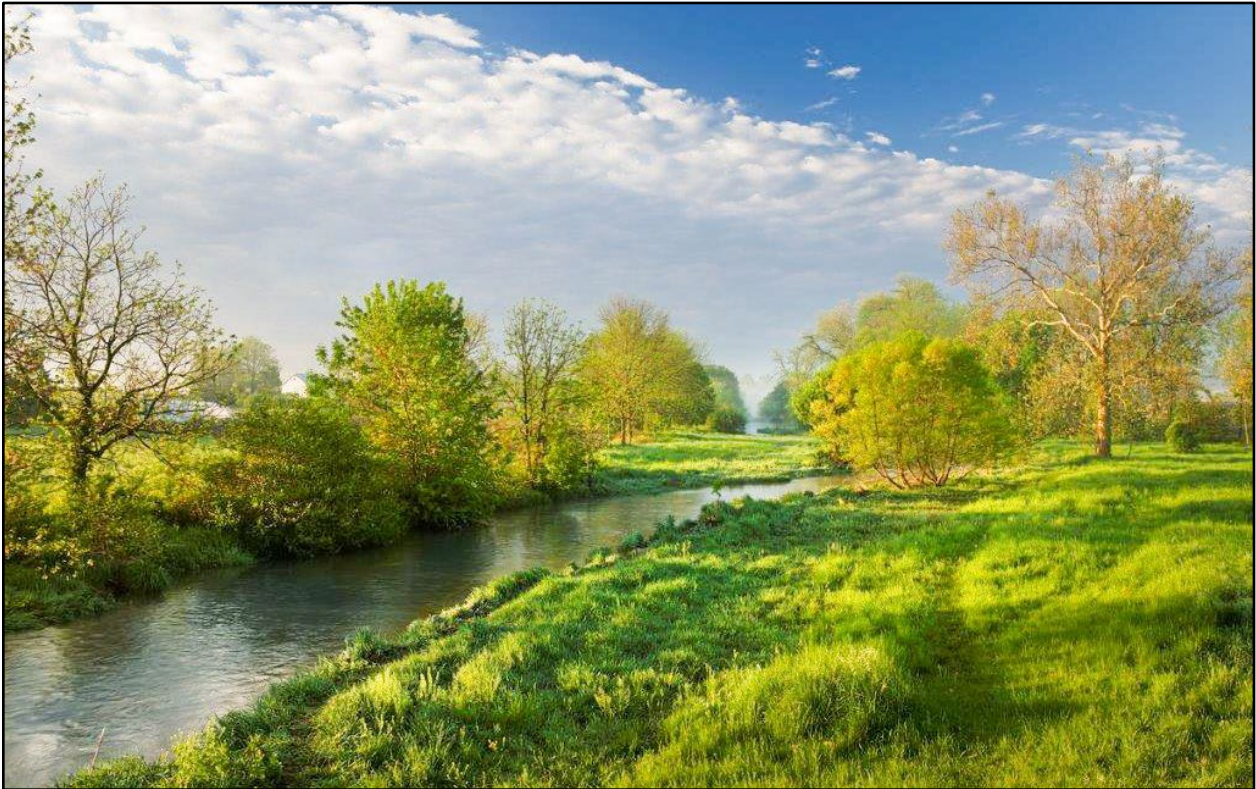


Pennsylvania's Phase 3 Watershed Implementation Plan 2023 Progress Report Summary



March 2024



Pennsylvania's 2023 Progress

Pennsylvania's Chesapeake Bay watershed restoration efforts have accelerated over the course of 2023 and Pennsylvania's [Phase 3 Watershed Implementation Plan \(Phase 3 WIP\)](#) continues to serve as a catalyst for action.

The Pennsylvania Department of Environmental Protection (DEP) serves in a leadership and coordination role, and also works in strong partnership with the Pennsylvania Department of Agriculture (PDA) and Department of Conservation and Natural Resources (DCNR), along with hundreds of other local, state and federal partners. Important steps were taken to further support Countywide Action Plan (CAP) implementation by multiple state agencies and partners.

Locally, partners were able to focus their efforts on implementation, getting clean water projects on the ground and continuing to build their partner networks. Counties completed record numbers of clean water projects due to additional funding support provided by state and federal funds, such as the CAP Implementation Grant and Chesapeake Bay Infrastructure Investments and Jobs Act (CB IJIA) funding. The results of these efforts validated Pennsylvania's choice to put the power to make changes in the hands of local community members and their representatives, focusing on Pennsylvania's local waters first and foremost.

