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DAUPHIN, PERRY, JUNIATA, AND MIFFLIN COUNTY
2025 COUNTYWIDE ACTION PLAN PROGRESS REPORT NARRATIVE

Submitted to:
Tri-County Regional Planning Commission & Dauphin, Perry, Juniata, and Mifflin Counties
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Submitted: 2025

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Engineering | Planning | Infrastructure Solutions

TABLE OF CONTENTS

Stakeholders Involved with the Dauphin, Perry, Juniata, and Mifflin Counties Countywide Action

The Planning Team

Mifflin County Conservation District

Mifflin County Pennsylvania

HRG

Lancaster Farmland Trust

Perry County Pennsylvania

Juniata County Planning Commission

Juniata County Conservation District

Perry County Conservation District

Dauphin County Conservation District

TCRPC Tri-County Regional Planning Commission

Dauphin County

The Partners

PennState Extension

Capital RC&D Bridging Conservation Communities

Pasa Sustainable Agriculture

Pennsylvania Farm Bureau

Chesapeake Bay Foundation Saving a National Treasure

Millersburg Pennsylvania

Borough of Middletown Pennsylvania

Marysville Borough Pennsylvania

Trout Unlimited PA Council

Hershey

Manada Conservancy

Susquehanna Greenway

Juniata Watershed Alliance

Welcome to Elizabethville

The Nature Conservancy

Capital Area Greenbelt

AgChoice Farm Cred

Chesapeake Conservancy Explore. Conserve. Innovate.

