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Pennsylvania's Phase 3 Watershed Implementation Plan and Countywide Action Plans:

A CASE STUDY IN COLLABORATIVE
WATERSHED RESTORATION



Pennsylvania
Department of
Environmental Protection

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Acronym List

- Bay - Chesapeake Bay
- BWRNSM - Bureau of Watershed Restoration and Nonpoint Source Management
- BMP - Best Management Practice
- CAP - Countywide Action Plan
- CBIG - Chesapeake Bay Implementation Grant
- CBO - Pennsylvania's Department of Environmental Protection Chesapeake Bay Office
- CBRAP - Chesapeake Bay Regulatory Accountability Program
- CBWRD - Chesapeake Bay Watershed Restoration Division
- CAP Grant - CAP Implementation Block Grant
- DEP - Pennsylvania's Department of Environmental Protection
- EPA - United States Environmental Protection Agency
- N - Nitrogen
- P - Phosphorous
- PA - Pennsylvania
- PENNVEST - Pennsylvania Infrastructure Investment Authority
- Phase 3 WIP - Pennsylvania's Phase 3 Watershed Implementation Plan
- TMDL - Total Maximum Daily Load
- WIP - Watershed Implementation Plan





1. Pennsylvania's Commitment to Healthy Waters and Healthy Communities

A group of children laugh and play as they splash in a clear shallow creek, catching trout and chasing crawfish on a warm spring day. Jays, woodpeckers, and warblers flit among the branches, hunting gnats, damselflies, and other small insects for their next meal. Fresh leaves and flowers adorn the branches of the young saplings and mature trees that line the creek, their roots pushing deep into the soil, holding it securely in place despite the occasional rain shower's best efforts to wash it away.

This scene embodies the promise of Pennsylvania's (PA) comprehensive and holistic Phase 3 Watershed Implementation Plan (WIP): ensuring that current and future generations can enjoy the beauty and benefits of the Commonwealth's 49,000 stream miles. Implementation of the Phase 3 WIP not only enhances environmental health, but also protects farmland, brings nature into urban environments, and facilitates community engagement. Shifting the focus to local, community-driven solutions, rather than distant nutrient reduction mandates, has led to meaningful and measurable results in Pennsylvania.

The Commonwealth demonstrated its commitment in recent years by dedicating significant financial and resource support to clean water efforts. Since 2020, Pennsylvania has invested \$1.79 billion in state and federal funding to ensure the continuation and expansion of successful clean water initiatives across the 43 counties that encompass its vast Bay watershed. More than 1,200 partners, from local county leaders, farmers, landowners, and non-profits, to private sector businesses, schools, faith-based organizations and utility operators, have come to the collective table to tackle water issues in their communities. Through programs such as the Countywide Action Planning (CAP) and Implementation process, Pennsylvania's approach to collaborating with local communities empowers them to identify and achieve their clean water goals through projects and programs that also enhance their communities.

This voluntary, county-led, bottom-up approach has yielded impressive results within just five years of initiating the Phase 3 WIP. The 34 Bay watershed counties with the

highest nutrient reduction goals are implementing their unique action plans. Each one is making progress by implementing projects and programs that are their own, in places that they prioritize, and building partnerships every step of the way. Simultaneously, the Pennsylvania Department of Environmental Protection's (DEP) Bureau of Watershed Restoration and Nonpoint Source Management (BWRNSM) provides crucial support and coordination through open communication, training, technical assistance, and funding, building on a strong foundation of trust and long-term collaboration.



Restoring Streams and Connecting Communities

Pennsylvania is committed to a "Healthy Waters, Healthy Communities" approach to watershed restoration. This strategy empowers county-based teams to lead local water quality improvement efforts, supported by state and other partners who provide data, technical assistance, funding, and resources. Pennsylvania encourages counties to develop tailored strategies and identify impactful projects that benefit their communities while simultaneously restoring the environment.

This collaborative spirit is exemplified by the Commonwealth's Phase 3 WIP, a testament to teamwork. While the Pennsylvania DEP holds the statutory mandate for implementing the Chesapeake Bay Total Maximum Daily Load (TMDL) and leads the WIP development, the plan itself is the product of hundreds of individuals representing diverse stakeholders – state and local governments, universities, businesses, agriculture, and environmental organizations.

The foundation of the Phase 3 WIP and its associated CAPs rests on the "Three P's": Partners, Projects, and Progress. By collaborating with diverse stakeholders and guided by the principle that clean water is "Great for PA, Good for the Bay," the DEP recognizes the Phase 3 WIP process as an opportunity to serve residents and businesses by cleaning waterways, mitigating flood risks, and enhancing the quality of life in local communities. Success hinges on the belief that local efforts supported by a network of partners working across the Bay watershed will collectively move Pennsylvania toward its 2025 pollution-reduction targets.



National Association of Environmental Professionals Environmental Excellence Award

In 2024, Pennsylvania's Phase 3 WIP received the prestigious National Association of Environmental Professionals Environmental Excellence Award, earning PA national recognition for its innovative approach and underscoring its role as a leader in Chesapeake Bay (Bay) restoration efforts. Stream monitoring data confirmed positive improvements across Pennsylvania's waterways, from small creeks to the mighty Susquehanna River, significantly impacting Bay health.

2. Background and History of the Phase 3 WIP



2.1 Origins in the Chesapeake Bay TMDL

Pennsylvania's current journey toward reducing nutrient pollution in the Chesapeake Bay began in 2009, when the U.S. Environmental Protection Agency (EPA) established TMDL reduction targets for Pennsylvania and other Bay watershed states. These targets, to be met by 2025, are outlined in individual state WIPs.

The TMDL focuses on three main pollutants—nitrogen (N), phosphorus (P), and sediment—to address widespread water quality degradation in the Bay and its tributaries.

