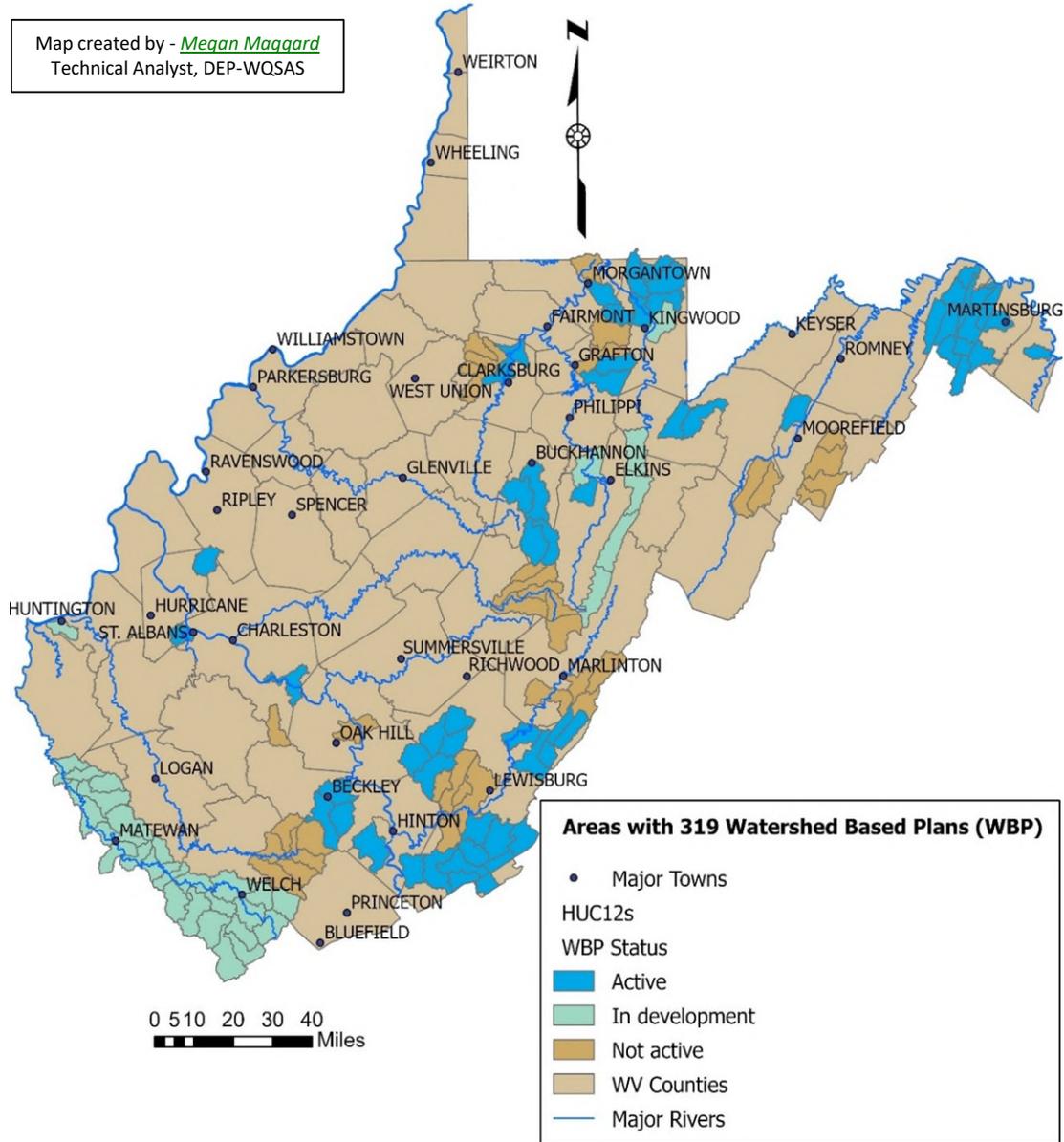


Watershed-based plans

Figure 4. West Virginia §319 watershed-based plans



West Virginia has a renewed commitment to watershed planning, especially healthy watershed opportunities. There is at least one WBP being developed for our active award from FY22 – FY24, and one of those will include a protection focus. In years to come WV’s NPS Program will partner with agencies and others to develop additional *watershed protection plans* (WPPs). We are currently exploring the potential of WPPs adjacent to and/or including *Wildlife Management Areas* (WMA’s). Approximately 35-40% of the WMA’s have potential for WPP development

All of West Virginia’s §319 WBPs are posted on the revised NPS Program’s *watershed-based plan website*. The Back Creek WPP was presented at the 2024 regional NPS conference and is highlighted in this report. The presentation is available upon request.