Trout Unlimited Doc Fritchey Chapter

Celebrating 50 SRBC Susquehanna River Basin Commission NY PA MD USA

Swatara Watershed Association

Keep Pennsylvania Beautiful

USDA

Clarks Creek Watershed Preservation Association

Tri-County Conewago Creek Association

PCWEA Paxton Creek Watershed and Education Association

Alliance for Aquatic Resource Monitoring ALLARM est. 1986

Juniata College Pennsylvania 1876

Western Pennsylvania Conservancy

Capital Region Water

Susquehanna Township

Lower Swatara Township

WREP Dauphin County Water Resource Enhancement Program

The Township of Derry

Lower Paxton Township PA

West Hanover Township

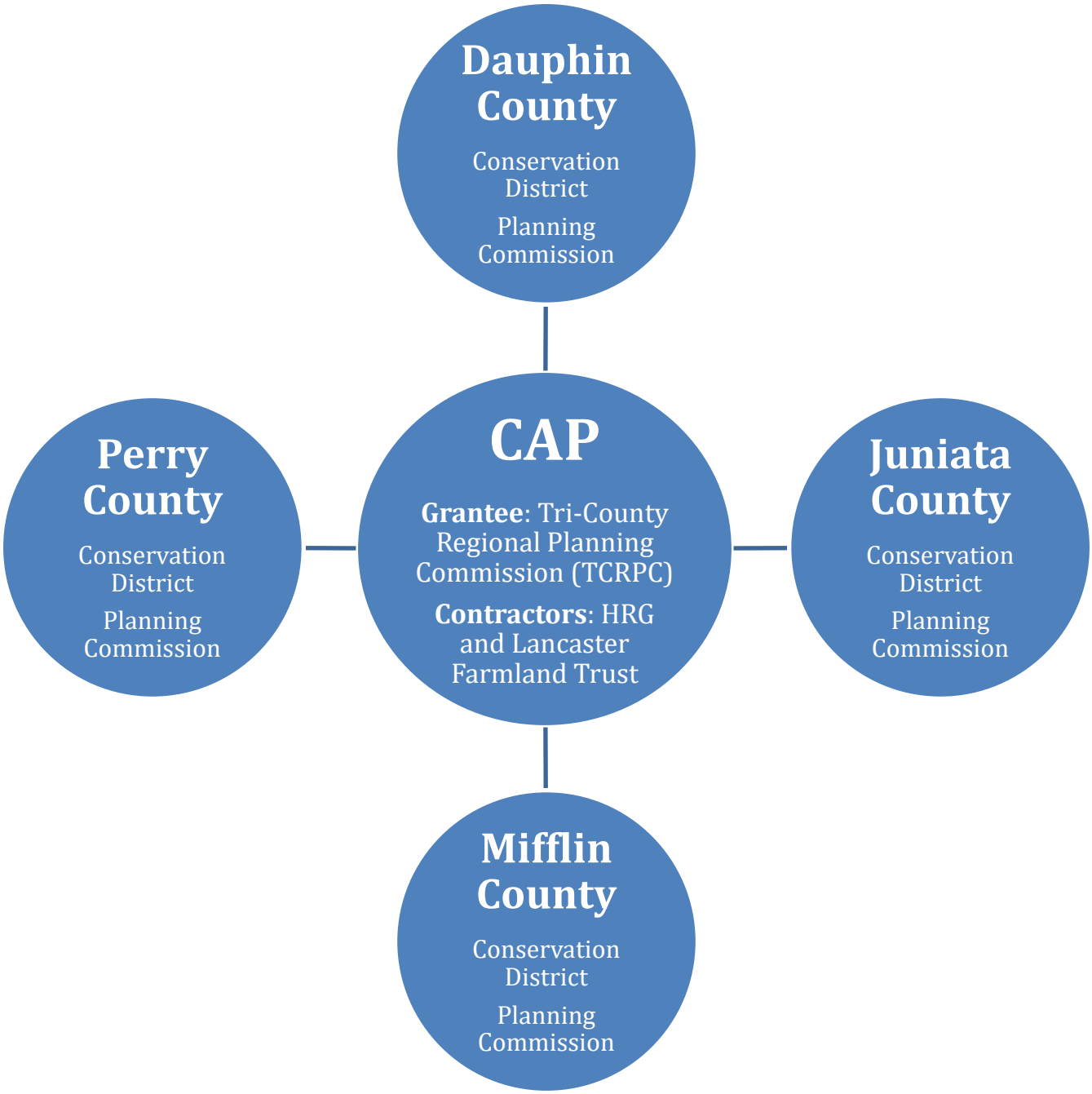
Londonderry Township

Borough of Hummelstown Pennsylvania

East Hanover Twp. Dauphin County, PA

Thank you to all stakeholders who provided comments and feedback throughout the development process!

Leadership Team: Dauphin, Perry, Juniata, and Mifflin Counties



Plan Highlights

In 2021, Dauphin, Perry, Juniata, and Mifflin Counties were asked by the Pennsylvania Department of Environmental Protection (PADEP) to participate in the State's Chesapeake Bay effort by developing Countywide Action Plans (CAPs) that reduce nutrients and sediment in local waterways. The group of counties were given the option to develop individual CAPs or work together to develop a regional plan. The counties elected to develop individual CAPs but work together on their development and share ideas to expand on existing partnerships in the group of counties. The regional partnership also provides an opportunity to share resources to allow for cost effective implementation of the CAPs.

The Dauphin, Perry, Juniata, and Mifflin Counties CAPs provide a regional strategy for the four counties to achieve clean water goals. The initiatives outlined in the plans protect natural resources, promote agriculture sustainability, and increase conservation efforts. Local conservation efforts benefit local communities throughout the Dauphin, Perry, Juniata, and Mifflin Counties Region while assisting Pennsylvania with meeting its Chesapeake Bay requirements.

The Dauphin, Perry, Juniata, and Mifflin Counties Region encompasses over 1,900 square miles of land and 3,600 miles of stream that all drain to the Chesapeake Bay. This land is represented by roughly 64% natural or forested land, 22% agricultural land and 14% developed or urban land. Nutrients and sediment are generated from agricultural and developed lands primarily, so roughly 36% of the land is a candidate for improvements and are targeted in the CAPs. Of the 3,600 stream miles in the region, approximately 23% of the region's streams are impaired, with most of the impairment coming from sediment. All these factors play heavily into the amount of nutrients and sediment that enter the Chesapeake Bay from the region. PADEP estimated that in 2019 the Dauphin, Perry, Juniata, and Mifflin Counties were contributing 15.9 million pounds of nitrogen and 869 thousand pounds of phosphorus to local waterways on an annual basis. By 2025, these counties were assigned a reduction of 8.16 million pounds of nitrogen and 195 thousand pounds of phosphorus. The table below shows estimates for pollutants in 1985 and 2019 along with the 2025 State goals for Dauphin, Perry, Juniata, and Mifflin Counties.

Year	Nitrogen (pounds/year) delivered to Dauphin, Perry, Juniata, and Mifflin Counties waterways	Phosphorus (pounds/year) delivered to Dauphin, Perry, Juniata, and Mifflin Counties waterways
1985	17,512,000	1,254,000
2019	15,939,000	869,000
2025 Goal	7,782,000	674,000
Targeted reduction	8,157,000 (51% reduction)	195,000 (22% reduction)

To achieve the goals outlined above, the Dauphin, Perry, Juniata, and Mifflin County CAPs identify priority initiatives and actions that support the regions' goal of protecting healthy streams and rivers,

while restoring waterways that need additional help. The CAP includes four priority initiatives that are broken into dozens of actions items with measurable goals. These action items will evolve over time based upon early plan implementation successes, available funding and human resources, and changes in local priorities.

Goals of the Countywide Action Plans

Chesapeake Bay watershed goals are focused on reducing three primary pollutants: nitrogen, phosphorus, and sediment. Municipalities have played a significant role in achieving these goals over the past two decades through wastewater treatment advances and the Municipal Separate Storm Sewer System Permit program (MS4). Since wastewater treatment and MS4 programs support our water quality goals, the CAP implementation team works with municipalities and authorities who lead these programs to support and leverage their efforts where possible.

