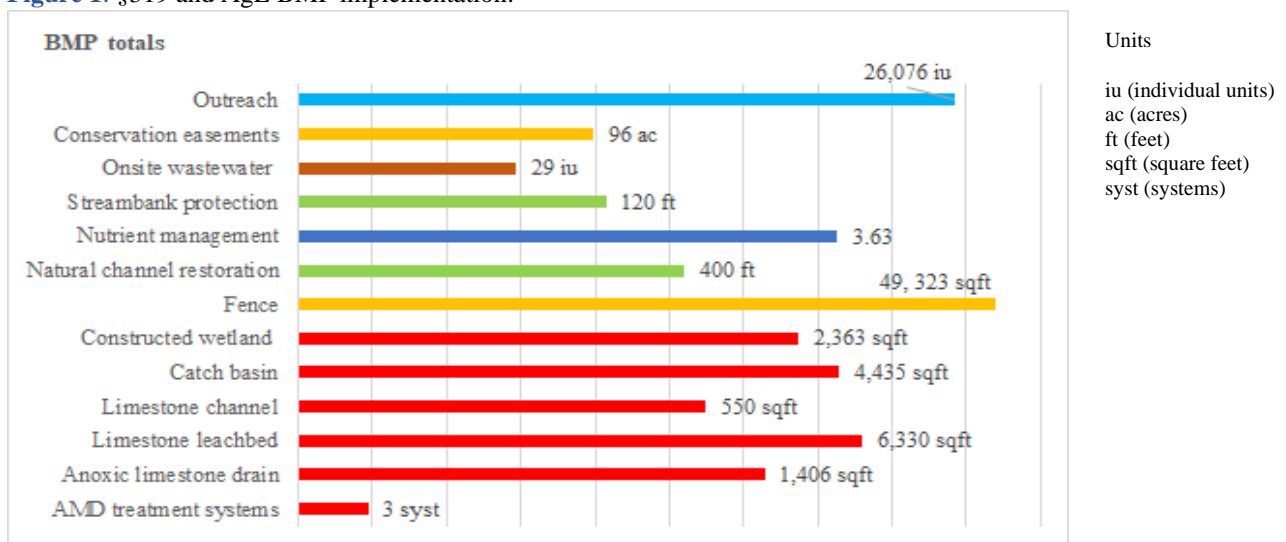
The percent complete was less than previous years especially for grant years nearing the end of their performance period. This is directly attributed to the challenges brought on by the Covid-19 pandemic. A one-year extension was granted by USEPA for fiscal year 2016 and West Virginia has requested the same for 2017. *Appendix 3* provides additional details on project status. In addition, further discussion on the many challenges brought on by the *Covid pandemic* is discussed later in this report.

Implementation

Best management practices (BMPs)

BMP implementation and NPS pollutant reduction are the major goals of our watershed projects. The efforts of our dedicated staff, partners and local stakeholders have made significant impacts in restoring and protecting our watersheds impacted and threatened by NPS pollution. In 2020 BMP implementation occurred in 30 different HUC12 watersheds (*Figure 3*). BMP implementation is represented graphically and compared using a log(n) calculation in *Figure 1*. Additional details are provided in *Appendix 1*. WV Conservation Agency (WVCA) significantly contributions through their statewide Agriculture Enhancement (AgE) Program. Although not funded with §319, AgE provides match and often is a vehicle for additional BMPs in project watersheds.

Figure 1. §319 and AgE BMP implementation.