2.2 Phase 1 and Phase 2 WIPs

- **Phase 1 WIP (2009):** Pennsylvania's first WIP outlined key pollution sources and potential solutions. It emphasized the need for long-term strategic planning and partnership-building.
- **Phase 2 WIP (2011):** Building on Phase 1, Phase 2 integrated public input and adaptive management principles. Although meaningful pollution reductions were achieved, the state still faced shortfalls in meeting its EPA-assigned targets.

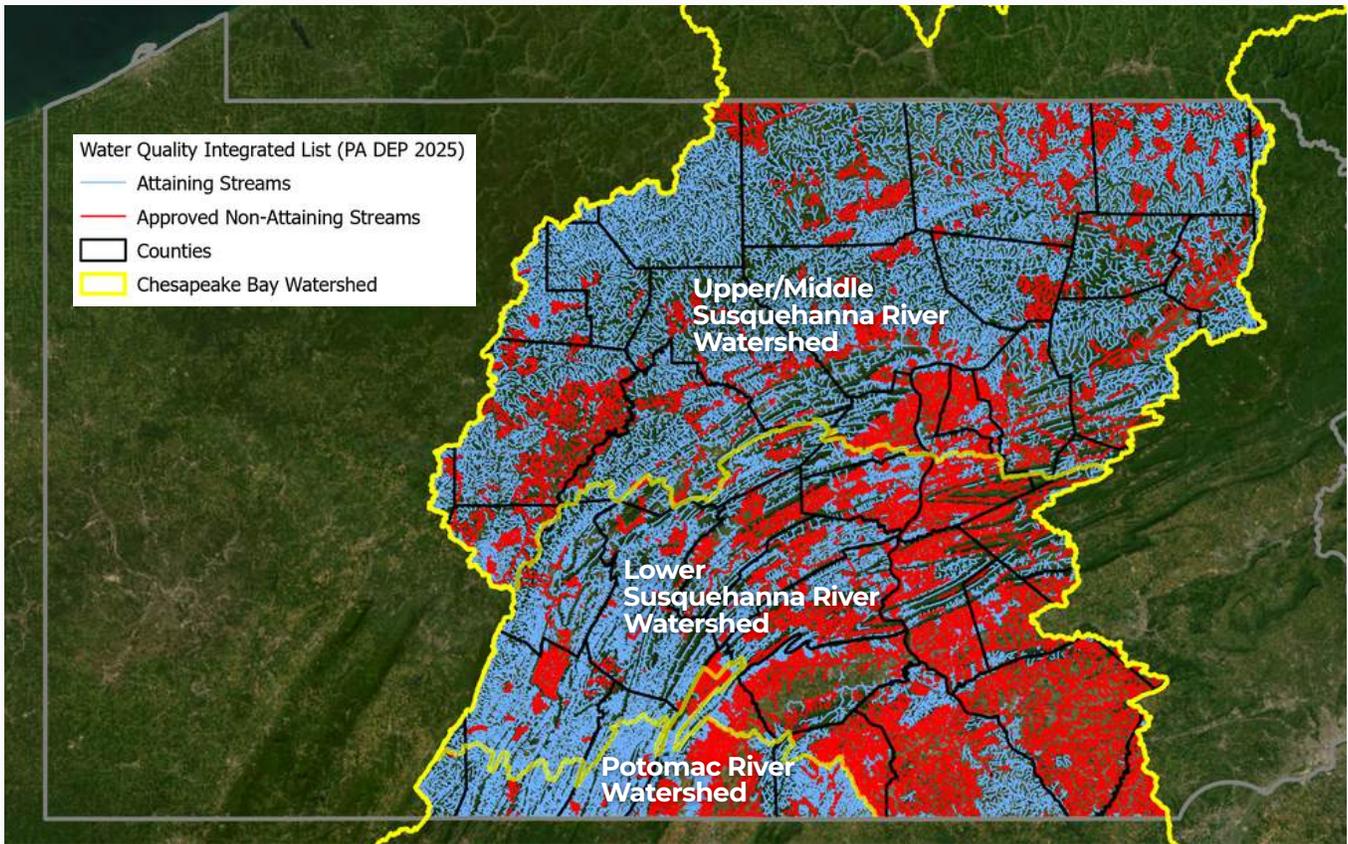


Figure 1: This map shows non-attaining and attaining stream segments from the 2026 Integrated Water Quality Report, representing stream assessments in an integrated format as well as Chapter 93 designated use streams.

2.3 Pennsylvania's Portion of the Chesapeake Bay Watershed

Roughly half of Pennsylvania's landscape drains into the Chesapeake Bay through the Susquehanna and Potomac river basins. The Susquehanna alone delivers half of the Bay's freshwater and nearly all the flow to its upper reaches, making Pennsylvania's partnership indispensable to the Bay's recovery. Just as important, these are Pennsylvania's own waters and are essential to the health, safety, and quality of life of its residents.

Across 43 counties and more than 49,000 miles of rivers and streams, Pennsylvania is tackling the challenge of restoring local waterways affected by pollution from runoff and erosion. More than 12,000 stream miles are impaired by sediment and excess nutrients such as nitrogen and phosphorus—materials that support plant growth but, in excess, threaten both environmental and public health.

The map above offers a clear picture of the current health of Pennsylvania's rivers and streams within the Chesapeake Bay watershed. Streams shown in blue are "attaining," meaning they meet all water quality standards and fully support their intended uses—such as aquatic life, recreation, and drinking water. Streams shown in red are "non-attaining" (or impaired), meaning they fall short of one or more standards and are priorities for restoration.

Under direction from the EPA, Pennsylvania is working with its watershed partners—Delaware, the District of Columbia, Maryland, New York, Virginia, and West Virginia—to reduce these pollutants. While nonpoint sources like agriculture and urban runoff present a complex challenge, they also offer an opportunity. With collaboration, innovation, and commitment, addressing these challenges benefits communities here at home and across the Chesapeake Bay region.