Back Creek Watershed

Berkeley & Morgan Counties, WV

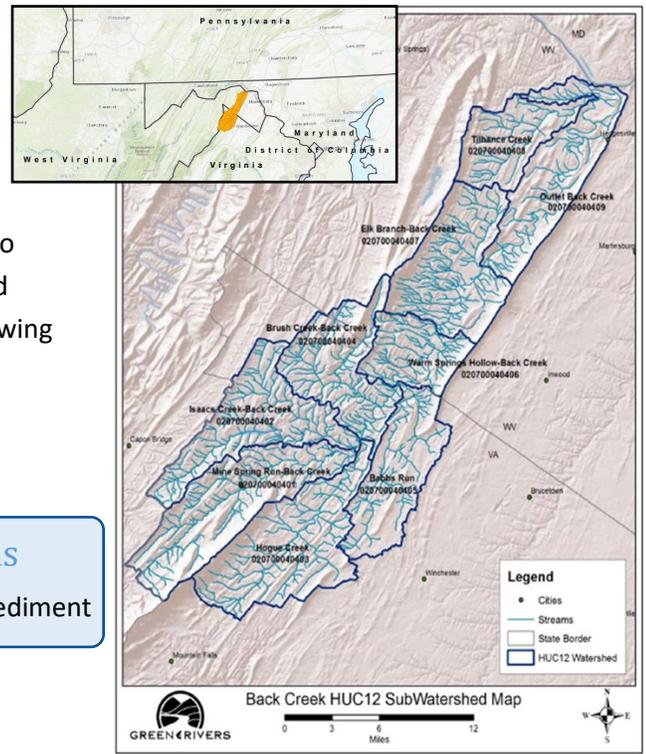
- Empties into Potomac River
- Flows north from Frederick Co., VA
- 274 square mile drainage area
- Unique shale barren ecosystems with multiple rare, threatened, and endangered species
- Currently unimpaired
- Watershed Protection Plan approved in 2014; strategies to protect and restore watershed
- Berkeley County is fastest growing county in state

Project Highlights

- Conservation easement purchases (251 ac)
- Natural stream restoration (1,851 linear ft)
- Porous pavers (1,100 sq ft)
- Forestry workshop
- Water monitoring

Reductions

- 416.21 tons/year sediment



Phase I

2012—2014

- Watershed Protection Plan developed, stream restoration sites identified.

Federal 319	\$30,000
Match	\$20,000
Total	\$50,000

Phase II

2016—2019

- Conservation easement purchases, stream restoration.

Federal 319	\$209,450
Match	\$221,689
Total	\$431,139

Add'l Grant Opportunity

2017

- Porous pavers.

Federal 319	\$20,000
Match	\$14,000
Total	\$34,000

Phase III

2018—2022

- Conservation easement purchases, stream restoration, forestry workshop.

Federal 319	\$263,071
Match	\$176,733
Total	\$439,804

Phase IV

2021- 2024

- Conservation easement purchases.

Federal 319	\$156,000
Match	\$162,824
Total	\$318,824



Partnerships

- WV Conservation Agency
- Eastern Panhandle Conservation District
- Berkeley County Farmland Protection Board
- WV Division of Forestry
- WV Division of Natural Resources
- US Dept of Agriculture
- Berkeley County Extension
- Blue Heron Environmental Network

Summary progress of West Virginia's NPSMP

Administration	Status	Comments
Provide leadership in managing the NPS Program		The majority of these are annual goals that are consistent with §319 workplans. Each of these goals are either complete or progress was satisfactory except for the urban runoff management program. However, two projects, one funded by §319 and the other with CB funding, assisted two communities in the planning and design of green infrastructure projects for their communities. The next phase is to find funding to support the projects. The WVWN and WPP were the main vehicles for building watershed capacity.
Represent the DWWM in multi-agency and stakeholder organizations		
Project management of all watershed projects includes tasks such as technical guidance, support, and oversight and compliance management.		
Coordinate and oversee NPS Program grant projects relating to nonpoint source issues in non-priority watersheds to foster a better understanding of NPS pollution, as well as more recognition for the NPS Program.		
Participate and coordinate in the development of work plans and grant proposals in priority watersheds.		
Maximize the use of all funds to achieve water quality standards in NPS impaired streams		
Establish a targeted monitoring approach for NPS Program projects including baseline, pre- and post-project to better evaluate the effectiveness of BMPs. Work with WAB and local partners to coordinate monitoring efforts.		
Participate in and coordinate with the WVWN.		
Coordinate with appropriate agencies, watershed associations and Public Service Districts to address failing on-site wastewater systems.		
Coordinate with project teams to propose additional funding opportunities and activities to conduct streambank stabilization projects in priority watersheds.		
Participate in the Cheat and Monongahela River TMDL implementation plans		
Develop guidelines for an urban runoff management program that promotes low impact development practices		
Coordinate with WVCA and NRCS to implement CREP/EQIP programs in priority watersheds		
Provide conservation education and information to educators, youth, and the public		
Increase capacity for watershed associations to actively participate in and provide leadership for NPS watershed projects		