Agricultural lands present another opportunity to reach the counties' clean water goals. Where not managed properly, agricultural land releases nutrients and sediment into local waterways like other land uses. Many goals in Priority Initiative #3 focus on determining what steps local farmers and streamside landowners can take to reduce the amount of nutrients and sediment reaching local waterways, in addition to identifying necessary funding and technical support to assist the community.

Key Findings

In 2021, the Dauphin, Perry, Juniata, and Mifflin Counties Planning Team connected with over 200 stakeholders from across the four counties. These discussions have identified a few common themes that helped to develop their CAPs. Below are the common themes identified by various stakeholders:

- Dauphin, Perry, Juniata, and Mifflin Counties are communities of action! Many individuals and organizations are already taking steps to clean up local waterways. The CAPs help by fostering connections and leveraging resources to reach shared goals.
- Monitoring water quality matters. The region is expanding water quality monitoring to ensure management actions are working and to geographically focus efforts to the most impaired watersheds.
- Regional partnerships are key. The Dauphin, Perry, Juniata, and Mifflin Counties region already collaborates on existing efforts with Tri-County Regional Planning Commission, which demonstrates the power of working together to share resources and funding. Limited resources can stretch further when the counties work together.
- Technical assistance and funding are keys to success. Unfortunately, many existing clean water initiatives in the region have been slowed or stalled due to a lack of timely technical and financial resources when landowners are ready to go. To ramp up existing projects and start new ones, flexible funding streams are critical. The implementation team is identifying actionable funding solutions from across the public and private sectors.
- The diversity of agriculture in the region can create challenges trying to connect with farmers. Due to limited time of farmers to attend meetings, one-on-one farmer outreach is the key to successfully engaging farmers and identifying new project opportunities.

Opportunities for Success

Many opportunities for success in Dauphin, Perry, Juniata, and Mifflin Counties came out of CAP planning sessions and meetings with stakeholders. Some successful efforts can be recognized in the short term, with others taking longer to achieve results. Below are some success stories the Dauphin, Perry, Juniata, and Mifflin CAPs can achieve.

Short Term:

- Continue to implement the Pollutant Reduction Plans in MS4 communities.
- Continue to expand cover crop incentive programs to include more farmers.
- Develop a communication strategy to communicate consistent water quality goals and engage more landowners and farmers.
- Engage landowners willing to implement projects to begin funding applications.
- Secure funding for Tri-County Conewago Creek Association, Spring Creek Watershed Association and Western Pennsylvania Conservancy through Growing Greener to implement projects.
- Continue to build on existing implementation efforts for watershed implementation plans (WIP) such as the Kishacoquillas Creek 319 Plan, Lost Creek Coldwater Conservation Plan, Baken Creek Alternative Restoration Plan, PennDOT Paxton Creek Master Plan, etc.
- Work with partners to support new WIP efforts such as the Spring Creek ARP development (eastern Dauphin County).
- Begin Phase 2 of BMP verification to continue remote sensing efforts of identifying conservation practices to document and report. Expand field verification visits associated with this process.

Long Term:

- Set-up a regional technical and financial assistance program to serve the needs of farmers and landowners in all four counties.
- Establish a program to rapidly delist catchments associated with the Juniata River Watershed Management Plan.
- Work with over 700 new farmers to write and implement conservation and nutrient management plans.
- Identify private funding sources that may be able to supplement public funding sources/existing sources utilized by stakeholders.

Challenges to Implementation

The CAP presents many challenges to implementation that, if not addressed, will become hurdles to being successful, especially by the 2025 deadline. Each action item has challenges, many of which are regulatory, tied to a state program, or a general long-standing conservation challenge. Paired with the challenge's column in the planning template, the programmatic recommendations template suggests solutions to overcoming many of the identified challenges. The following challenges are common themes throughout many of the action items and, if not addressed, will stall progress.

Funding: The Dauphin, Perry, Juniata, and Mifflin Counties CAPs were estimated to cost approximately $320 million over 5 years to implement. County governments and local municipalities cannot cover the required funding for implementation. Local government entities struggle to cover the cost of delivering their required services as it is. State and Federal funding is available; however, not to the extent to support the required amounts for implementation. Applying for funding, securing funding contracts, and reporting on the spending is a time-consuming process. Similarly, each program has its nuances which confuses landowners and challenges practitioners who are better suited to work through technical challenges rather than financial/legal challenges. To efficiently scale up county CAP implementation efforts, grants must be consolidated, and funders must be willing to increase funds and support staff to meet local implementation needs by 2025. Accelerated contracting timelines will result in more predictable implementation schedules.