2.4 Rationale for the Phase 3 WIP

In preparing the Phase 3 WIP, Pennsylvania pivoted to a more locally driven model, recognizing that statewide mandates alone could not achieve the necessary improvements. The Phase 3 WIP emphasizes grassroots collaboration, primarily through CAPs. By entrusting local communities to develop and implement tailored pollution-reduction strategies, Pennsylvania continues to see greater ownership, innovation, and ultimately, more impactful results.

Pennsylvania’s Phase 3 WIP Implementation Strategy



Figure 2: Graphic representation of Pennsylvania's Phase 3 WIP implementation strategy depicting BWRNSM's responsibilities.

2.5 Sector-Specific Workgroups

Five Sector Workgroups—Agriculture, Wastewater, Stormwater, Forestry, and Local Area Goals—played a significant role in shaping the Phase 3 WIP. Each workgroup was composed of a diverse mix of experts and practitioners who identified sector-specific pollution sources, feasible Best Management Practices (BMP), and the technical or policy changes needed to meet WIP targets.

This collaborative approach, spanning an extensive network of partners, including core team members, counties, municipalities, non-profits, consultants, landowners, and data reporting entities that relied upon contributions from hundreds of individuals across various sectors, emphasizes the scale of and commitment to clean water across the Bay watershed.

2.6 Submission and Updates

Pennsylvania submitted its Phase 3 WIP to the EPA in 2019, updating it in 2022. The 2022 amendment underscores the need for:

- Stable funding to support state, county-level, and sector initiatives.
- Accurate EPA modeling to reflect practices already on the ground.
- Clear sediment targets and strategies to address the impacts of climate change.
- Ongoing support for Countywide Action Plans.

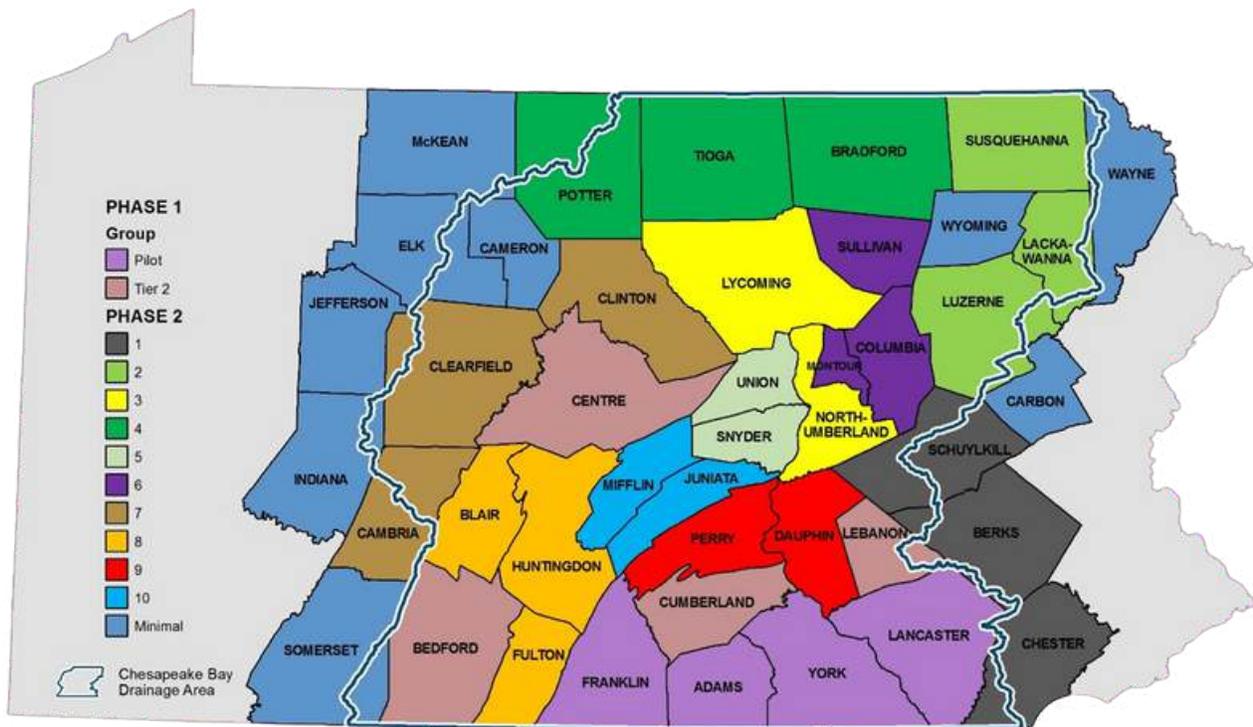


Figure 4: Map depicting the counties in Pennsylvania's share of the Chesapeake Bay watershed. Counties were brought into the CAP process in two phases and were additionally subdivided into groupings for onboarding into the CAP process.

3.2 Tiered Outreach and Pilot Projects

To streamline the rollout of the CAPs, the DEP grouped the Bay watershed counties into four “tiers.” Each tier accounted for approximately 25% of the state’s remaining nutrient reduction load. This approach allowed the DEP to focus first on Tier 1 and Tier 2 counties—those contributing the largest share of pollutants—and refine the CAP process before engaging Tier 3 and Tier 4 counties.

- Pilot Counties (2018 – 2019): Lancaster, York, Adams, and Franklin counties tested an initial “County Toolbox,” offering feedback that led to a more efficient planning process.
- Phase 1 (2019 – 2020): The remaining Tier 2 counties developed CAPs using lessons from the pilots.
- Phase 2 (2021 and beyond): Tier 3 and Tier 4 counties, representing 46% of the nitrogen load, followed with their own CAPs. The 26 Tier 3 and Tier 4 counties were organized in ten county groupings to make best use of funding resources.



