

A scenic landscape featuring a pond with several ducks swimming in it. The pond is surrounded by tall grasses and reeds. In the background, there are trees and a blue sky with a few birds flying. A large blue semi-transparent box is overlaid on the image, containing the title text.

2022 HEALTHY WATERS

HEALTHY COMMUNITIES

PENNSYLVANIA'S 2022 CHESAPEAKE BAY PROGRESS REPORT

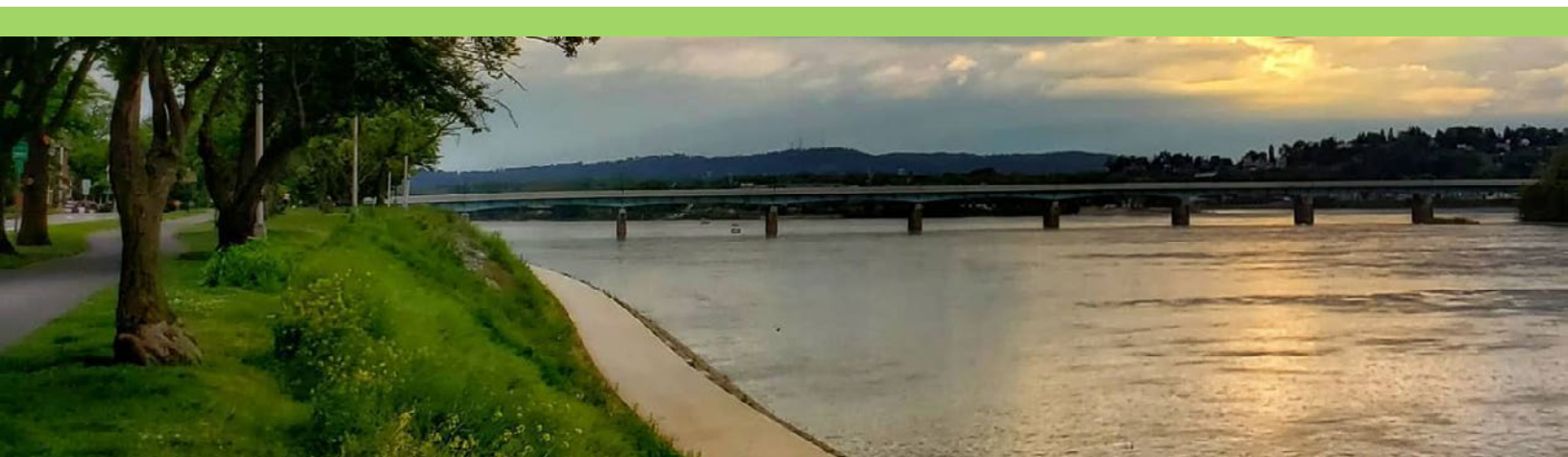


Clean water:
Great for PA
Good for the Bay



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A LETTER FROM OUR SECRETARIES

Pennsylvania continued to make great strides toward cleaner local streams and rivers and a healthy Chesapeake Bay in 2022.

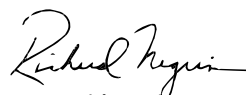
“Progress through partnership” was the guiding theme for our work to reduce nutrient and sediment nonpoint source pollution. While charting our overall progress, this annual report shares the faces and voices of some of the many partners who made it happen. These partners include local and municipal governments, the agriculture community, non-governmental partners, private businesses, and hundreds of private property owners.

The Governor, General Assembly, and state agencies demonstrated their commitment in many ways. All three of our agencies stepped up grant funding and technical assistance to our local partners — putting almost \$140 million dollars to work on clean water projects. We amended Pennsylvania’s Phase 3 Watershed Implementation Plan with our federal partners to better reflect the actions all of our partners have taken, and to count significant new funding from the 2022-23 state budget. The Department of Environmental Protection elevated its Chesapeake Bay Office to a bureau and hired many new staff to oversee implementation. The Department of Conservation and Natural Resources added three new state parks in the Chesapeake Bay watershed, expanding conserved lands and access to the Susquehanna River for recreation.

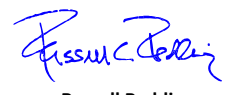
The response from our local partners has been inspiring! Almost three dozen Pennsylvania counties have local waterways that run to the Chesapeake Bay. As of 2022, all of them have completed and are implementing their Countywide Action Plans to improve their streams, rivers, and lakes in ways that make the most sense for their local communities. Our partners have been vocal in their appreciation of this “bottom up” approach, and we acknowledge and celebrate their efforts.