From urban tree plantings to whole farm best management practice (BMP) projects, local action is cleaning up Pennsylvania's waters. Throughout 2023, CAP project teams developed, funded and constructed thousands of clean water projects across the Bay watershed, with even more in the works. A new, innovative BMP verification method developed by Pennsylvania's local partners and supported by DEP was approved by the Chesapeake Bay Program (CBP) partnership in 2023, improving the process for keeping tabs on existing clean water BMPs.

Here's what that looks like on the ground:

- Nutrient and sediment pollution is decreasing to the Chesapeake Bay. USGS monitoring data published on [Chesapeake Progress](#) shows improving trends and conditions at the Susquehanna River Input Monitoring (RIM) station, as well as several of Pennsylvania's Non-tidal Network (NTN) water quality monitoring stations.
- The Chesapeake Assessment Scenario Tool (CAST) model 2023 draft load reductions to the Chesapeake Bay show that Pennsylvania's agriculture sector reduced more than 1.8 million pounds of nitrogen, 17,900 pounds of phosphorus, and 58.7 million pounds of sediment. Including all sources, draft 2023 progress shows a reduction of approximately 2.8 million pounds of nitrogen, 62,000 pounds of phosphorus, and 87 million pounds of sediment to the Chesapeake Bay.
- Local partners in eight counties are working together on implementing [precision conservation initiatives](#), using water quality monitoring and assessment data and mapping tools for data-driven decision-making and watershed-based planning to delist waters from the [CWA 303\(d\) impaired waters list](#) which could ultimately lead to restored

watersheds and healthy communities. This approach has helped to remove several local streams from Pennsylvania's impaired waters list.

- Capacity is building. A diverse group of partners working across the watershed have set aside funds for projects identified in county CAPs, as well as to support personnel and water quality monitoring. For example, Hammer Creek has a new Continuous Instream Monitor (CIM) supported by the U.S. Geologic Service (USGS) and the Susquehanna River Basin Commission (SRBC). The Little Conewago Creek Watershed has a new CIM supported by USGS and U.S. Department of Agriculture (USDA). Both watersheds offer the opportunity to serve as research sites by applying monitoring of agencies and universities to provide data-driven results to inform conservation practices.

State government and sectors continue to prioritize programs and funding that support county efforts to meet local clean water goals. DEP energized county partners' clean water efforts by offering frequent touchpoints in the form of regular meetings with county, state and federal partners. These efforts culminated in the first [Clean Water Gathering](#) in October that brought together over 80 individuals representing the state, county, academic, nonprofit and sector partners to share successes, identify continued challenges and begin developing strategies for continued progress and success towards the 2025 goals and beyond. Innovative state funding programs, like CAP Implementation Grants and Growing Greener, prioritize targeted restoration efforts in the Chesapeake Bay watershed, keeping the state's promise to support counties' local clean water projects.

Pennsylvania's collaborative vision leads to cleaner water in the Commonwealth.

Pennsylvania's ground-up approach is founded on a purposefully transparent strategy for achieving shared clean water goals. Key to this is a focus on empowering partners to engage in open communication about what they need to get projects on the ground, and a commitment to responsive management of state resources and programs dedicated to supporting the counties doing their part to reach Phase 3 WIP goals. The result is measurably cleaner water across PA's Chesapeake Bay watershed. Including the draft 2023 reductions, PA is less than 29 million pounds of nitrogen, 720,000 pounds of phosphorus, and 440 million pounds of sediment away from reaching the Chesapeake Bay Total Maximum Daily Load (TMDL) Planning Targets.

Details to date for each milestone are provided in the [Pennsylvania Phase 3 WIP Planning and Progress Report](#). The following sections share highlights.

Milestone Progress Highlights

Pennsylvania continues to demonstrate a deep commitment to clean water at the state and local level. Through the bottom-up strategy devised in the Phase 3 WIP, counties are empowered to set and reach local clean water goals on their terms by prioritizing projects that meet local goals and have cumulative local and downstream benefits. The 2023 Phase 3 WIP milestones update provides a comprehensive record of how much has been achieved thus far.

Over the last year, the Commonwealth has utilized feedback from county partners to identify opportunities to better meet their needs. In response, Pennsylvania has taken steps to streamline funding opportunities, create new support staff positions, and improve BMP reporting procedures.