“When I was starting, I tried to pay attention to the lessons that Tier 1 counties were sharing. Why not learn from somebody with experience? What I learned was that some of the early counties were having a hard time figuring out what implementation looked like. So as we engaged our partners, we tried to be very clear that this wasn’t just a brainstorming session. We solicited implementation partners to help us develop the plan, so the shift to implementation shouldn’t be so awkward.”

*Erin Letavic, multi-county CAP Coordinator,
Herbert, Rowland & Grubic (HRG), Inc.*

3.3 CAP Development Process

The DEP's commitment to partnership before mandate has been crucial to the success of the CAP process. By actively engaging with counties throughout the planning and implementation phases, the DEP has fostered trust and mutual accountability. CAPs serve as strategic roadmaps to empower counties to self-identify and improve local water resource issues. Although each county's plan is unique, the broad development process typically includes:

- 1. Forming a Countywide Team:** Includes local government officials, conservation districts, nonprofits, farmers, business owners, and other community stakeholders.
- 2. Defining Goals and Priorities:** Counties balance statewide pollution-reduction targets with local objectives (e.g., flood mitigation, recreational improvements).
- 3. Selecting and Implementing Actions:** Actions include project implementation such as stream restorations, cover crop incentives, riparian buffer plantings, or urban stormwater retrofits as well as programmatic actions such as inclusion of water quality goals in a County Comprehensive Plan or County Hazard Mitigation Plan.
- 4. Reporting and Adaptive Management:** Counties track progress annually using standardized tools provided in the county toolboxes and adjust plans as needed on a two-year basis.

3.4 County Toolbox

A critical resource is the County Toolbox, which began as a single document but now exists as a suite of user-friendly guides and templates, refined based on feedback from pilot counties. The toolbox offers county-specific data, planning templates, and outreach materials:

- Community Clean Water Guide
- Community Clean Water Technical Toolbox
- Planning and Progress Template
- Programmatic Recommendations Template
- Community Clean Water Action Plan Narrative Template

These resources ensure counties have access to the necessary data, technical expertise, and documentation support for creating and implementing CAPs.



Source: HRG, Inc.

Figure 5: Graphic representing how Countywide Action Plans bring together multiple approaches for tackling water pollution and capture them for inclusion in the Phase 3 WIP.



“A highlight of all of this is getting people involved and working towards common goals. The CAP process is bringing people together, building networks of people and resources focused on improving water quality.”

Josh Glace, multi-county CAP Coordinator, Larson Design Group



“I think the key to success is learning to be okay with change...this is our opportunity to be more open to different suggestions, possibilities, and ideas.”

Erica Tomlinson, Tioga County Conservation District Manager

Developing Your Countywide Action Plan

Developing a Countywide Action Plan is a collaborative process. In each county, local stakeholders will convene a planning team and, with support from DEP, work together to create a plan that meets local clean water goals.

Assemble a Diverse Planning Team and Select Leaders

Key Resource: Community Clean Water Planning Guide

Participants are expected to come prepared to roll up their sleeves and get to work, so it's important to ensure all the key players are at the table. Planning team members should include local residents, business owners, county and municipal staff, and representatives from relevant local, regional and state organizations. Team leaders should be committed, credible, open to new ideas, and skilled at leading groups and achieving consensus.

Set Meeting Schedule and Planning Strategy

Key Resource: Community Clean Water Planning Guide

Once the planning team is assembled, work together to set a regular meeting schedule and planning strategy. It can take up to 8 months to create a Countywide Action Plan, so setting a strategy for getting it done will keep the plan on track and use the team's time efficiently. Include plan outreach and inclusion efforts from the beginning to ensure transparency in the group's decisions and garner community support for the completed plan.

Identify Countywide Goals and Steps to Reach Them

Key Resource: Community Clean Water Technical Toolbox

The Countywide Action Plan will help each planning team identify actions that address local issues AND meet DEP goals. By creating a Countywide Action Plan, counties can develop a strategy for: cleaning up local waters, lowering flood risks, and improving the quality of life in their community.

Assess Resource Needs and Opportunities

Key Resource: Community Clean Water Technical Toolbox

Once countywide goals are set, it's time to figure out what resources are needed to reach them. Take the time to review existing plans and projects to see how they may overlap or complement the Countywide Action Plan goals (e.g. county comprehensive plan, capital improvement projects, pollutant reduction plans, and watershed projects). Also, use this step to identify groups and organizations that could contribute to countywide efforts.

Finalize the Countywide Action Plan

Key Resources: Community Clean Water Planning Guide & Community Clean Water Technical Toolbox

Now that countywide goals are set and resource needs have been identified, it's time to finalize the plan. Convene the planning team to review goals, action steps, and resources, invite community feedback and work together to finalize the plan. Be sure to include a plan for implementation and identify the implementation team members.

Implement the Countywide Action Plan

Key Resources: Community Clean Water Planning Guide & Community Clean Water Technical Toolbox

With planning complete, now it's time for implementation. The implementation team should set up a regular meeting schedule, divide plan responsibilities, and work with partners to make progress towards Countywide Action Plan goals.

Track and Report Progress Towards Goals

Key Resources: Community Clean Water Planning Guide & Community Clean Water Technical Toolbox

Now that plan implementation is underway, it's time to identify how progress towards countywide goals will be tracked and who will do it. Internal progress reporting should be part of implementation team meetings and community outreach. Each county will submit annual progress reports to the DEP using a standard reporting template.

Figure 6: Table depicting the process for developing and implementing a CAP. This table was provided to counties as part of the CAP planning process.