The response from Pennsylvania farmers has been the most encouraging. In 2022, our farmers implemented conservation practices including no-till farming and cover crops on more than 1.5 million acres — an area about the size of the entire state of Delaware! And the acres of planted buffers along Pennsylvania’s streams are steadily growing as well.

As the old adage goes, “If you want to go fast, go alone. If you want to go far, go together.” 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.



Rich Negrin
Secretary
Pennsylvania Department of
Environmental Protection



Russell Redding
Secretary
Pennsylvania Department of Agriculture



Cindy Adams Dunn
Secretary
Pennsylvania Department of
Conservation and Natural Resources



PENNSYLVANIA'S 2022 PARTNERS IN PROGRESS



PARTNERS

PA DEP

40+ Staff committed to PA's Chesapeake Bay efforts

15+ Bureaus of Clean Water and Waterways, Engineering and Wetlands Staff

34 Counties
1,200+

Local members of county-based CAP Implementation Teams

18
Community Clean Water CAP Coordinators

State, Regional, Local Partners

30+ Public and Private Statewide Action Leaders supporting WIP and CAP implementation

35+ Entities reporting data that counts towards PA's progress

AGRICULTURE

1,362,185

acres of conservation tillage



29,265

acres of farmland retired to open space

288,714

acres of cover crops



106,509

acres of pasture management

Animal Waste Management Systems treating

1,183,830

animal units- which is equivalent to:

789,200 cows



NATURAL

448,111

feet of stream restoration



17,611

acres of forest buffers



4,032

acres of tree planting

16,243

acres of grass buffers



3,340

acres of wetlands and wet ponds



URBAN

2,476,045

feet of Dirt and Gravel Road Erosion & Sediment practices



77,730

acres of Stormwater Management practices



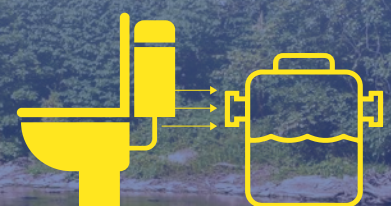
22,403

acres of urban Erosion & Sediment practices



66,497

individual septic system improvements



HEALTHY WATER, HEALTHY COMMUNITIES

PENNSYLVANIA'S INVESTMENT IN WATER QUALITY



The 2022 Phase 3 WIP update includes over \$700 million in new funding. The money will be used to implement projects that improve the health of streams and rivers, preserve topsoil and farm viability, lessen flooding in fields and neighborhoods, and support outdoor recreation and tourism and their considerable related economies.

Where is the \$700 million coming from?

General Fund

- \$10 million to Conservation District Fund

Oil & Gas Lease Fund

- \$56 million for State Park and State Forest Infrastructure

American Rescue Plan Act (ARPA)

- \$100 million for State Parks and Outdoor Recreation Program
- \$320 million for water and sewer projects
- \$220 million for Clean Streams Fund

Introducing the Clean Streams Fund

Pennsylvania used \$220 million from ARPA funding to create the Pennsylvania Clean Streams Fund. The Clean Streams Fund established a new Agriculture Conservation Assistance Program (ACAP) to help farmers implement water quality best management practices (BMPs). The Clean Streams Fund also enables the Department of Environmental (DEP) to reinvestigate the Act 167 Stormwater Management Planning Program to provide grants to counties to plan and carry out stormwater runoff reduction measures. The fund will support DEP's abandoned mine drainage reclamation, the Department of Agriculture's assistance to farmers for development and implementation of nutrient management plans, and urban tree planting by the Department of Conservation and Natural Resources.

Here is a breakdown of how the \$220 million in the Clean Streams Fund will be spent:

- \$154 million to Agricultural Conservation Assistance Program (ACAP)
- \$22 million to Clean Water Procurement Program
- \$22 million to Nutrient Management Fund
- \$8.8 million to Act 167 planning
- \$8.8 million to Keystone Tree Account
- \$4.4 million to Abandoned Mine Drainage



2022: PARTNERS, PROGRESS & SUCCESS

In 2022, all of the counties in Pennsylvania's share of the Chesapeake Bay watershed were working toward the goal of reducing nutrient and sediment pollution from entering local waters. This is no small achievement, but what makes it even more significant is the unprecedented level of cooperation and collaboration among members of the public, non-profit organizations, private industry, and governmental organizations that made it possible.

Pennsylvania's grassroots approach – giving counties the freedom to lead the planning and implementation of clean water efforts in their communities – has led to widespread project buy-in and a working relationship grounded in mutual trust. The accompanying top-down flow of funding and support from Pennsylvania's legislature and from federal and state government agencies has been vital in enabling these efforts to lead to measurable water quality improvements.