People: The Dauphin, Perry, Juniata, and Mifflin Counties CAPs propose over 120 new positions to assist with implementation efforts. Current staffing capacity is limited at county governments and organizations devoted to implementation efforts. Staff are required to complete many outside job duties in addition to CAP related efforts. Engineering and technical assistance at Conservation Districts and other respective entities is limited with backlogs extending months and years. To be successful, the CAPs identified 120 additional positions in the private and public sector to overcome technical assistance and engineering deficits, in addition to needed coordination at county governments. Should human capital funding be developed, this is an opportunity to get more people interested in a career in conservation, including science/technology/engineering/math (STEM), communications, data management, project management, policy, planning, and the list goes on.

Landowner Buy-in: One of the biggest challenges in implementing the CAP is that, beyond basic regulatory requirements and government oversight, landowner participation in clean water improvements at their property is voluntary. Faced with competing priorities for their land and the fact that best management practices (BMPs) may have significant associated costs for installation and maintenance, landowners may opt not to pursue them. Removing productive cropland out of production is another challenging constraint when proposing to implement conservation practices. To overcome these challenges, incentive payments and market-driven outcomes are an option for implementation.

Permitting: Many of the projects proposed in the CAP require engineering, design and regulatory permitting (Chapter 102, 105, 106, Section 404, Act 38, etc.). Understaffing at the PADEP regional office level causes an impact on permitting timelines, which delays construction. To achieve the 2025 timeline, projects must be approved for permitting in short order to ensure bidding and construction can proceed on a timely manner.

Reporting and Tracking: All projects implemented as part of the CAP must be reported to state and federal agencies to count toward reduction goals. Many projects are privately funded by landowners and do not get reported. Locating and reporting projects that do not receive state or federal funding is challenging with available technologies and data sharing constraints. As a result, many projects continue to go unreported, and farmers aren't getting credit for their conservation efforts. The current system of one-on-one farms visits to catch up on BMP

reporting takes a long time, and reverification of reported practices continues to lag. Verification of projects once a project reaches its credited lifespan is challenging with each passing year as more and more projects lose credit and are not being re-reported until a Conservation District staff person performs a site visit. Overall, state and federal program-related reporting also lags, and direct environmental monitoring may not yield actual water quality improvements for years. Therefore, in today's strategic environment, decisionmakers at the local level never have a clear picture of where conservation efforts are needed the most. Projects continue to proceed on a one-off pace, which is not what a scaled-up implementation strategy looks like. To overcome this issue, technology must be developed to easily identify and credit projects from aerial imaging so that local strategies can be more effective and reporting improvements continue to improve.

Additional challenges are listed within the CAP planning template; however, these are the common themes that arise. Despite these challenges, local stakeholders have made real progress, and have suggested innovative ways to overcome the challenges. State and Federal partners are critical to helping stakeholders overcome these challenges and push forward with implementation.

Executive Plan Summary

The Dauphin, Perry, Juniata, and Mifflin Counties CAPs focus implementation on four (4) priority initiatives that will result in water quality improvements: 1) County programmatic initiatives, 2) reporting and tracking, 3) achieving new pollutant reductions, and 4) research, education, and training. Each of these priority initiatives are broken down into action items that result in improvements to water quality.

The CAPs have established a county framework to guide implementation partners and efforts on how to be successful in restoring and protecting water quality. The CAP is a multiyear implementation effort that will adapt overtime. Additional funding and resources are critical component to the CAP success and are detailed out in each action item. Since counties elected to develop individual CAPs, *below initiatives are denoted with a (D) Dauphin, (P) Perry, (J) Juniata, and (M) Mifflin Counties denoting in which template the initiative can be found.*

Priority Initiative 1: Regional Programmatic Initiatives

Priority Initiative 1 of the Dauphin, Perry, Juniata, and Mifflin Counties CAPs include county programmatic initiatives that support or identify water quality goals that are already in progress in each respective county or are planned to be implemented by 2025. County programmatic initiatives include action items such as Comprehensive Plan implementation steps, Hazard Mitigation Plan implementation, Agricultural Preservation Program enhancements, University partnerships, communication plans, website development, etc. These initiatives are primarily coordinated by county government leads with support from local partners on implementation. County programmatic initiatives include many co-benefits that result in additional achievements outside of typical water quality improvements. Below are the top six (6) action items listed in the County Programmatic Initiatives section of the CAP.

- Action 1.1A/B/C (J)(M), 1.2A/B/C (D)(P): Implement County Comprehensive Plan policies and actions
    - Conserve 7,850 acres of forest and 235 acres of wetland through 2025.
    - Promote conservation of natural resources and increase recreational opportunities.
    - Increase implementation and preservation of riparian forest buffers.
    - Implement or write new Source Water Protection Plans.
- Action 1.1 (D): Advance the Dauphin County Regional Water Resource Enhancement Program
    - Finalize intergovernmental cooperation agreement and sign-up municipalities for participation.
- Action 1.6(J), 1.4(M), 1.8(P): Update and Implement the Juniata River Watershed Management Plan
    - Work with Western Pennsylvania Conservancy and Chesapeake Conservancy to identify rapid delisting high priority catchments and implement projects in the Juniata River Watershed Management Plan update.