4. Organizational Structure and Support



4.1 DEP's Bureau of Watershed Restoration and Nonpoint Source Management

The responsibility for developing the Phase 3 WIP and leading the CAP effort initially belonged to the three person staff of the DEP's Chesapeake Bay Office (CBO), with additional support from contractors specializing in meeting planning and facilitation, environmental marketing and communications, and data management and technical support. It was clear from the outset that full implementation of the WIP would require an expansion of the CBO. It started by hiring additional staff based on recommendations that came out of the Local Area Goals Workgroup. Then, in 2022, the CBO transitioned into the BWRNSM. This bureau includes two divisions:

1. **Chesapeake Bay Watershed Restoration Division:** Focuses on Phase 3 WIP implementation and grant management, particularly the Chesapeake Bay Implementation Grant (CBIG) and Chesapeake Bay Regulatory Accountability Program (CBRAP).
2. **Nonpoint Source Management Division:** Oversees the recording and verification of agricultural BMPs, issues grants (Growing Greener, Section 319, etc.), and supports local conservation districts.



"I love the Bay Office. I don't say that lightly. This is probably the first state agency I don't want to let down. They have been such a valuable resource in helping us. When you shift from planning to implementation, there are a lot of questions that come up. The Bay Office asks how they can help, they don't just say "it's up to you to figure it out." They've been an invaluable resource on both the planning and implementation side."

*Mike LaSala, Multi-county CAP Coordinator,
LandStudies*

How the Chesapeake Bay Watershed Restoration Division (CBWRD) is working with counties:

- Administers the CAP coordinator and implementation block grant program.
- Hosts Webinar Wednesdays.
- Developed a Coordinator Training Academy.
- Holds regular one-on-one meetings with counties.
- Creates materials and training to support county teams' local outreach needs.
- Distributes weekly and monthly e-newsletters.
- Hosts web-based training modules on the Clean Water Academy.
- Makes Chesapeake Bay Phase 3 WIP website updates.

4.2 Regional CAP Support Teams

The DEP Regional Offices (Northeast, Northcentral, Southcentral) partnered with the understaffed CBO during the COVID pandemic to assist Tier 3 and 4 counties in the development of their CAPs by:

- Identifying local champions and key stakeholders.
- Coordinating resources and funding avenues.
- Navigating regulatory requirements and permitting.
- Providing a direct liaison to state-level decision-makers.

As the CBWRD formed, the Regional CAP Support Teams phased out of direct coordination.

4.3 CAP Coordinators

The DEP awards funding to each county or multi-county grouping to support a CAP Coordinator. The CAP Coordinator can either be a consultant or a staff member at a conservation district or planning commission. As of 2025, of the 18 CAP Coordinators, eight are housed at a conservation district, three are housed at a planning commission, and seven are consultants.

The purpose of this position is to provide support and coordination to assist with the development and implementation of the CAPs. CAP Coordinators do this by organizing local partners, managing grants, tracking BMP implementation, serving as the critical bridge between local stakeholders and the DEP's internal staff, and so much more.



“Having a CAP coordinator helps us communicate with DEP when we need to share our thoughts. And because they handle a lot of the coordination, it keeps my team out in the field working with farmers on projects.”

*Scott Metzger, Assistant Manager,
Franklin County Conservation District*



“It really helps to have someone pull it all together and collect the information we need to get credit in our model. Somebody who makes sure that everybody is doing their part. Adams County has always been conservation minded, so I am making sure that all that great work from different sources is being pulled together and put in the right spot.”

*Ricky Whitmore, CAP Coordinator,
Adams County Conservation District*



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5. Funding

5.1 CAP Implementation Block Grants

Since 2019, the DEP has offered annual CAP Implementation Block Grants (CAP Grant), typically ranging from \$15–\$20 million per year allocated to the 34 counties who developed a CAP. These grants provide:

1. **Funding for CAP Coordinators** – To facilitate planning, communication, project identification, and progress tracking at the county or multi-county level.
2. **Funding for Project Implementation** – For capital projects, agricultural BMPs, green infrastructure, stream restoration, and other efforts that reduce nutrient and sediment pollution in a 12-24 month timeframe.

The funding for project implementation is allocation based; counties receive funds based on their percent of Pennsylvania's nitrogen load and impaired stream miles. The CAP Grant combines federal and state funds in a single pot for allocation.

In 2025, Pennsylvania dedicated approximately \$9.6 million from the state Environmental Stewardship Fund and \$14.4 million from three EPA federal grants (including Infrastructure Investment and Jobs Act funds) to support the CAP program.



"We've definitely had success already with on-the-ground project implementation. The funding that DEP gave us for CAP implementation, the flexibility of those dollars has been extremely helpful, and we appreciate being able to get that to the projects on the ground quickly and be responsive to the local decision making."

*Allyson Gibson, Executive Director,
Lancaster Clean Water Partners*



"One of our biggest wins has been streamlining how we get funding to counties. What would generally take months has taken weeks. That's been a game-changer—making funding more accessible and ensuring projects hit the ground sooner."

*Jill Whitcomb, Deputy Secretary,
Office of Water Programs, DEP*





"CAP funds don't just fund projects—they fund relationships. The ability to connect partners and unlock new opportunities is just as important as getting Best Management Practices in the ground."

*Rachel Stahlman, CAP Coordinator,
York County Planning Commission*



"The CAP grant got us going! Once we had the grant from DEP, we were able to use it to match about \$2 million in total grant funds for a Conewago Creek restoration... and that's for a town of 5,200 people!"