"DEP is pleased to support communities across Pennsylvania who are working to improve their watersheds one stream segment, one land parcel, one best practice project at a time."

— DEP Secretary Rich Negrin

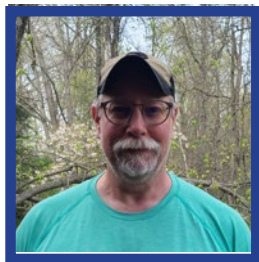
DEP's newly created Bureau of Watershed Restoration and Nonpoint Source Management, formerly the Chesapeake Bay Office, is committed to supporting counties as they take steps to meet the clean water goals identified in their clean water [Countywide Action Plans \(CAPs\)](#). This expansion from an office to a bureau brings new resources in funding and staff to the table.

With the release of the amended Phase 3 Watershed Implementation Plan (WIP) in the summer of 2022, Pennsylvania demonstrated that it's on track to reach its 2025 clean water goals and that local county efforts are making a significant contribution. All 34 counties who were asked to draft CAPs are now implementing them, allowing the amended WIP to more accurately account for efforts across the watershed. The Phase 3 WIP was also updated to better capture how existing and new local and statewide efforts come together to bring about meaningful nutrient reductions over the next few years.

Local individuals and partnerships are making a difference with their actions focused on clean water. While all counties across Pennsylvania's portion of the Chesapeake Bay watershed have reached the implementation phase of their CAPs, not all are in the same place. Several counties are taking their first steps towards CAP implementation (Tier 3 and 4 counties), while others revised their CAPs based on several years of implementation experience (Pilot and Tier 2 counties). The staggered approach to CAP planning allowed the first four Pilot counties to break new ground, gaining valuable insights during their planning and early implementation phases that the Tier 3 and 4 counties are now benefiting from.

Among those lessons is the importance of partnerships and building goodwill in the local community. Another is that CAP implementation comes with many benefits, including financial resources and technical assistance. Pennsylvania's legislature, federal and state agencies, and a diverse group of partners working across the watershed have dedicated funding for projects identified in county CAPs.

“If it weren’t for the support of PA DEP, the Conewago Creek project would have just been another great project that didn’t get built.”
 — Steven Letavic, Londonderry Township Manager, Dauphin County



As projects at the county level are funded and completed, water quality improves, benefiting local stakeholders and those living downstream. Here are some examples:

- **Adams County:** In the second year of their Advanced Nutrient Management Program, the Adams County Conservation District and Rosetree Consulting exceeded their goals for both adaptive nitrogen management (5,000 acres) and split nitrogen application (1,000 acres).
- **Clinton County:** The county completed the Kettle Creek stream restoration project, improving an Exceptional Value stream included in the county’s CAP.
- **Cumberland County:** The 2022 Pre-Sidedress Nitrogen Testing program netted big benefits in nitrogen reduction. The program included 132 fields, for a total of 2,304 acres tested, with 21 farmers participating, and just two farmers required additional nitrogen.
- **Dauphin County:** Lower Paxton Township and Herbert, Rowland & Grubic, Inc. made significant progress in restoring the impaired Paxton Creek watershed. Approximately 1,500 linear feet of Asylum Run were restored, and nine storm sewer outfalls and two pedestrian walking bridges were replaced.
- **York County:** Over 3,100 linear feet of a tributary to Codorus Creek were restored as part of the Wastewater Treatment Plant West Tributary Stream Restoration project in Springettsbury Township.

“CAP, WIP, NRCS ... I get lost in all the letters. I just know that if I get tangled up in something, I should call the Conservation District and they’ll help me sort it out.”

— Kerri Barnes, Greencastle-Antrim School District, Franklin County



Cleaner water flows through Pennsylvania. Real-world data and water quality models agree that Pennsylvania’s waters are cleaner. Partners at every level – from the landowner who agreed to have a BMP installed on their land, to the local watershed organization on their county CAP team who put the project together, to the state grant

program manager who approved the funding for the project – have found ways to do their part. The result is measurably cleaner water across Pennsylvania’s portion of the Chesapeake Bay watershed.

Agricultural BMPs have long been used as a way to keep soil on fields and nutrients out of waterways. Often, they’re installed as part of projects by partnerships between landowners and County Conservation Districts or watershed groups. In these cases, the BMP generally makes it into tracking databases. However, when landowners put practices in place independently, they’re not reported, and Pennsylvania doesn’t get credit for the resulting cleaner water.