Details on the progress made over the last two years are provided in the 2023 milestones report. This includes aggregated data, status of actions, and descriptions of efforts. For efficiency, the plan is broken into five Priority Initiatives:

1. Communications and Outreach
2. Funding and Resources
3. Expanding Capacity for Technical Assistance
4. Reporting and Tracking
5. Compliance

Each initiative was assigned relevant actions by the Phase 3 WIP planning team to help Pennsylvania reach its nutrient reduction goals. All of the Phase 3 WIP milestone action item updates can be found in the Planning and Progress Report. The following are some progress highlights for each priority initiative:

Priority Initiative 1: Communications and Outreach

Purpose-driven communication, coordination, collaboration, outreach and engagement continue to be key for successful implementation of the Phase 3 WIP. Coordinating efforts across 34 counties, multiple state agencies and numerous local partners is no small task but is necessary for on-the-ground changes to happen. The [DEP Bureau of Watershed Restoration and Nonpoint Source Management \(BWRNSM\)](#) has put special effort into dedicating staff to meet regularly with county partners to ensure their needs are met and questions are answered.

At the capstone Clean Water Gathering held in October, county partners came together to meet with state action leaders to reflect on clean water successes, address shared challenges, and plan next steps in developing strategies for success to help address the challenges identified. County and community partners continue to report their satisfaction with the state's commitment to meeting local needs and taking an adaptive management approach to plan implementation. Following a similar approach locally, counties continue to engage and expand efforts with local stakeholders and pursue new partnerships.

Progress highlights:

- DEP BWRNSM focused on expanding staff to support county and state clean water efforts, which included:
 - Holding regular calls with all watershed counties and Countywide Action Plan (CAP) coordinators and leaders.
 - Updating the Clean Water Academy, Phase 3 WIP and CAP public webpages as new material was developed.
 - Providing grant funding for CAP Clean Water Coordinators and additional CAP

- grant funds for communication support.
- Restructuring and expanding DEP support staff network provided to counties, clarifying and expanding their roles. Teams now include a DEP Watershed Administration and Accountability Section (WAAS) project advisor, a DEP Watershed Manager, and a DEP Conservation District Field Representative.
- Adding new staff members who oversee data analysis and reporting, quality assurance and federal grant management.
- Continuing regular outreach to counties to share information about what other counties are doing, grant opportunities, and more through a monthly [e-newsletter](#) and weekly emails.
- Several DEP bureaus and divisions have taken meaningful steps to provide training, educational resources, and project support:
 - Bureau of Waterways Engineering and Wetlands (BWEW)
 - Engagement with long time partners to develop comprehensive aquatic resource strategies began and demonstration projects are being developed. In October 2023, BWEW and BWRNSM staff met with the new Mid-Atlantic Regional Director for American Rivers to discuss comprehensive restoration strategies related to dam removal projects.
 - Bureau of Clean Water (BCW)
 - In addition to the web-based training and guidance documents available on DEP’s website, BCW continues to engage with permittees to answer questions and provide feedback on proposed BMP projects.
 - Continues to answer project-specific questions from permittees interested in implementing collaborative BMPs. Looking at ways to incorporate feedback on incentivizing collaboration received from the PAG-13 General Permit Workgroup into the future permit.
- PDA actively supports installation of agricultural BMPs and shares funding opportunities with counties:
 - Bureau of Plant Industry developed a newsletter – “[Be Green While Protecting Our Streams](#)” – which has also been shared with MS4s. They also published a short video for the public audience focused on fertilizer use.

Priority Initiative 2: Funding and Resources

Implementing the Phase 3 WIP is a cost-intensive endeavor, requiring hundreds of millions of dollars each year. These funds come from multiple sources including state, federal, and local governments, as well as non-profit organizations. Some of these funds are regular budget items for the entities providing them; some come in the form of grants or one-time allocations. To date, Pennsylvania has been fortunate in its ability to secure monies needed to successfully implement the Phase 3 WIP. The recent influx of federal funds is temporary, and much more work needs to be done. In order to build on and continue this incredible momentum that is building on Pennsylvania’s clean water success, additional long-term dedicated funding is necessary and essential.

To reach the Commonwealth's Phase 3 WIP goals, the state and partner organizations/entities will continue to pursue new and innovative partnerships and funding opportunities, in addition to existing sources.