*Steven Letavic, Township Manager,
Londonderry Township*

5.2 Multi-Source Funding and Matching Funds

CAP implementation funds are often used in conjunction with other federal, state, local, and private funding sources. Common sources include:

- Environmental Stewardship Fund
- US Department of Agriculture Environmental Quality Incentives Program and the Regional Conservation Partnership Program
- National Fish and Wildlife Foundation
- Department of Conservation and Natural Resources
- Growing Greener
- Conservation Reserve Enhancement Program
- Pennsylvania Infrastructure Investment Authority (PENNVEST)
- Susquehanna River Basin Commission
- Trout Unlimited
- PA Fish and Boat Commission
- Dirt and Gravel and Low Volume Roads Program

The flexible nature of the CAP Grant, with minimal project requirements beyond nutrient reductions and an easy means for counties to adjust projects mid-grant cycle, provides counties the opportunity to adapt to changes in local priorities or projects. Counties often leverage their CAP Grants to secure matching funds, multiplying the impact and ensuring resources are used efficiently. This collaborative funding model maximizes resources and encourages diverse partners—such as conservation districts, nonprofits, and municipal governments—to coordinate efforts and achieve greater impact on water quality.

5.3 Funding Coordination and Accountability

The BWRNSM and CBWRD track grant expenditures, monitor implementation timelines, and measure BMP results. By centralizing data collection and leveraging consistent reporting templates, Pennsylvania can demonstrate progress to the EPA, attract further investment, and maintain transparency with local stakeholders.



The Hammertown Tributary Stream Restoration Project combined funding from the CAP Grant, National Fish and Wildlife Foundation, and Environmental Quality Incentives Program.

6. Clean Water Gathering and Clean Water Progress Teams



2023 Clean Water Gathering

6.1 2023 Clean Water Gathering

In October 2023, the DEP's BWRNSM convened the first Clean Water Gathering, bringing together State Program Action Leaders and Countywide Action Planning leaders. More than 80 partners from county, state, and federal organizations attended, celebrating shared accomplishments and examining the high-level needs, issues, and challenges that could affect ongoing progress. The need for this gathering rose from the Programmatic Recommendations developed by the counties who created CAPs.

BWRNSM's Chesapeake Bay Watershed Restoration Division used recommendations generated during this event to form collaborative county/state Progress Teams. These teams worked to address identified challenges and build on the successes already achieved through the Phase 3 WIP and local CAP efforts.

6.2 Key Outcomes

- **Celebration of Clean Water Successes** - Participants highlighted a broad range of partnership-driven achievements and reaffirmed that commitment, communication, and collaboration are essential to sustaining progress.
- **Identification of Core Challenges** - The group reached consensus on the main obstacles preventing Pennsylvania from making full use of available resources in its Phase 3 WIP and CAP implementation.
- **Shared Resolve to Advance Solutions** - Attendees expressed a strong desire to work together toward addressing these challenges, thereby expanding Pennsylvania’s overall progress in restoring local waterways.
- **Next Steps: Strategy Development** - Participants initiated discussions around potential strategies to overcome these hurdles, setting the stage for the focused work of the Progress Teams.

Following the Clean Water Gathering, CBWRD consolidated the challenges into three priority areas:

- Technical and Administrative Assistance
- Staff Building/Staff Retention
- Funding and Multi-Grant Coordination

These challenge areas pose ongoing bumps in the road and barriers to success, but they are not insurmountable. The partners believe that with focused effort and attention, these challenge areas will be overcome.

6.3 Progress Teams and “Strategies for Success”

Since January 2024, more than 60 individuals have contributed nearly 1,000 hours to these teams, brainstorming solutions and developing recommendations tailored to each challenge area. Here’s a snapshot of what each team recommended:

- **Technical and Administrative Assistance Progress Team** - Increasing engineering support; streamlining and centralizing reporting; building public-private partnerships; prioritizing projects for timely completion; and exploring block permitting applications.
- **Staff Building/Staff Retention Progress Team** - Expanding management and leadership training; diversifying staff recruitment beyond science and technical backgrounds; regionalizing staff support for smaller conservation districts and planning commissions; cross-training employees to maintain continuity through turnover; and providing stable, annual funding for administrative and program staff to manage grant workloads.
- **Funding and Multi-Grant Coordination Progress** - Creating a central funding tool; introducing a common application or letter of intent; linking projects and partners with relevant funding sources; efficiently leveraging available grants; and conducting outreach to improve understanding of financing options.



Figure 7: The Progress Teams are made up of individuals representing these CAP and Phase 3 WIP partner organizations.

The recommendations are designed to be actionable and focused, addressing specific priority items. These “Strategies for Success” were combined into a single report intended to guide policymakers, program action leaders, and federal, state, and county partners on how to take action. It encompasses 25 unique recommendations, grouped into six overarching themes:



Digital Tools

Streamline funding processes and grant administration through centralized tools and simplified applications.



Streamline BMPs

Standardize verification procedures for clean water practices implemented by non-DEP entities.



Research & Improvement

Conduct studies to enhance programs, partnerships, hiring practices, and overall project support.



Advocacy for Funding

Ensure consistent, long-term financial resources for watershed restoration to bolster planning and execution.



Networking & Collaboration

Establish workgroups and networks that address challenges, share best practices, and foster stronger connections among partners.



Leadership Development

Prioritize leadership training and capacity-building to strengthen the ranks of conservation professionals.

Collectively, these strategies highlight the ongoing value of commitment, communication, and collaboration. They aim to reinforce mutual accountability, expand the capacity of local teams, and ensure financial support aligns with on-the-ground needs. The Progress Teams and their Strategies for Success serve as a blueprint for addressing current barriers, solidifying partnerships, and paving the way for sustainable clean water initiatives across Pennsylvania.

6.4 2025 Clean Water Gathering

Pennsylvania’s second annual Clean Water Gathering on January 23, 2025, united more than 120 leaders, partners, and policymakers to advance efforts to protect and restore the state’s waterways. The event launched the 25 “Strategies for Success” developed by the Progress Teams in 2024. Participants committed to collaborative action, funding flexibility, and workforce growth. By fostering strong partnerships and innovation, the state aims to drive lasting progress for local streams, rivers, and the Chesapeake Bay watershed.