In 2022, a project spanning several counties began to capture and verify such BMPs. Using remote sensing to identify previously unknown barnyard runoff control, animal waste management systems, streambank exclusion fencing and forest buffers, counties can identify landowners to connect with so their BMPs can be verified and credited. This process can also be used for BMP re-verification.

Best management practices play a big role in reducing pollution, but how land is used also makes a difference.

Keeping open land open through preservation helps ensure natural water filtration. Pennsylvania ended 2022 continuing to lead the nation in farm preservation, having protected 170 farms and 13,069 acres that year. These newly approved farm purchases bring the statewide total to 6,004 farms and 608,091 acres of prime farmland that will be forever protected from commercial, industrial or residential development. Preservation activities are part of our local partner efforts.

- **Centre County:** ClearWater Conservancy preserved two properties: Gray’s Woods Preserve has been permanently preserved through a conservation easement. The 149-acre property was acquired by Patton Township through its Open Space program. The Bella Vista Farm is a 22-acre property with sensitive wetland habitat, farmland, and woods, as well as 1,150 feet of Slab Cabin Run, an important local stream that flows into Spring Creek.
- **Lebanon County:** The county and the Lebanon Valley Conservancy preserved a 16-acre farm in Union Township. The property has a mature wooded area that provides a home for owls and other wildlife. Conserving this property allows for a continuation of lands for recreation, open space, wildlife and scenic views.
- **Union County:** Surpassed 10,000 acres of agriculture preservation in May 2022.



"The Franklin County Conservation District had a suspicion that a lot of farmers in Franklin County had put in conservation practices that were not recorded or counted. And their assumption was that those farmers would probably be receptive to doing more projects. So the District used CAP funds to work with Capital RC&D

to hire two people to go out and do inspections and develop relationships with the farmers who had put practices in on their own time and dime."

— Susan Richards, Capital RC&D, Franklin, Adams and Cumberland Counties

Communication and outreach are the backbone of the Phase 3 WIP. Now that the WIP is being implemented across all of the Pennsylvania counties in the Bay watershed, the benefits of this approach can be seen in county efforts to open lines of communication with their stakeholders. In 2022:

- **Adams and York Counties** published "Wrap on the CAP" and ReCAP newsletters, sharing CAP status updates with local conservation partners.
- **Blair County** hosted a Riparian Buffer webinar series and a municipal Clean Water Forum workshop series in February.
- **Chester County Conservation District** created a series of educational videos highlighting agricultural BMPs. "The Basics of Agricultural Conservation: In the Field and Around the Barn" discusses barnyard, cropland, pasture and operational BMPs.
- **The Clearfield County Conservation District** participated in a local parade, decking out their truck with banners, displaying one of their no-till drills that can be rented by local farmers, handing out candy and pens, and with a staff member dressed as "The CornMan" to engage the crowd. This outreach effort put the District in the spotlight of thousands of residents.
- In July, four non-profit watershed organizations in **Columbia County** hosted the First Annual Susquehanna Valley Watershed Festival at CARA Park in Catawissa. More than 20 non-profit and government organizations shared information about projects/programs protecting waterways and natural resources via interactive presentations, games, prizes and more.

- In May, **Cumberland County and the Alliance for the Chesapeake Bay** launched the first training for the Cumberland County Branch of the Riparian Rangers Program. The program aims to ensure a higher tree survival rate by training volunteers to maintain plantings during the growing season.
- In June, the **Dauphin County Conservation District** held a workshop for 34 homeowners about stormwater and the effects their actions have on the quantity and quality of stormwater on their property. They also learned about residential BMPs. Attendees received one rain barrel per household.
- **The Juniata County Conservation District** offered a free, one-day workshop to send producers home with the required manure or nutrient management plan.
- **The Lebanon County Conservation District** held a legislative roundtable in June to discuss conservation programs in the county. Conservation District funding, urban/suburban sprawl in the county, and the county's CAP and CAP funding were discussed.
- **The Snyder County Conservation District** hosted a training to educate landowners, watershed associations and conservation groups on the proper techniques for harvesting and planting live stakes, and highlighted how cost effective they are.
- **The Susquehanna County Conservation District** hosted a legislative tour of local waterways. Among the multiple stops was the Aldrich Homestead, a seventh-generation dairy farm. The District presented BMPs installed on the farm, including streambank fencing, no-till practices and Growing Greener projects such as buffers near a pond.