Progress highlights:

- Funding for watershed restoration
 - DEP continued to implement its successful “block grant” program: The allocation-based funding program continues to be implemented. In December 2023, a total of \$19.6 million was awarded for county Clean Water Coordinators and CAP Implementation Grants. This included EPA Most Effective Basin (MEB), Infrastructure Investments and Jobs Act (IIJA), and Local Government Implementation (LGI) funding.
 - For the CAP Implementation Grant, 226 projects were approved for funding and are estimated to reduce more than 170,000 pounds/year of nitrogen, 122,000 pounds/year of phosphorus, and 36.3 million pounds/year of sediment.
 - The 2023 Growing Greener grant program round provided more than \$4.5 million to 27 projects in Pennsylvania's Chesapeake Bay Watershed, with an estimated reduction of more than 48,000 pounds/year of nitrogen, 5,800 pounds/year of phosphorus, and 8.2 million tons/year of sediment.
 - DEP also continued to support the precision conservation “rapid stream delisting” approach in agriculturally-impaired watersheds through the [Growing Greener Watershed Renaissance Initiative \(WRI\)](#).
 - 58 implemented BMPs funded in whole or in part by the Growing Greener Grant program were verified and reported toward Pennsylvania's annual numeric progress. Of these, over 45 are agricultural BMPs.
 - The Section 319 Nonpoint Source Grant program funded, in whole or in part, 64 BMPs which were verified and reported toward Pennsylvania's annual numeric progress. Of these, over 55 are agricultural BMPs.
- Funding for agricultural BMPs
 - 108 BMPs funded in whole or in part by the State Conservation Commission (SCC) [Conservation Excellence Grant](#) (CEG) program were verified and reported toward Pennsylvania's annual numeric progress.
 - The [Agriculture Conservation Assistance Program](#) (ACAP) became fully operational. As of the date of this report, the SCC committed \$141 million through signed delegation agreements with 66 counties. Approximately 70% of the funding and corresponding applications are located in Pennsylvania's Bay watershed.
 - The Agri-Link low interest loan program processed five loans for producers, totaling \$1.1 million in subsidized loans. SCC and PDA's executive team met with the state Treasurer to discuss expanding REAP to include preserved farms and new and beginning farmers.
- Funding for technical assistance

- NRCS technical assistance support/engineers were hired to prioritize ACAP projects that commingle with NRCS Environmental Quality Incentives Program (EQIP) funds.
 - The SCC funded an engineering firm, Herbert Rowland & Grubic LLC, to work alongside an NRCS engineer at the new [Center for Ag Conservation Technical Assistance](#).
 - DEP developed an Invitation for Bid for additional technical assistance in coordination with SCC and NRCS.
- Funding for riparian buffers
 - DCNR continued to leverage available internal and external funding for buffers to utilize via [Community Conservation Partnerships Program](#) (C2P2) grants and the Ecological Restoration Invitation to Qualify (ITQ).
 - 19 BMPs were reported as funded in whole or in part by CBF for urban forest planting, riparian forest buffer, and tree planting, toward Pennsylvania's annual numeric progress.
 - Post-planting establishment is a fundable activity for all buffers planted with any funding source in the past six years under the C2P2 grants.

Priority Initiative 3: Expanding Capacity for Technical Assistance

Progress over 2023 was due in large part to the increased availability of technical assistance to counties and their partners during the BMP planning and implementation process. The Phase 3 WIP includes actions to ensure needs for technical support, expertise and training are met through technical training, hiring technical support staff and leveraging partnerships with organizations that have needed technical resources/expertise. Skilled technicians, with the knowledge and experience in BMP science and installation are vital to ensuring projects are done right the first time.

Progress highlights:

- Partners assembled new training programs.
 - The new Center for Ag Conservation Technical Assistance was staffed and running at Penn State University, funded by and in partnership with SCC and NRCS.
- New staff were hired by DCNR.
 - DCNR's seven new Regional Watershed Forestry Specialists were hired, trained and are active in their regions. This greatly increased technical assistance capacity across PA's Bay watershed.
 - DCNR hired a Regional Urban and Community Forestry (UCF) position focused on the Bay Watershed in late 2022. This position increased technical assistance capacity for UCF work in the PA's Bay watershed.
- [Pennsylvania Climate Academy](#) was enhanced.
 - The PA Climate Network Executive Committee and Advisory Board hired a contractor to assist with the development of training modules on climate change

and climate-related issues. These modules can be found on the PA GreenGov Council website through the Department of General Services.