Watershed Management	Status	Comments
Conduct restoration activities and BMP implementation in priority watersheds with the goal of achieving load reductions that will meet their designated uses by 2025.		WBP activity is on-going driven by local stakeholders, agency, and NGO support. Multiple WBPs were approved, and we are working on source water, WBP integration efforts. New and revised plans are being developed in the Potomac, Cheat and Tug Fork watersheds. Recent monitoring suggests that Second Creek is nearing completion. We have not successfully developed WBPs in the Ohio River basins but will have one in 2025.
By 2020 develop two-four new WBPs in priority areas as designated by the Watershed Management Framework and TMDL processes.		
Every two years evaluate the progress and revise existing active WBPs as needed.		
By 2020 complete the proposed watershed projects and achieve the required load reductions (LRs) that will meet the designated uses in three existing WBPs.		
Every two years or more frequently when needed or requested by EPA, report on active WBPs in accordance with the milestones established in approved plans		
By 2020 target priority basins in the Little Kanawha, Upper, Middle and Lower Ohio for the development of two new WBPs		
Support and encourage the remediation of watersheds impacted by wastewater in priority watershed and on a statewide basis by promoting the statewide efforts of the CWSRF and Agricultural Loan Programs.		
Provide funding and technical assistance within priority watersheds and on a statewide basis to stream restoration projects that restore the streams natural hydrologic conditions and reduce sedimentation.		

Support and encourage the protection of healthy watersheds and work with local stakeholders to educate their communities on their importance. This includes waters identified as high quality and outstanding national resources, as well as those that remain high quality but may be threatened by NPS pollutants.		
If there is local stakeholder interest, funding and agency support, a Watershed Protection Plan (WPP) will be developed to protect high value water bodies identified as Tier 3. The goal is to develop one WPP within the next five years		WPP is a priority, particularly in WV's Chesapeake Bay counties. WV currently has two WPPs, one is active (Back Creek) the other has been challenging (Upper Elk). There may be future WPP opportunities in association with WMA's. EPA's RPS tool has helped to identify these opportunities. Multiple CEPs have been implemented in the Back Creek watershed.
If there is local stakeholder interest, funding and agency support efforts will be made to protect high priority wetland and riparian areas and other high value watershed resources, including water quality reference streams, in priority restoration and protection watersheds. The goal is to engage land trust, local landowners, and others to implement conservation easement protection (CEP). The goal is to develop two-four CEPs within each of the approved WPPs within the next five years		
Support the development of the WWAPP tool and encourage WVDEP to develop statewide criteria to define healthy waters that will ensure better protection of high quality watersheds		

Agriculture	Status	Comments
Target statewide opportunities and priority watersheds promote the conservation of cropland, pastureland, and other land within the agriculture community through technical assistance, BMP implementation, conservation planning, nutrient management, monitoring, and education.		
Every two-years develop 10 Conservation Plans under the Farm Bill Programs		Nearly all goals have been exceeded or nearly so. Where numbers are lower the goal is expected to be met soon. The Ag WQLP hasn't been promoted but has recently gained some attention in publications etc. WVDEP's CWSRLF and WVCA plans to put additional emphasis on the program. Some interagency discussion regarding the Ag loan program have occurred.
Every five years 25 nutrient management plans will be written or reviewed managing the estimates provided in Table 7 for pounds/year of nitrogen and phosphorus through the implementation of BMPs		
Every five years provide technical assistance to 25 agriculture producers with the development, protection, stabilization and/or maintenance of riparian areas or with resource management advice that protects surface water		
Provide estimated reduction of sediment from stabilization/restoration of failing streambank, etc.		
Provide estimated sediment reductions due in part to changes in management schemes; rotational grazing, exclusion, etc.		
Provide information on the Agriculture Water Quality Loan Program to 10 agricultural landowners on an annual basis.		
Manage pesticides to protect surface and groundwater.		
Every two years coordinate pesticide collection to protect surface and ground water in cooperation with WVDA		Efforts have been delayed due to turnover/covid and budget restraints within the WVDA.
By 2020 organize a minimum two pesticide collection pickup by in cooperation with WVU Extension and the WVDA.		
Support monitoring programs in priority watersheds impaired by agricultural nonpoint pollutants.		
WVCA staff will assist landowners, watershed associations and partner agencies with stream monitoring activities in priority watersheds as needed.		Goals complete and efforts are on-going.
Provide education and technical assistance on stormwater BMPs.		
From 2015-2020 provide five stormwater workshops or demonstration projects		These goals have been exceeded. However, position turnover and organizational changes will affect future efforts.
By 2018, we present 20 stormwater management workshops across the state.		
By 2016 provide technical advice regarding stormwater management quality and/or quantity issues to 20 clients.		