"In every county, local leaders and partners in agriculture, conservation and other areas are carrying out measures they've determined will have the biggest impact in reducing pollution and bringing the benefits of a healthy watershed to their communities. DEP is committed to doing everything it can to support this unprecedented grassroots action and progress."

— **DEP Secretary Rich Negrin**



AGRICULTURE SECTOR

Luzerne County - Conyngham Family Farm

The Conyngham family, owners of a Luzerne County family farm, are doing their part to help protect local waterways from manure generated on the property. To do that, they turned to the Luzerne County Conservation District and to DEP's CAP Implementation grant funds to cover the project costs. Prior to the grant assistance, the facility stacked their manure outside the barn on a hard surface and the manure traveled as runoff into local tributaries. Water buildup from runoff was another problem.

The Conynghams applied and were approved for funds from Luzerne County's CAP Implementation Plan for the project. They installed a 32'x32' roofed waste storage facility and a .10-acre heavy use area, as well as a drop box, drain culvert pipe, roof gutters and fencing to control runoff. The installed BMPs resulted in a savings of 130 pounds of nitrogen, 5.29 pounds of phosphorus and 175 pounds of sediment. The project was completed in two months, and now protects local waterways and the Bay!



Susquehanna County - Roofed Heavy Use Area Protection (HUAP)



The Susquehanna County Conservation District assisted with the implementation of a roofed Heavy Use Area Protection (HUAP) on a dairy operation located in Middletown Township. This project was completed utilizing both Growing Greener and CAP Implementation Grant funding. The project consisted of 3,632 square feet of roofed animal containment area with a six-month capacity manure storage. Roof gutters connected to underground outlets capture clean water and direct any runoff to a stabilized outlet, preventing contact with animals and manure. Animals access the structure via an improved animal trail and walkway from an existing barn. This structure will not only eliminate any water quality issues associated with the Animal Concentration Areas (ACA's) but will also allow the farmer to store manure and nutrient rich bedding material to be spread on his fields consistent with the rates developed in his Nutrient Management Plan. This structure is unique in that the manure storage was designed for the center of the structure to better serve the operator's management of the structure and animals.



Columbia County - Zaginaylo Barnyard

Lancaster County - Beiler Farm/ Cherry Hill Watershed



The Columbia County Conservation District visited John and Rosie Zaginaylo's farm. The Zaginaylos milk approximately 70 dairy cows and raise their own replacement stock. At the time of the visit, calves were housed either in individual pens or on dirt 20'x10' open lots. Both locations had developed into animal concentration areas, were exposed to precipitation, and prone to soil erosion. These facilities were located approximately 20 yards from a road culvert that drained directly into the east branch of Briar Creek. Due to the proximity of the facilities to the creek, there was a high amount of sediment and nutrient runoff into the creek. It was decided to relocate the calf housing facilities to a different location on the property and build a roofed concrete facility. The new location is directly beside the operation's milking barn, which is 600 feet from the east branch of Briar Creek. This will eliminate nutrients and sediment entering the waterway. A roofed concrete facility will eliminate soil erosion from livestock traffic and provide a healthier, cleaner environment for young calves. The roof will also prevent rainwater from mixing with manure.

John Zaginaylo is a professional engineer with over 30 years' experience designing and building agricultural structures. As his matching contributions to this CAP Implementation Grant funded project, he completed the design of the structure and certified the structure after completion. A local contractor was hired to complete the concrete flatwork and poured the walls. A prefabricated housing structure that is specifically designed to house dairy calves was purchased through Cedar Crest Equipment. Crews from Cedar Crest completed the roof and walls in less than one week. The overall construction of the project was quick and efficient. The old location was replanted with grass to further prevent erosion and nutrient loss into the creek.

Small unnamed creeks and streams criss-cross Pennsylvania's countryside. These tiny waterways offer unique opportunities to work with small groups of landowners to employ rapid delisting strategies. A small stream in the Cherry Hill watershed is one such example. Only four properties drain to the stream, and TeamAg, Lancaster Farmland Trust, and Stroud Water Research Center (SWRC) partnered with the landowners to install whole farm agricultural BMPs. One of these farms, the Beiler farm, is unique as it drains into two waterways but has no creeks or streams on the property itself. CAP Implementation Grant and Growing Greener funds were used to install agricultural BMPs on the property including: a rectangular waste storage structure, a circular waste storage structure, roofs and covers, fencing, a lined waterway, waste transfer system, roof water controls, stormwater controls, an access road, four heavy use areas, trails and walkways, and subsurface drainage and underground walkways.

This whole watershed approach can make a real difference, and the necessary data monitoring is in place to show it. SRWC began monitoring the stream prior to BMP implementation, and has solid baseline data to compare with post BMP results.