- Action 1.6(D)(P), 1.4(J), 1.7(M): Continue to Implement County Farmland Preservation Programs
    - Preserve 17,800 acres of farmland by 2025, secure additional funding to support program goals.
- Action 1.7(D)(P), 1.5(J), 1.8(M): Establish Funding to Support the Agricultural Community
    - Work with 730 farms by 2025 to ensure they follow required agricultural conservation and nutrient management plans.
- Action 1.9 A/B(D)(J)(P), 1.10 A/B(M): Create a Regional Water Quality Communication Plan
    - Develop a communication plan leveraging existing plans and organizations to message one consistent water quality message.
    - Develop an agricultural outreach strategy to engage farmers and landowners efficiently and effectively.

Priority Initiative 2: Reporting and Tracking

Priority Initiative 2 of the Dauphin, Perry, Juniata, and Mifflin Counties CAPs identifies action items that need to occur by 2025 to improve reporting and tracking of BMPs. It is critical that all plans and implemented projects be reported to state and federal agencies to be incorporated in data sets that tell us how Pennsylvania is doing with respect to Chesapeake Bay goals. Further, all landowners, operators, and partners deserve recognition for the work they are doing, so to tell the success stories, data must be shared. Below are the top two (2) action items listed in the Reporting and Tracking section of the CAP.

- Action 2.1 (D)(J)(M): Existing BMP Cataloging
    - Manual and automated digitizing using high resolution aerial imagery to identify the location of BMPs and perform field visits where on-the-ground verification is required by regulators.
    - Upload BMP implementation data into PracticeKeeper.
- Action 2.5 (D)(P)(J)(M): Improve Agricultural BMP Reporting Utilizing Existing Platforms
    - Increase reporting of plans in PracticeKeeper.
    - Work with Capital Resource Conservation and Development (Capital RC&D) and PSU Producer Survey to produce more complete results.

Priority Initiative 3: Achieve New Pollutant Reductions – Existing Programs, Watershed Plans

Priority Initiative 3 of the Dauphin, Perry, Juniata, and Mifflin Counties CAPs contains two parts. The first part identifies action items identified by each individual county that is a part of existing programs or plans with proposed plans or programs. Individual action items include initiatives such as WIPs, Section 319 WIPs, Alternative Restoration Plans, Coldwater Conservation Plans, etc. Below is brief overview of the action items for each county associated with the first part of Priority Initiative 3.

- Dauphin County
    - Implement the Paxton Creek Master Plan, implement the Manada Creek Cold Water Conservation Plans, develop and implement a watershed restoration plan for Spring Creek (East), update and implement the Conewago Creek WIP.
- Juniata County
    - Implement the Willow Run and Lost Creek Coldwater Conservation Plans.
- Mifflin County
    - Implement the Upper Kishacoquillas and Hungry Run 319 WIP, implement the Tea Creek Cold Water Conservation Plan, and implement the Kishacoquillas Alternative Restoration Plan.
- Perry County
    - Develop and implement an Alternative Restoration Plan for Baken Creek.

Priority Initiative 3: Achieve New Pollutant Reductions – Numeric Goals

Priority Initiative 3, part two of the Dauphin, Perry, Juniata, and Mifflin Counties CAPs identifies action items that result in reductions to nutrients and sediment. This section of the CAP outlines numeric goals for each county that can be achieved through 2025 when the needed resources are put in place. Below are the five (5) most cost effective BMPs that improve our local streams by reducing nutrients and sediment. Numbers represented below are a culmination for all counties.

Cover Crops help to improve soil stability and soil health in agricultural operations. Increasing cover crops not only benefits water quality, but also helps to increase overall productivity of crop fields and long-term soil health. Cover crops can be incentivized through payment programs and continued education/outreach.

Agriculture Conservation or Agricultural E&S Plans are required by state and federal regulation when disturbing more than 5,000 sq feet of soil. Agriculture Conservation Plans are a great way to plan for long-term farm sustainability and improve economic benefits through conservation practices. Conservation Districts and USDA's Natural Resources Conservation Service (NRCS) support by writing Ag E&S and Conservation Plans, along with private sector plan writers.

Nutrient Management or Manure Management Plans are required by state and federal regulation for farmers and landowners who have livestock animals. Nutrient Management Plans help with properly applying animal manure to cropland while maximizing the benefits to soil health. Conservation Districts and NRCS, and private sector plan writers are available to develop Nutrient Management and Manure Management Plans.