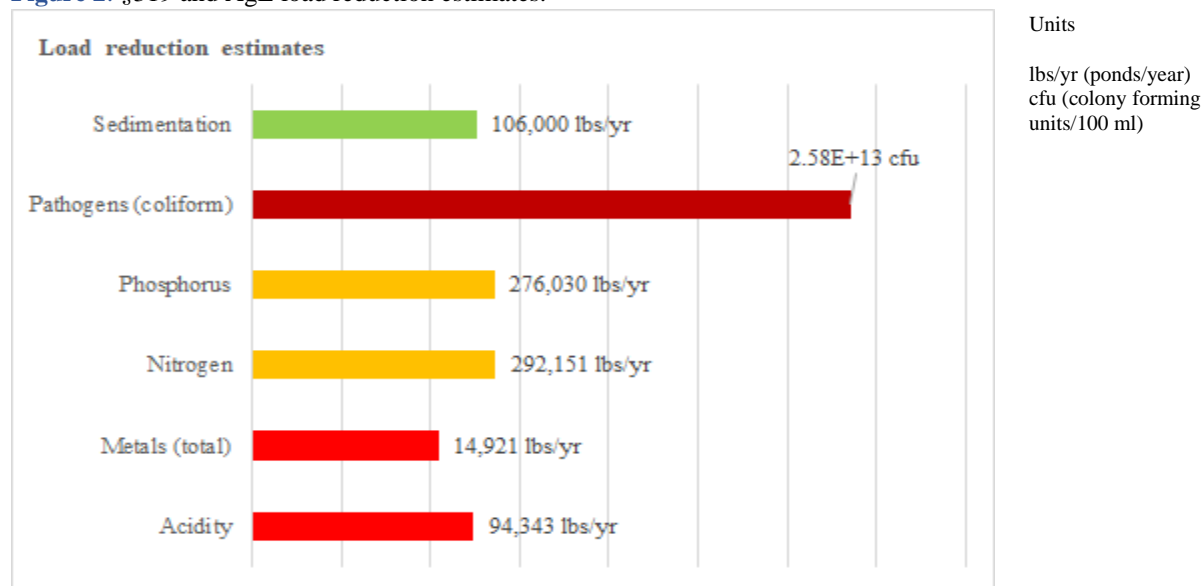
Typically, outreach is reported in GRTS but has not been a focus of past annual reports. However, this pandemic year brought outreach to the forefront. WVDEP’s WIB, WVCA, WV Rivers Coalition (WVRC) and many others performed above and beyond taking full-advantage of multiple virtual formats reaching more participants than ever before.

Pollutant load reductions

In West Virginia bacteria and pollutants associated with acid mine drainage (AMD) are the two largest contributors of nonpoint sources accounting for approximately 70 percent of the impairments. Most of the bacteria loads come from agriculture and failing septic, whereas the AMD pollutants (acidity and heavy metals etc.) are associated with abandoned mining. In addition to the West Virginia priorities, USEPA’s National §319 Program promotes the reduction of nutrients and sediment, which are the leading causes of NPS impairment nationwide. Although nutrients and sediment are not our primary focus, we exceeded our 2014 Management Plan goals. WV’s *NPS Management Plan* was revised in 2019 and will not be discussed in this report since it is too early in the five-year cycle to accurately judge progress. An update will be provided in the 2021 annual report.

Load reductions are represented graphically and compared using a log(n) calculation in *Figure 2*. Additional details are provided in *Appendix 2*. Most §319 projects do not require nutrient load reductions; however, due to WVCA’s AgE Program contributions nutrient reductions and sediment reductions are significant statewide.

Figure 2. §319 and AgE load reduction estimates.



Chesapeake Bay Program

Nitrogen and phosphorus reductions are needed for restoration of the Chesapeake Bay (CB) watershed. Despite the pandemic, West Virginia’s Chesapeake Bay Tributary Team continued to implement wastewater and nonpoint source strategies from the *Phase 3 Watershed Implementation Plan* (WIP3) and is generally on-track to meet West Virginia’s portion of the CB TMDL by 2025. These strategies, such as riparian forest buffers and Green Infrastructure practices, were chosen to help achieve local benefits while reducing nitrogen and phosphorus loads. CB partners produce and share a quarterly e-newsletter, found [here](#), to document projects and encourage others in similar actions.

Table 2 shows historic, recent and WIP3 loads of total nitrogen and total phosphorus. Implementation during the 2020 progress year (July 2019-June 2020) appears to have rebounded from the effects of heavy rain events in fall 2018 (progress year 2019). Modeled progress is still dampened due to the expiration of some practices once they reach their modeled lifespan. CB partners are renewing efforts to verify and maintain these older practices to keep them active in the model.

All results are from the CAST 2019 model, available at: <http://cast.chesapeakebay.net>

Table 2. Progress towards reducing CB pollutants.