"Rarely do we have the opportunity to work with such an enthusiastic group of producers – all at the same time - who manage 100% of the farmland in a small tributary. This project gives us a unique chance to monitor stream conditions before, during and after full BMP implementation to evaluate our efforts," said Lamonte Garber, Stroud Water Research Center.



"One of our partners, an Amish farmer, was struggling to control and manage manure from their cows, and we worked with him to renovate the barnyard and animal loafing areas. With these improvements, he can now capture stormwater and manure and then spread it as fertilizer on his crop fields at the appropriate time."

— Lamonte Garber, Stroud Water Research Center



RAPID STREAM DELISTING

The rapid stream delisting strategy aims to delist 30 streams from Pennsylvania's list of agriculturally-impaired waterways by the year 2030. The strategy builds on existing momentum, bringing together dozens of partners to overcome challenges toward improving water quality and wildlife habitat. It is now underway for 56 streams across two regions.

Guided by the Chesapeake Conservancy's precision conservation data, partners set implementation goals to treat 31,796 acres of upslope land with agricultural Best Management Practices (BMPs) and achieve 1,678 acres of riparian forest buffers in the streams' catchment areas. To date, partners have met 37% and 53% of the upslope BMP and riparian buffer goals, respectively.

The Central PA region includes 19 streams in Huntingdon, Centre, Clinton, Lycoming, Union and Snyder counties. By the end of 2022, 42 high-priority projects were either complete, underway, or moving forward in 2023. With an additional queue of 30+ projects and support from a diversity of funding partners, the region is now implementing a comprehensive in-stream monitoring program to track progress and provide key feedback.

In Lancaster County, the focus in 2022 continued to be on the 21 streams prioritized in 2020, but also expanding to an additional 17 streams. Guided by the Lancaster Clean Water Partners, local partner organizations have conducted outreach to 109 priority farm parcels in the catchments. By the end of 2022, 31 high-priority projects were either complete, underway or moving forward in 2023. Collaborative events included a habitat assessment training, water quality monitoring plan development, a funding framework event and leadership workshops.



NATURAL SECTOR

Huntingdon County - Multifunctional Buffer Planting

In 2022, the Huntingdon County Conservation District completed their second largest multifunctional riparian forest buffer project to date. The 15-acre project included the planting of more than 2,200 tree and shrub species along an unnamed tributary to Crooked Creek. What is a multifunctional or “multi-use” buffer? Multi-use buffers are forested corridors along a stream that not only provide numerous environmental benefits, but also economic opportunities such as harvesting and marketing fruit, nuts, florals and more. For this specific project, the planting selection includes multiple fruit and nut bearing species such as apple, pear, pawpaw, persimmon, blueberry, chestnut, hazelnut and more. This project was funded by the 2019-2022 Multifunctional Riparian Buffer Sub-Grant Program through the Pennsylvania Association of Conservation Districts, Inc. and DCNR.