- Wastewater Plant Performance Technical Assistance was provided.
 - Technical assistance was provided to 15 plants in PA's Bay Watershed.
 - Activated Sludge Courses to certified operators at PA Rural and PennTech Conferences as well as DCNR State Park Wastewater Operators in three regions and an additional course to operators in Bradford County.
 - Professional Wastewater Operators course was also provided at PA Rural and PennTech Conferences and Instrumentation for Biological Nutrient Removal course was provided at PA Rural Water Conference.
- State Revolving Fund Technical Assistance was established.
 - PENNVEST and DEP collaborated on an RFP for technical assistance and outreach for helping small and disadvantaged wastewater and water systems. The technical assistance may facilitate projects funded through the State Revolving Fund Program. Funding has been fully allocated to projects and the contract is being extended with additional funding for continuation.
- The Compliance and Enforcement Manual for Construction Stormwater was updated.
 - DEP issued a Chapter 102 Inspection SOP for conservation districts on July 1, 2023 and will be providing monthly webinar trainings over the next year. On October 1, 2023, DEP issued an SOP for Calculating Civil Penalties and an updated Clean Stream Law Penalty Spreadsheet for use by Chapter 102 compliance staff.

Priority Initiative 4: Reporting and Tracking

The hard work done at the local and state level to clean up Pennsylvania's waters can only be credited to Pennsylvania's progress if the efforts and results are tracked and reported correctly. DEP BWRNSM's Bay Partnership Section worked throughout 2023 to further streamline and simplify this process for more than 40 program reporters in order to access more data and provide improved reporting to U.S. EPA. Significant effort also went into developing innovative verification technologies, standardizing data collecting and reporting methods, updating BMP reporting platforms, and providing needed training.

Progress highlights:

- BMP verification is a priority.
 - As part of the USDA-EPA Crediting Task Force, remote sensing was elevated as a promising opportunity to verify BMPs more efficiently and cost-effectively. Larson Design Group, a county Clean Water CAP Coordinator, developed a method for non-intrusive verification through remote sensing. This method was approved by the Chesapeake Bay Program Agriculture Workgroup in August 2023 and can now be used to verify certain Resource Improvement (RI) practices.
 - DEP revised and submitted the Chesapeake Bay Nonpoint Source Management Quality Assurance Project Plan (QAPP) and BMP Verification Program Plan by

the EPA deadlines, including the method for non-intrusive verification. The Chesapeake Bay Agriculture Inspection Program (CBAIP) continues to collect and report BMP data across the watershed as part of the initial (Phase 1) and follow-up (Phase 2) inspections.

- CAP Implementation was tracked and reported in all counties.
 - Pilot and Tier 3 & 4 counties submitted annual progress reports and 2022-23 CAP milestone updates to DEP in October. DEP met and discussed progress templates and milestones with each of the counties.
 - Tier 2 counties submitted CAP annual progress reports to DEP in October. DEP met and discussed progress templates with each of the counties.
 - County annual progress and two-year milestone updates were published to the [DEP Countywide Action Plans webpage](#).
 - The 2022 [Healthy Waters Healthy Communities Annual Report](#) was published.
 - DEP continued its work with Geodecisions and Chesapeake Conservancy regarding reporting from the PracticeKeeper and FieldDoc systems.
 - DEP and SRBC continued to work together and with county lead entities to develop CAST modeling scenarios, county snapshots, standard templates, and QA/QC documentation.
- Adequate real time monitoring stations provided essential data on the status of Pennsylvania's waters.
 - The Draft 2024 Integrated Report includes a focus on Chesapeake Bay Watershed restoration efforts, Climate Change Impacts in Pennsylvania, and additional information pertaining to Environmental Justice.
 - With about two years of paired continuous and discrete water quality data, surrogate regression models are currently under development. Initial efforts will focus on developing models to characterize sediment. Data collection will continue through the foreseeable future for the purpose of developing and refining models.
 - The Marietta NTN station, among all other NTN stations, is included in the Chesapeake Bay TMDL Indicator Tool.
- The Nutrient Credit Trading Program and Chesapeake Bay Nutrient Tracking Tool (CBNTT) work hand-in-hand to support nutrient reduction work.
 - The CBNTT test environment was delivered in August 2023. Applied Research Associates (ARA) is currently working on registry aspects of the website and customizing for Pennsylvania's use. The website should be completed for rollout by March 2024. Performance based calculations continue to be implemented with a 2:1 uncertainty ratio for all nonpoint source generators.