Forest and grass riparian buffers are excellent ways to address flooding and provide additional habitat for wildlife. Buffers help to provide vital shade for instream life, while also filtering nutrients and sediment from stormwater runoff. Various existing programs help to fund the implementation of riparian buffers while paying incentives to landowners willing to implement them.

Manure storage tanks are an excellent way to properly store manure until croplands are in need of nutrients. Manure pits, stacking pads, and in-barn systems are a few examples of ways to properly store manure. Manure storage structures are effective when sized according to a Nutrient Management or Manure Management Plan. Many cost share programs are available to assist with funding the design and construction of properly sized manure storage facilities.

Priority Initiative 4: Research, Education and Training

Priority Initiative 4 of the Dauphin, Perry, Juniata, and Mifflin Counties CAPs focus on research, monitoring and education through the empowerment of partners. This section includes bolstering existing monitoring efforts and incorporating locally collected data into larger data sets at the State and Federal level. In addition, this section includes supporting local watershed and environmental organizations that are critical partners to support implementation. Supporting these organizations with funding and leverage to gain new members is critical to successfully implementing the CAPs. A top-down government-led approach will minimize the effectiveness of the plan.

Programmatic Initiative: Recommendations for State Programmatic Changes

The Countywide Action Plan is not limited to county specific initiatives that need to be implemented by 2025. As part of the CAP, there is an additional template specifically intended for changes that need to occur at the state and federal level with respect to programs, policies, regulations, and legislative actions. This template allows county partners to hold mutual accountability to state and federal leaders as we work together to implement the CAP and the overall Chesapeake Bay Pennsylvania Phase 3 WIP. The recommended changes in this template correlate with the challenges listed in this executive overview as well as within the detailed Dauphin, Perry, Juniata, and Mifflin Counties CAPs. If these challenges are not addressed with changes to state and federal programs, many of the goals outlined in the CAP become impossible to achieve. Common themes with programmatic recommendations include funding program improvements, streamlined permitting, improved reporting and verification, increased flexibility in state and federal guidelines for programs, and additional involvement from state agencies not actively engaged in Chesapeake Bay restoration efforts. Below are a few of the critical programmatic changes that need to occur for the CAP to be successful.

- Action 1.2 – Creation of flexible funding to support regional technical assistance positions such as engineers, nutrient management planners, etc.
- Action 1.6 – Expand the MS4 designated implementation area to allow for strategic targeting of pollution from the Urban Sector and cost-effective implementation.
- Action 1.20 – Expand the Conservation Excellence Grant (CEG) program to Tier 3 & 4 Counties to assist with funding implementation projects.
- Action 1.23 – Create a statewide cover crop incentive program to increase the implementation of cover crops.
- Action 1.33 – Institute a bi-annual remote sensing program to increase reporting and verification of practices.

The following Actions have either been completed or are no longer a priority between now and 2025. For details regarding the status of these Actions, see the detailed Progress and Milestone Template.

Dauphin, Perry, Juniata & Mifflin County CAP Initiatives:

- Action 1.1 (P): Develop a Perry County Integrated Water Plan
    - Develop an integrated water plan to address water quality concerns in Perry County utilizing existing plans and resources.
- Action 1.1A/B/C (J): Implement County Comprehensive Plan policies and actions
- Action 2.1 (P): Existing BMP Cataloging
    - Manual and automated digitizing using high resolution aerial imagery to identify the location of BMPs and perform field visits where on-the-ground verification is required by regulators.
    - Upload BMP implementation data into PracticeKeeper.
- Action 2.4 – Implement a documentation program for commercial and homeowner nutrient applications in developed lands
    - Support fertilizer legislation – where legislation requires reporting, be the data clearinghouse
    - Legislation will support the implementation of Urban Nutrient Management – 1,600 acres
- Action 2.6 (P/J/M) - Standardized Reporting for Dairy Precision Feeding
    - Counties would like to utilize the dairy precision feeding BMP. However, current reporting guidelines do not allow for clear reporting standards on feed reduction amounts, how to report, and who is qualified to report. Improved reporting standards would allow 3,400 Animal Units of Dairy Precision Feeding
- Action 3.16*(D/P), 3.15* (J), 3.18* (M) - Work with PennDOT and local municipalities to reduce frequency of mowing road ditches and along roadways.
    - Educate local municipal leaders and work with PennDOT to address state owned roads on the importance of keeping higher vegetation along roadways to prevent erosion and increase nutrient uptake.