Franklin County - Paddy Run Headwaters Restored

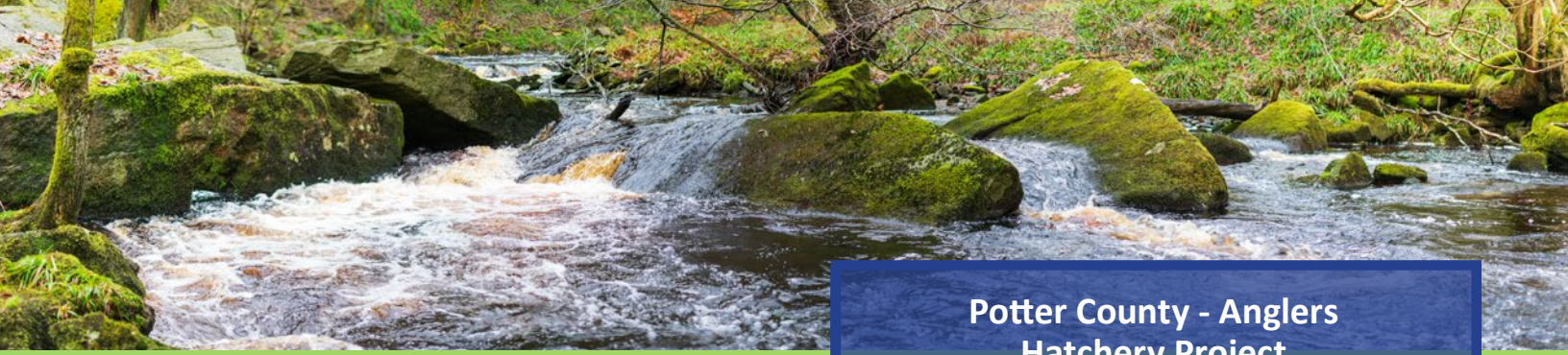


The Greencastle-Antrim School District (GASD), local homeowners and the Franklin County Conservation District (FCCD) worked together to restore a stream at the headwaters of Paddy Run. The project began with a stroll along the creek. Kerri Barnes from GASD and Caitlin Lucas of FCCD saw the state of the creek, and realized it would be a good fit for a CAP Implementation Grant project if they could get landowner buy-in. The first step was knocking on doors, and the project partners were met with landowners happy to do their part to restore the stream. Restoration work on the headwaters of Paddy Run began with construction work in the summer, and wrapped up with a tree and shrub planting in the fall.



“After the work was done, we walked the stream again with the Conservation District and we were blown away by the improvements in the water flow and clarity. A few months later I spotted a heron, and a few months after that I could see the pebbles at the bottom of the stream for the first time.”

— Kerri Barnes, Greencastle-Antrim School District,
Franklin County



Potter County - Anglers Hatchery Project

York County - Horn Farm Center Tree Planting



Staff from the Susquehanna River Basin Commission volunteered their time and a whole lot of muscle to further their mission of managing and maintaining the basin in a very hands-on way. They headed down to the Horn Farm Center for Agricultural Education in York County to plant trees, clear brush and remove invasive plants. The work was done to enhance the farm's four acre riparian buffer project, ultimately protecting the county's waterways. Trees were provided by the Keystone 10 Million Trees Partnership, and the project was funded by DCNR, PA Infrastructure Investment Authority, The GIANT Company and Keep Pennsylvania Beautiful's Healing the Planet Grant Program.



"Fish farms aren't the first thing that comes to mind when you think of agriculture and the Bay, but we used a CAP grant to cut our effluent by about 95% and keep about 8 tons of sediment and pollution out of Freeman Run each year."

"Most of our neighbors don't really understand the finer points of what we did and how we did it, but they do notice that the water downstream of our hatchery is noticeably clearer now."

— John Harmon, Potter County Anglers Club

The Potter County Anglers Club Project was completed in 2022 and will reduce nutrient loading in Freeman Run. The first portion of this project was to concrete the existing raceways in the summer of 2021. In the fall of 2022, the concrete settling pond and manure stacking facility were completed. Previously, hatchery effluent water was discharged directly from the raceways to Freeman Run. With the completion of this project, the fish production effluent now enters a settling pond where solids will have time to settle out before re-entering the stream. Water then enters a large shallow bottom pond where aquatic vegetation treat the effluent for additional nutrient load, acting as a bio-filter.

After fish production has been completed for the year, the settling pond will be drained to allow the solid waste particles to dry out and be scraped out using a skid loader. Scraped fish waste will be stacked in a roofed and curbed stacking facility until Anglers Club members can utilize it for gardening and other small agriculture uses.

This project was funded through a CAP Implementation Grant and a donation from EOG Resources. Construction was completed by Bill Gibble Excavating. This project could not possibly have been completed without the dedicated volunteer group that donated their time, especially the members of Anglers Club and the staff of the Hemlock Campground.





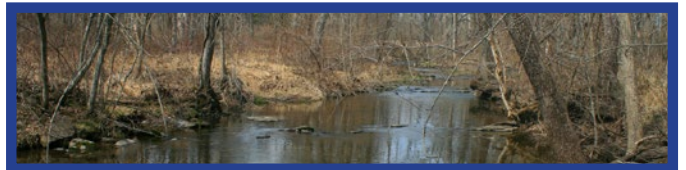
URBAN SECTOR

Lancaster County - North Lane Rain Garden

The North Lane Rain Garden project was completed in Lititz Borough in November 2022. The project was funded by the Lancaster Clean Water Fund. Excess water from North Lane will filter through the 0.02 acres of rain garden and 0.011 acres of vegetated swale. The clean water will eventually make its way into nearby Lititz Run. This was the only remaining area of North Lane where ponding was still an issue and water was not treated prior to entering Lititz Run. There are still a few remaining projects to be finished to finalize the bioretention corridor on North Lane: creation of a forebay, vegetated swale, and raingarden adjacent to the alley to capture the excess water, remove it from the roadway, filter it with native plantings and infiltrate and/or slowly discharge it to the Lititz Run.