Stormwater	Status	Comments
Improve and protect West Virginia's soil and water resources by reducing the amount of erosion from earthwork sites through education and technical assistance.		
Provide technical assistance and/or information to 2,500 attendees at the WV Construction & Design Exposition over the course of five years through an informational display booth with technicians on hand to answer questions		Estimated numbers are down. The average is > 10 ECPs/yr primarily because of more local contractual assistance to smaller MS4s. Most likely this service will not continue.
Every two years review and/or provide advice with writing 40 construction erosion and sediment control plans with estimates of soil saved		

Resource Extraction	Status	Comments
If funding allows, the NPS Program will coordinate to the extent possible with DEP's OAMLR, OSR, OO&G and WVDOF on future project opportunities in watersheds impaired by resource extraction activities.		
Where projects align with current WBPs, or where TMDLs and other sources of information suggest alternate WBPs could be developed to fully restore smaller impacted watersheds; the NPS Program will partner with local stakeholders, our agency and partner agencies to develop restoration projects.		NPS projects continue to receive support from OSM-WCAP; however, AML funds have been limited. The most significant contribution is the investment in the Muddy Creek watershed. The infrastructure bill may provide opportunities to make significant future progress.
If funding allows, the NPS Program will partner with DEP's mining program and the federal OSM to provide support for long-term operation and maintenance of passive and active AMD treatment		

Support the WVDOF in their administration of the Logging and Sediment Control Act (LSCA), which reduces the potential impacts to water quality from forestry operations. The NPS Program will work with the WVDOF to support LSCA activities, the objectives listed below as well as other activities that promote the protection of water quality from NPS pollution; however, WVDOF is the primary agency for implementing all forestry management activities.		
Every three years participate in the Forestry BMP Committee that updates and revises the WVDOF BMP Manual		WVDOF layoffs have impacted NPS inspections related to LSCA and other incentives. NPS remains committed and is still a partner. AGO funding supported a WVU/WVDOF study.
Increase community/landowner involvement with Urban Forestry Program, Stewardship Incentive Program (SIP) and Forest Incentive Program		
Encourage proper forestry management on all forest lands, which will ensure a productive forest and enhance water quality		

Chesapeake Bay Program	Status	Comments
WV is a headwater state for the Chesapeake Bay watershed and the NPS Program will support the goals of the CB Agreement by serving on committees, participating in regular meetings and calls, and providing input to the future development of the Bay TMDL and models. The NPS Program will also work on specific objectives that support the general goals of the CB Program.		
Implement local TMDL WBPs and CB WIP to reduce nutrients, sediment and fecal coliform to local waters and the Chesapeake Bay		WVDEP staff continue to participate in project teams implementing WBPs and identifying CB funding opportunities. CB Program progress has been good and is on-going. There are no CAFOs.
Participate in the development of local TMDLs in Warm Springs Run and Rocky Marsh Run to enhance TMDL/NP coordination by identifying opportunities to incorporate information needed for WBP development		
Continue to work with local governments to incorporate post construction stormwater requirements in local ordinances		
Continue implementation of agriculture BMPs and WV NPDES CAFO permitting and enforcement consistent with the WIP and WBPs		

Progress legend

Status	Notes
Complete	In some cases, complete may refer to on-going particularly if the milestone is an annual goal.
Progress made	
No progress	

West Virginia's NPSMP load reduction goals.

5-year goal	350	180,000	400,000	300,000	20,000	2.00E+15
units	lbs/yr	lbs/yr	lbs/yr	lbs/yr	tons/yr	CFU
Pollutants	Acidity	Total Metals	Nitrogen	Phosphorus	Sediment	Pathogens
2019		12	532,240	185,812	3	2.84E+14
2020	47	14,921	292,151	276,030	53	2.58E+13
2021	73	23,048	620	448	56	1.07E+13
2022	30,359	3,825	97,766	114,547	448	1.89E+13
2023	11,659	2,404				2.12E+13
2024	81,727	14,060	13,085	7,009	204	1.13E+12
Totals	123,865	58,270	935,862	583,846	764	3.62E+14
% Difference	+198.9	- 102.2	+80.2	+64.2	-185.2	+138.7

Overall % Difference (+194.6)

Key: Over Under