Pollutant	Category	2013 Progress (Baseline)	Progress 2019	Progress 2020	WV WIP3
Nitrogen	Agriculture	3.31	3.44	3.40	not specified
	Urban Runoff	1.20	1.19	1.20	
	Natural+Deposition	2.60	2.58	2.57	
	Septic	0.34	0.35	0.35	
	Wastewater+CSO	0.70	0.52	0.43	
	All Sources	8.15	8.07	7.96	
Phosphorus	Agriculture	0.14	0.14	0.14	not specified
	Urban Runoff	0.06	0.06	0.06	
	Natural+Deposition	0.22	0.21	0.21	
	Septic	0.00	0.00	0.00	
	Wastewater+CSO	0.14	0.04	0.04	
	All Sources	0.56	0.45	0.44	

WV's progress toward reducing CB pollutants; units: million lbs/yr.

Covid challenges



The Covid pandemic was an experience unlike any other. It affected every aspect of our lives and was an ever present danger/concern. Each of us have personal stories to share but the focus of this section is the impacts on §319 program and project management. Having to shift locations to a home environment and not being able to interact in-person, or on-site had dramatic impacts, but Covid's impact on supply chains, ordering time, volunteer labor and more slowed multiple levels of program/project performance. USEPA provided an extension for fiscal year 2016 and 2017, which were the two most vulnerable federal fiscal years of impact. Below are comments from select watershed groups, NGO partners and our Assistant Director.

Teresa Koon, Assistant Director WVDEP-WIB

2020 had its challenges for West Virginia's nonpoint source program but we rose to that challenge. As we very quickly transitioned to working from home, we also very quickly began to communicate more and identify ways we could transfer our work to a virtual environment. WVDEP's Basin Coordinators and our other §319 partners focused on outreach and other ways we could safely stay connected and pursue our missions. From virtual workshops, camps and training to watershed meetings and project planning, we learned all the nuances of Zoom, TEAMS, GoTo meeting and on. The physical distancing has made our monitoring and project implementation work different and, in some cases, significantly delayed. We look forward to the



WVU Tech students volunteer to sample Piney Creek during Covid pandemic.

days when we can physically reconvene with our partners to share stories, laughter, and hard work. Thank you to our staff and partners, who have safely progressed their outreach and projects during this challenging time.

Corey Lilly, Piney Creek Watershed Association

Initially, COVID, played a paralyzing role in operations. However, the association and our partners quickly adapted to the virtual workplace, which led to significant productivity and multiple projects' progress. Fortunately, the community held these environmental projects in high regard and were receptive to our outreach when needing to communicate and visit project sites. Resilience and perseverance, just as the streams we work to protect and improve, defines this era of our association.

Madison Ball, Friends of the Cheat

1. *In the beginning*: Knowing if we can proceed to construction and how to safely do so.
2. *Procurement*: Holding COVID safe pre-bid meetings.
3. *Site visits*: COVID safe field and site visits, having individuals drive separately often challenging due to parking restraints, also only one FOC vehicle meaning more staff are driving their personal vehicles. Communication lags due to not being able to meet all at once on site when challenges occur.
4. *Materials*: Struggles documented in procuring tree stock due to effects of COVID on nursery industry. Volunteer work: Much of our volunteer work (which we use as project match) was greatly reduced if not completely unavailable.
5. *Financial management*: Difficulty or concern of "floating" large invoices or expenditures before being reimbursed due unknown future donor contributions.
6. *Landowner interactions*: Many of our landowners prefer in person contact and do not respond to phone calls, emails, etc. Less in person interaction with our partners which leads to meaningful conversation, new opportunities for partnership, etc. (Zoom Fatigue).