Corridors of Opportunity

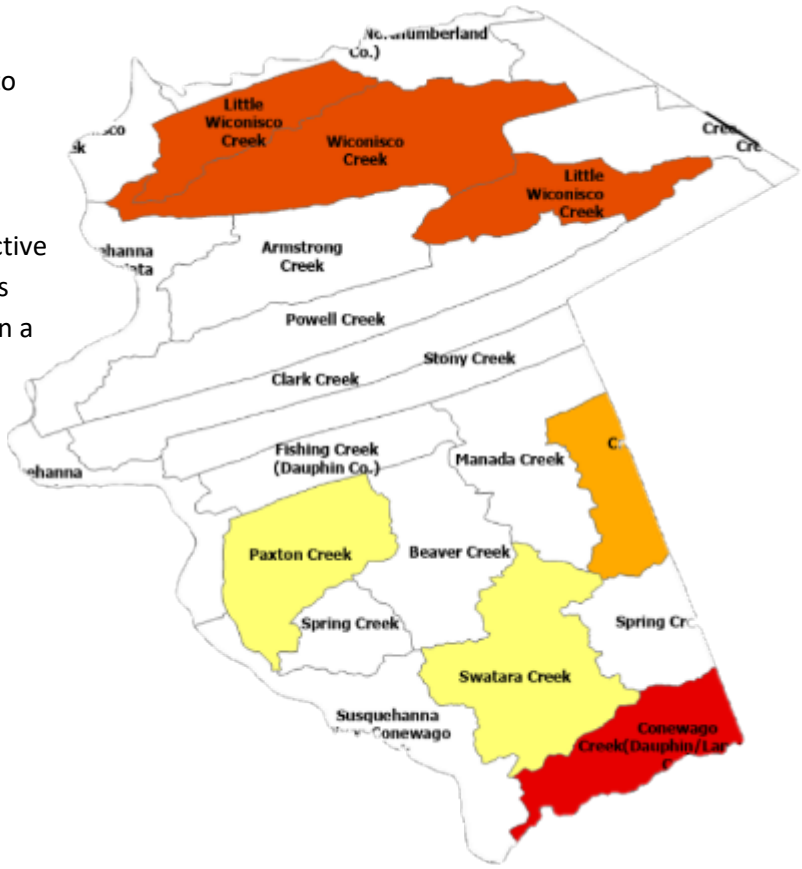
The Countywide Action Plan requires broad scale planning across the entire county jurisdiction. Although the most effective planning efforts may be accomplished at a jurisdictional level, implementation of the plan can be more cost effective at a watershed scale. As part of the CAP planning process, each county has identified, based on a scoring system, the HUC-12 watersheds that are most cost-effective to work in determined on a range of criteria. The following criteria was used to determine the highest priority watersheds that will produce the most cost-effective results.

1. *Existing Total Maximum Daily Load (TMDL) & Impaired Stream Miles*: does a watershed have an existing TMDL? If so, what does the TMDL address? How many miles of impaired streams are in the watershed?
2. *Total Nitrogen:* Based on the Chesapeake Bay Programs top 25% nitrogen loading rates along with USGS SPARROW models the watersheds were ranked based on their loading rates of nitrogen to local waterways.
3. *Connecting CAP Goals with Opportunities for Implementation*: Comparing existing land use with numeric BMP goals and programmatic goals in the CAP, how much opportunity exists in the watershed to implement BMPs?
4. *Land Preservation*: Looking at PADEP data sets for existing conservation easements along with the opportunity analysis produced the Bay Program, which watersheds have the highest potential for preserving forest and agricultural land?
5. *Growth*: Analyzing existing infrastructure like rails, highways, and development, which watersheds have the highest potential for future development opportunities?
6. *Partners*: Are there current conservation, watershed organizations, or other organizations active within the watershed who can assist with implementation efforts?

Based on the aforementioned scoring criteria, below are the top watersheds in each county that will be a high priority of focus for implementation efforts. This does not mean other watersheds will not receive assistance, but these watersheds are anticipated to produce the most cost-effective water quality improvements and leverage the most co-benefits.

Dauphin County:

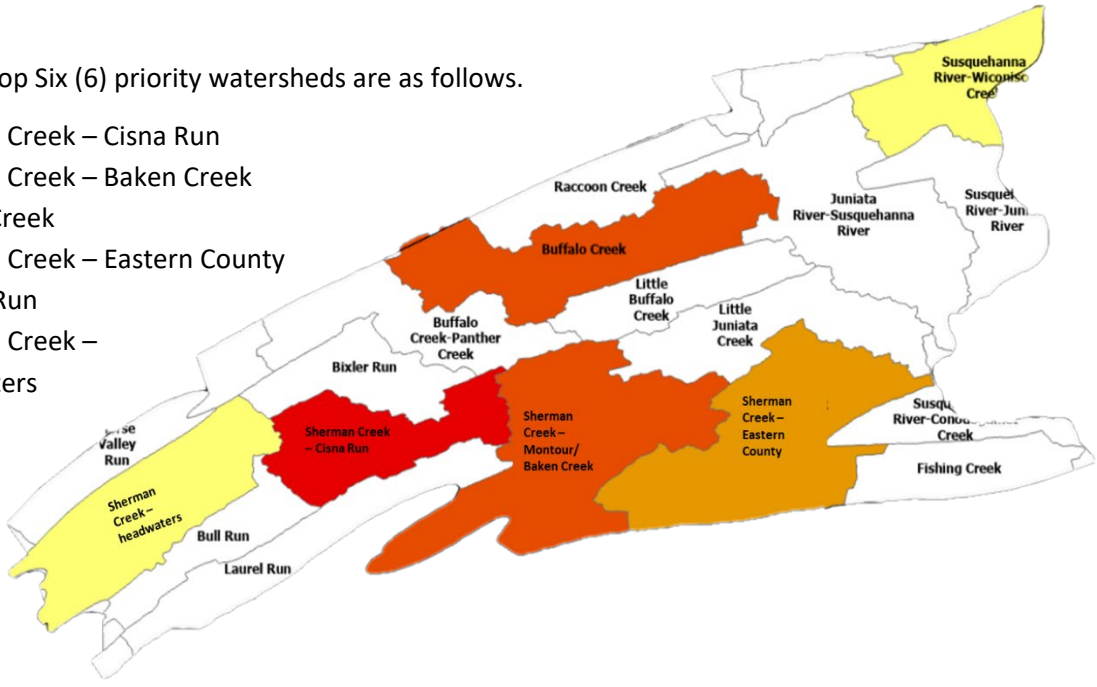
In Dauphin County, scoring criteria was altered to remove "Growth" and replace growth with agriculture security areas. Due to the overwhelming growth prosperity in Dauphin County, with relation to the CAP, it is more effective to protect agriculture security areas. Scoring was ranked on the amount of ag security areas within a watershed. Based on the remaining scoring criteria the following are the top six (6) priority watersheds within Dauphin County.



1. Conewago Creek
2. Little Wiconisco Creek
3. Lower Wiconisco Creek
4. Swatara Creek – Bow Creek
5. Paxton Creek
6. Swatara Creek

Perry County:

In Perry County the top Six (6) priority watersheds are as follows.

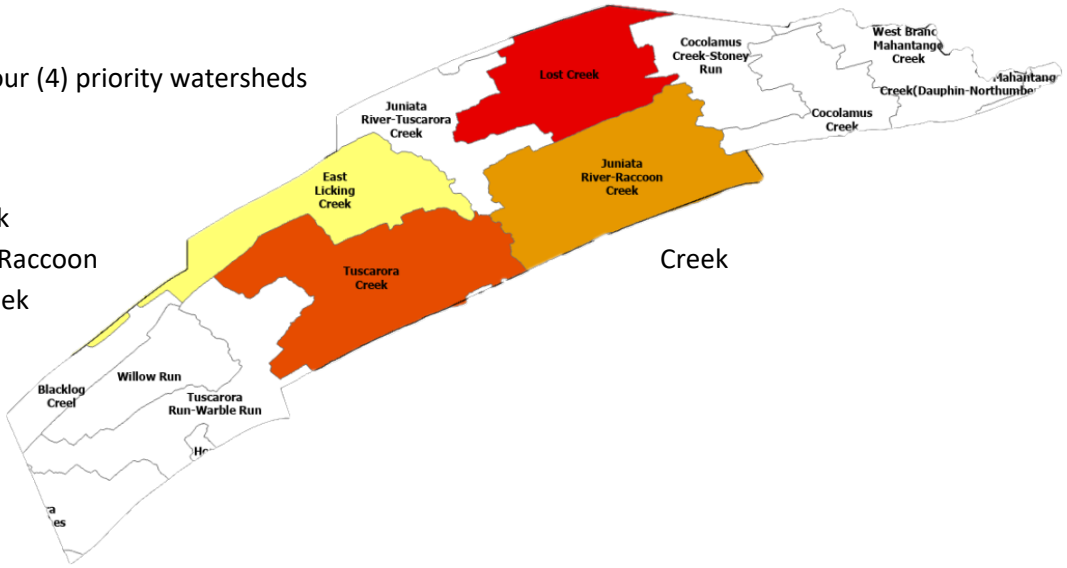


1. Sherman Creek – Cisna Run
2. Sherman Creek – Baken Creek
3. Buffalo Creek
4. Sherman Creek – Eastern County
5. Bargers Run
6. Sherman Creek – Headwaters

Juniata County:

In Juniata County the top four (4) priority watersheds are as follows.

1. Lost Creek
2. Tuscarora Creek
3. Juniata River – Raccoon Creek
4. East Licking Creek



Mifflin County:

In Mifflin County the top four (4) priority watersheds are as follows.

1. Honey Creek
2. Kishacoquillas Creek
3. Kishacoquillas Creek – Coffee Run
4. Jacks Creek