Adams County - Cumberland Township Rain Gardens and Stormwater BMPs

Cumberland Township worked with the Adams County Conservation District to complete numerous Stormwater BMP projects. A CAP Implementation Grant from the District paid for the construction of two stormwater basin retrofits in local homeowners' associations, and two small rain gardens at the Township's municipal building. Cumberland Township continued this work with two stream restoration projects on the Rock Creek tributary and Willoughby Run.





Stuart Park – Larry Barrick

In 2022, the Dickinson Township Board of Supervisors approved and completed two floodplain runoff and nutrient reduction projects at Stuart Park, located outside of Mt. Holly Springs in Cumberland County, and adjacent to Yellow Breeches Creek. The project was funded through a CAP Implementation Grant and the trees and shrubs were provided by the Chesapeake Bay Foundation and the Keystone 10 Million Trees program.

The first project consisted of a streambank restoration and habitat improvement project along 810 feet of the Yellow Breeches Creek, which is a popular fishing destination located in the Township. The restoration utilized PA Fish and Boat Commission approved fish habitat enhancement structures to stabilize eroding banks while improving trout habitat and reducing nitrogen, phosphorus and sediment pollution. Township staff worked under the direction of staff from the Trout Unlimited program to install two multi-log vane deflectors, twelve single log vane deflectors, six log framed stone deflectors and twelve random boulders. The project was completed in July 2022.

The second project involved the removal of invasive plant and tree species in an approximately four acre flood prone wooded lot. Some of the invasive species that were identified included multiflora rose, mile-a-minute, tree-of-heaven, Japanese knotweed and Japanese stiltgrass. A controlled and planned herbicidal spray application was performed on the invasive plants, then a machine was used to mulch the entire area. A contractor then used a controlled burn to clear the area. Upon completion of the plant removal process, approximately 210 native trees and shrubs were planted, and the surrounding areas were seeded with native grasses and wildflower blends. Care was taken to preserve as much of the native species as possible. The project was completed in December 2022.



“We used CAP grants, 10 Million Trees program grants and other grants to restore a popular fishing stream in a park. We’ve gotten great feedback from the community about the improvements. And this project also happens to reduce several thousand pounds of sediment, nitrogen and phosphorus that would head downstream towards the Bay.”

— Larry Barrick, Dickinson Township Manager,
Cumberland County



VOICES FROM THE WATERSHED



"The farmers, Stroud Center, TeamAg and other partners started installing BMPs along a stream back in 2019 with PennVest, Growing Greener and NFWF grants, but our costs skyrocketed during the pandemic. The CAP funds came along at just the right time to close the gap, and we

are grateful that the Lancaster Clean Water Partners could mobilize the funds quickly."

— **Lamonte Garber, Stroud Water Research Center**



"We anticipated that some farmers might not be receptive to our outreach, but that issue has rarely come up. When we make it clear that the only purpose of the inspection is to make sure their good work has been counted, we generally get a favorable response."

— **Susan Richards, Capital RC&D, Franklin, Adams and Cumberland Counties**



"Municipal leaders should look to their county and state resources. We've wanted to do this project for a long time and our Conservation District alerted me to the opportunity to finally fund it and they did a lot of the CAP grant paperwork. DCNR helped us choose

the trees. We couldn't have done this without their help."

— **Larry Barrick, Dickinson Township Manager, Cumberland County**



"Fish farms aren't the first thing that comes to mind when you think of agriculture and the Bay, but we used a CAP grant to cut our effluent by about 95% and keep about eight tons of sediment and pollution out of Freeman Run each year. ...our neighbors don't really understand the finer points of what we did and how we did it, but they do notice that the water downstream of our hatchery is noticeably clearer now."

— **John Harmon, Potter County Anglers Club, Potter County**



"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, Londonderry Township Manager, Dauphin County**



"We bought our farm from owners who didn't have the time or means to address some serious flooding and erosion issues. I thought the Conservation District might be able to help, so I approached them regarding our issues. They explained that they had some Chesapeake Bay CAP

available, and we were able to come up with a plan to address some of the problems."

— **Mitch Freeman, Farmer and Homer Township Board of Supervisors Chairman, Potter County**



"The stream is a classroom! We had students walk the stream with us before, during and after the restoration project. One of them even changed their major! If you're a teacher and you want to do something like this, network with the conservation specialists and involve

the kids. They are citizens and you want to show them how to use their resources for the future."

— **Kerri Barnes, Greencastle-Antrim School District, Franklin County**



Visit the [Healthy Waters PA](#) website to learn more about the Pennsylvania Phase 3 WIP.