7. Successes and Examples

Despite ongoing challenges, Pennsylvania's Phase 3 WIP and CAP efforts have led to tangible successes in agricultural, natural, and urban sectors.

7.1 Agriculture

Spangler Farm, Union County

Using CAP Grant funds to install a stream crossing, walkways, access lanes, and decommission an old manure pit, Spangler Farm achieved approximately 1,078 pounds of nitrogen reduction annually, plus improved farm safety for livestock and workers.



Spangler Farm, Union County

Cover Crop Incentive Program, Cambria County

A newly launched program funded by CAP Grants led to seven producers planting cover crops on over 1,200 acres. This not only reduces nutrient runoff but also improves soil health.

Strayer Farm Manure Storage, Cumberland County

With a 90% cost-share from the Agricultural Conservation Assistance Program and CAP Grant funds, the Strayer farm built a \$111,000 manure storage facility. The upgrade prevents manure leaks into a local creek, eliminating 876 pounds of nitrogen per year.



Strayer Farm Manure Storage, Cumberland County

7.2 Natural Restoration

Bald Eagle Creek Restoration, York County

This collaborative effort involved wetland creation, cattle fencing, and riparian buffer planting. Funded by multiple sources (including CAP Grants), the project keeps more than 478,000 pounds of sediment, 553 pounds of phosphorus, and 2,474 pounds of nitrogen out of the watershed each year.

Furnace Run Park Project, Franklin County

Nearly 150 volunteers planted 14,000 native trees over two days at a former quarry site. This effort addressed erosion, restored wildlife habitat, and fulfilled approximately 60% of Franklin County's CAP tree-planting goal.



Furnace Run Park Project, Franklin County

Multifunctional Riparian Buffers, Huntingdon County

Fifteen acres of fruit- and nut-bearing species were planted using a "multi-use" approach to buffers that balances ecological improvements with potential economic opportunities.



Multifunctional Riparian Buffers, Huntingdon County

7.3 Urban Initiatives

Freedom Township Stream Restoration, Blair County

The Blair County Conservation District used CAP Grant funds to restore 2,400 feet of the Frankstown Branch of the Juniata River, improving aquatic habitats and reducing nutrient pollution.

Long's Park Wetlands, Lancaster County

Long's Park Wetlands was an innovative water quality project to treat stormwater runoff and address pollution. Up to a million gallons of water are now managed during intense precipitation events, significantly improving resilience and water quality.

Pollinator Meadows, Montour County

One landowner, inspired by CAP Grant-funded opportunities, converted 3.5 acres of lawn into a pollinator habitat. Neighbors soon followed suit, creating additional meadows that help absorb stormwater and support local pollinators.



Freedom Township Stream Restoration, Blair County



Long's Park Wetlands, Lancaster County

Photo credit: Flyway Excavating, Inc.



Pollinator Meadows, Montour County

8. Replicating the CAP Process

Pennsylvania's Countywide Action Plan process offers a compelling model for other states and watershed groups seeking to implement collaborative, locally driven restoration efforts. Its success stems from a combination of key elements that can be adapted and replicated elsewhere.

8.1 Core Principles for Replication

- 1. Local Empowerment:** The CAP process prioritizes local ownership and decision-making. Counties are empowered to develop plans that address their unique needs and priorities, fostering buy-in and long-term commitment. This bottom-up approach is crucial for successful implementation.
- 2. Collaborative Partnerships:** Building strong partnerships among diverse stakeholders is essential. The Pennsylvania model emphasizes collaboration between state agencies, counties, conservation districts, local governments, businesses, landowners, and community organizations. This inclusive approach ensures that all voices are heard and that plans reflect a shared vision.
- 3. Tailored Solutions:** CAPs are not one-size-fits-all. They are designed to be flexible and adaptable to the specific conditions of each county. This allows for the implementation of targeted solutions that are most effective for addressing local pollution sources and challenges.
- 4. Technical Support and Resources:** Providing counties with the necessary technical support and resources is critical. Pennsylvania's "County Toolbox," along with dedicated staff and funding, empowers counties to develop and implement effective plans. This support system ensures that counties have the capacity to succeed.
- 5. Phased Approach and Adaptive Management:** The phased approach to CAP development, starting with pilot counties and refining the process based on lessons learned, is a key strength. This allows for continuous improvement and adaptation. Embracing adaptive management principles ensures that plans can be adjusted as new information becomes available or conditions change.
- 6. Mutual Accountability:** The framework of mutual accountability ensures that all partners are invested in the success of the CAPs. Clear communication channels, regular reporting, and shared responsibility foster a sense of ownership and drive progress.



"The CAP process and the CAP Coordinator have given us a forum to negotiate more with DEP, a better way of sharing our suggestions and frustrations with DEP. They are much more responsive now about hearing from us, and making corrections and adjustments in ways that are constructive for us. The CAP process is a good vehicle for us to get our messages up to the right people in DEP."