Angie Rosser, WV Rivers Coalition

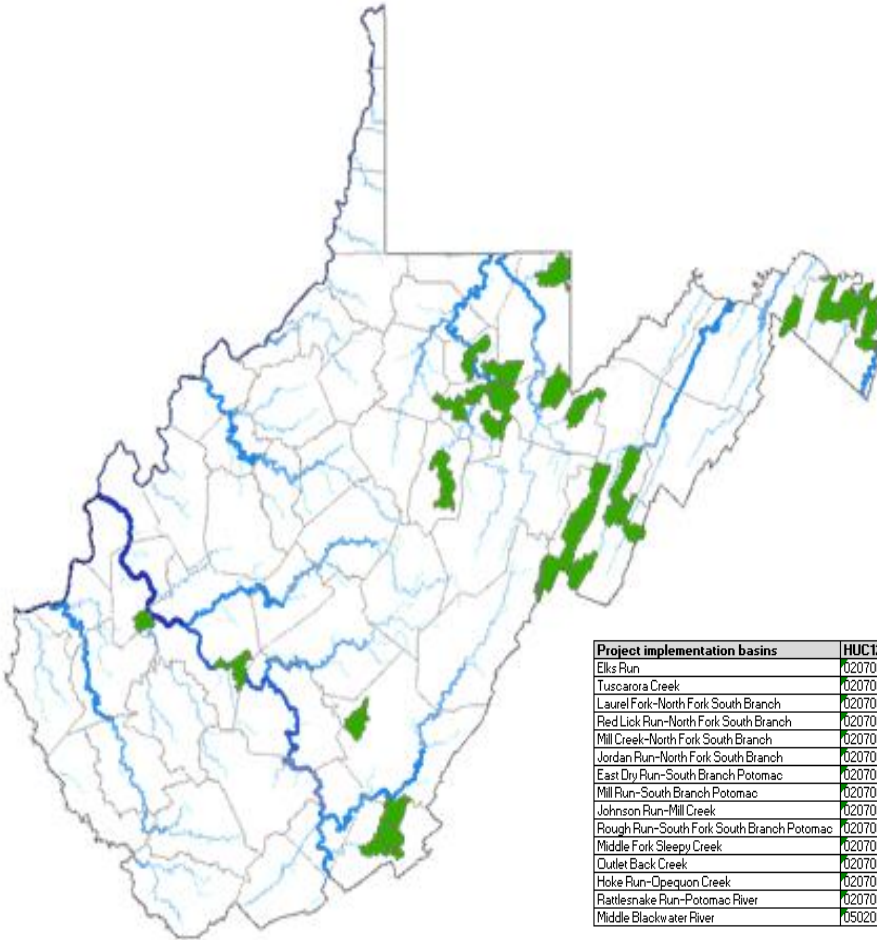
Not surprisingly, the pandemic is having a significant effect on maintaining watershed groups capacities in West Virginia. In addition to the inability to do in-person outreach and events, the demands, and distractions the pandemic presents on everyday life has stretched those small, often volunteer-led organizations even thinner than usual. The pandemic put a lot of strain on our organization's capacity, with most of our staff having young children and no childcare options, requiring them to toggle between work/parenting for an extended time.



Figure 3. BMP/load reduction HUC basins.



Map created by [Martin Christ](#).



Project implementation basins	HUC12	Project implementation basins	HUC12
Elks Run	020700041107	Beaver Creek-Little Sandy Creek	050200040603
Tuscarora Creek	020700040907	Browns Creek-Coal River	050500090608
Laurel Fork-North Fork-South Branch	020700010101	Burnside Branch	050500020701
Red Lick Run-North Fork-South Branch	020700010103	Hughes Creek-Kanawha River	050500060306
Mill Creek-North Fork-South Branch	020700010106	Lower Second Creek	050500030703
Jordan Run-North Fork-South Branch	020700010107	Mill Creek-Meadow River	050500050605
East Dry Run-South Branch Potomac	020700010303	Tenmile Creek-Buckhannon River	050200010304
Mill Run-South Branch Potomac	020700010308	Upper Indian Creek	050500020703
Johnson Run-Mill Creek	020700010402	Left Fork-Sandy Creek	050200010502
Rough Run-South Fork-South Branch Potomac	020700010505	Little Laurel Run-Tygart Valley River	050200010701
Middle Fork Sleepy Creek	020700040202	Teter Creek	050200010704
Outlet Back Creek	020700040409	Hackers Creek-Tygart Valley River	050200010705
Hoke Run-Opequon Creek	020700040909	Wickwire Run-Tygart Valley River	050200010707
Rattlesnake Run-Potomac River	020700041106	Headwaters Elk Creek	050200020202
Middle Blackwater River	050200040202	Horseshoe Run	050200040501

Note: The list above is also in *Appendix 4*.