Priority Initiative 5: Compliance

Compliance with existing laws, ordinances, standards, limits and regulations continues to be a foundational element of Pennsylvania's Phase 3 WIP. Getting to full compliance across the Chesapeake Bay watershed takes open dialogue between partners, clear expectations and the capacity to provide technical assistance when needed. This can only be achieved through

continued collaboration, communication and coordination among internal and external agencies, organizations, industry leaders and partners.

Progress highlights:

- PA Fertilizer Bill was passed and signed into law.
- The CBAIP continued to result in compliance with agricultural regulatory requirements.
 - The CBAIP Standard Operating Procedure (SOP) was revised and published to the DEP website in August 2023. The 2022-2023 Agriculture Annual Inspections Summary was published to the DEP website in Fall 2023. In the 2022-2023 reporting year, conservation districts and DEP worked together to inspect 10.4% of the total agricultural acreage in Pennsylvania's Chesapeake Bay watershed, exceeding the annual inspection goal.
- DEP, SCC and conservation districts participated in EPA's formal assessment of Pennsylvania's Animal Agriculture Programs.
 - EPA published the 2022 Animal Agriculture Programs Assessment Report on January 4, 2023. EPA conducted assessments, following their Conservation Assessment Initiative, on four Animal Feeding Operations (AFOs) in May 2023.
 - DEP continues to work with EPA and the conservation districts to ensure regulatory compliance.
- DEP implemented the NPDES Concentrated Animal Feeding Operation (CAFO) Program Delegation
 - DEP reissued a final PAG-12 General Permit on September 16, 2023 and the general permit will become effective on January 1, 2024. Letters were mailed to approximately 380 existing PAG-12 permittees, notifying them that they must submit a renewal NOI by December 31, 2023.
 - In accordance with EPA's request, DEP developed and will be implementing a Reasonable Potential Analysis spreadsheet to help determine eligibility for PAG-12 where CAFOs are in a watershed that is impaired for nutrients or sediment.
 - DEP provided training to permitting and compliance staff regarding the reissued PAG-12 and provided the training slides to the DEP Agriculture Advisory Board.
- DCNR is working with partners to develop state agency nutrient reduction planning goals and Action Plans for lands owned and maintained by state agencies.
 - DCNR is working with the Alliance for the Chesapeake Bay to plant ~300 acres of riparian forest buffer at Big Elk State Park in 2024.

Challenges to Implementation

State and county partners have capitalized on feedback and lessons learned to overcome many of the challenges identified in previous milestone reports, but there is more to do. Pennsylvania is well positioned to further collaborate with clean water partners to resolve new and existing challenges as they arise.

Here are some examples:

- The appropriations for a dedicated Clean Streams Fund did not come to fruition.
- Several efforts are underway to ensure Pennsylvania is getting full credit for all programs and practices in place to improve water quality, but these efforts have yet to yield significant results.

Conclusion

Pennsylvania is fully committed to capitalizing on the current momentum. The accelerated pace of progress in 2023 is certainly a strong indication of things to come as programs such as ACAP came online and will be implemented in full force over the course of the next two years.

By empowering communities and county partners to take the lead on cleaning up local waters, Pennsylvania has found a practical way to meet local needs while also addressing downstream concerns.

Here are some examples of what Pennsylvania and its partners reported as implemented in 2023:

- Conservation Plans: 38,000 acres
- Livestock Waste Management Systems: 10,000 animal units
- High Residue Tillage Management: 69,600 acres
- Forest Buffers, Narrow and with and without fence: 2,300 acres
- Grass Buffers, Narrow and with and without fence: 2,000 acres
- Prescribed Grazing: 2,150 acres
- Bioswale: 145 acres treated
- Urban Stream Restoration: 35,950 linear feet

Over the next two years, Pennsylvania will continue to focus on supporting and developing strategic partnerships, working with counties and local community partners on projects, and leveraging the expertise of state sector action leaders to continue expanding nutrient pollution reduction progress. Pennsylvania is also committed to continuing its work with the Chesapeake Bay Program Partnership to better account for the projects and practices that are improving Pennsylvania's waters that lead to the Chesapeake Bay.