*Julie Cheyney, Director,
Lebanon County Planning Department*

8.2 Justification for Replication: The Benefits of a Collaborative Approach

Other states and watersheds can improve and expand their clean water efforts by replicating the CAP process. Here are several compelling reasons for taking this approach:

- **Increased Effectiveness:** Locally driven solutions are often more effective than top-down mandates. CAPs empower communities to identify the most impactful actions for their specific context, leading to greater pollution reductions and improved water quality.
- **Enhanced Stakeholder Engagement:** The collaborative nature of the CAP process fosters broad stakeholder engagement and buy-in. This leads to increased community support for restoration efforts and greater likelihood of long-term success.
- **Improved Resource Allocation:** By focusing on local priorities, CAPs ensure that resources are allocated efficiently and effectively. This maximizes the impact of investments and avoids duplication of effort.
- **Greater Flexibility and Adaptability:** The CAP process allows for flexibility and adaptation to changing conditions. This is particularly important in the face of climate change and other uncertainties.
- **Stronger Partnerships:** The collaborative approach fosters strong partnerships among diverse stakeholders, creating a foundation for long-term collaboration on watershed management.
- **Increased Public Awareness:** The CAP process can raise public awareness about water quality issues and the importance of watershed protection. This can lead to increased community involvement in restoration efforts.
- **Potential for Cost Savings:** By leveraging local knowledge and resources, CAPs can potentially reduce the overall cost of watershed restoration.
- **Improved Data and Monitoring:** The CAP process can facilitate the collection of valuable data on water quality and the effectiveness of restoration efforts, improving future planning and implementation.



"The CAPs and Phase 3 WIP have helped structure the funding in a way that better supports project implementation. Without them, I think a lot of our work would still be happening, but it would be much harder to scale up and sustain long-term."

Adrienne Hobbins, Program Manager,
Chesapeake Conservancy



"The most important partnership in this work is with the landowners. Without their trust and willingness, nothing happens."

Sean Levan, Manager,
Montour County Conservation District



8.3 Adapting the CAP Process

While the core principles of the CAP process can be replicated, it's important to recognize that each state and watershed has unique characteristics. The Pennsylvania model may need to be adapted to fit the specific institutional structures, regulatory frameworks, and cultural contexts in other regions. Careful consideration should be given to:

- Existing local government structures and capacity.
- State-level water quality regulations and programs.
- The diversity of stakeholders and their interests.
- The availability of technical expertise and financial resources.

By carefully adapting the CAP process to local conditions, other states and watersheds can benefit from its proven success in fostering collaborative, locally driven watershed restoration. The emphasis on partnership, local empowerment, and tailored solutions provides a robust framework for achieving meaningful and sustainable improvements in water quality.



9. Conclusion



Pennsylvania's Phase 3 WIP and Countywide Action Plans exemplify how a thoughtful blend of top-down guidance and bottom-up engagement can catalyze meaningful environmental progress. By investing in locally tailored solutions, offering flexible funding, and fostering strong partnerships, the Commonwealth has created a model that others can replicate to address challenging nonpoint source pollution issues.

These successes underscore that the path to cleaner waters is rooted in collaboration, innovation, and persistent effort. Whether in agriculture, urban centers, or natural habitats, Pennsylvanians have demonstrated that when people work together and are empowered to craft solutions that fit their own communities, water quality improvements follow.

With continued commitment from the BWRNSM, CAP counties, and the countless partners who lend their time and expertise, Pennsylvania is well on its way to reaching its clean water goals—and setting a precedent for sustainable watershed restoration throughout the Chesapeake Bay region and beyond.

Features of the Phase 3 WIP that are critical to success:

- Reliance on voluntary, locally driven action that resonates with community needs.
- Availability of flexible funding and technical support that empowers counties to implement high-impact projects.
- Synergy created by bringing together diverse stakeholders—farmers, municipalities, nonprofits, and state agencies—in a framework of mutual accountability.
- Adaptability of the CAP model, which can be replicated in other watersheds seeking to balance local ownership with larger regulatory goals.

As Pennsylvania continues to innovate and refine its CAP approach, the Commonwealth anticipates stronger local partnerships, deeper public engagement, and sustained improvements in water quality—outcomes that are “Great for PA, Good for the Bay.”

Thank You for Your Partnership!

If you want to go fast, go alone. If you want to go far, go together.

- African Proverb

County CAP Planning and Implementation Partners

- Adams County Conservation District
- Bedford County Conservation District
- Berks County Conservation District
- Blair County Conservation District
- Bradford County Conservation District
- Cambria County Conservation District
- Centre County Conservation District
- Chester County Conservation District
- Clearfield County Conservation District
- Clinton County Conservation District
- Clinton County Planning Department
- Columbia County Conservation District
- Cumberland County Conservation District
- Cumberland County Planning Commission
- Dauphin County Conservation District
- Denny Puko, Planning Consultant LLC
- Franklin County Conservation District
- Fulton County Conservation District
- HRG, Inc.
- Huntingdon County Conservation District
- Juniata County Conservation District
- Lackawanna County Conservation District
- Lancaster Clean Water Partners
- Lancaster County Conservation District
- Lancaster Farmland Trust
- LandStudies
- Larson Design Group Inc.
- Lebanon County Conservation District
- Lebanon County Planning Commission
- Luzerne County Conservation District
- Lycoming County Conservation District
- Lycoming County Planning & Community Development Department
- Mifflin County Conservation District
- Montour County Conservation District
- Northumberland County Conservation District
- Perry County Conservation District
- Potter County Conservation District
- Schuylkill County Conservation District
- Snyder County Conservation District
- Southern Alleghenies Planning & Development Commission
- Sullivan County Conservation District
- Susquehanna County Conservation District
- Tioga County Conservation District
- Tri-County Regional Planning Commission
- Union County Conservation District
- Watershed Alliance of York
- York County Conservation District
- York County Planning Commission



"The Phase 3 Watershed Implementation Plan amplified our collective efforts. The Countywide Action Plans gave people a voice, helping communities shape their clean water future and bringing attention to the resources needed to get there. It's not just about setting goals; it's about making real change happen. By focusing on progress through partnership, Pennsylvanians are prepared to go the remaining distance together to improve their local streams and rivers, while helping their neighbors in the watershed."

*Jill Whitcomb, Deputy Secretary,
Office of Water Programs, DEP*





Pennsylvania
**Department of
Environmental Protection**

Visit [Pennsylvania's Phase 3 Watershed Implementation Plan](#) online to learn more about the Phase 3 WIP and Countywide Action Plans.