

# HRG

Herbert, Rowland & Grubic, Inc.  
Engineering & Related Services

AN EMPLOYEE-OWNED COMPANY

## BLAIR, CAMBRIA, FULTON, AND HUNTINGDON COUNTIES' COUNTYWIDE ACTION PLAN



### Submitted to:

BLAIR, CAMBRIA, FULTON, AND HUNTINGDON  
COUNTIES

ATTN: Mrs. Seleen Shives  
173 Snowy Lane  
McConnellsburg, Pa 17233

008545.0425

### Submitted by:

HERBERT, ROWLAND & GRUBIC, INC.

369 East Park Drive  
Harrisburg, PA 17111  
717.564.1121

Date: December 1, 2022

# TABLE OF CONTENTS

1. TABLE OF CONTENTS.....	1
2. STAKEHOLDERS INVOLVED.....	2
3. LEADERSHIP TEAM.....	3
4. PLAN HIGHLIGHTS .....	4-8
5. EXECUTIVE SUMMARY – COUNTYWIDE ACTION PLAN .....	9-13
6. SUMMARY OF CORRIDORS OF OPPORTUNITY .....	14-16

## COUNTYWIDE ACTION PLAN:

Southern Alleghenies Countywide Action Plan .....	17-77
---	-------

## PROGRAMMATIC RECOMMENDATIONS:

Programmatic Recommendations Template .....	78-89
---	-------

## BMP SCENARIOS:

Blair County BMP Scenario.....	90-91
Cambria County BMP Scenario.....	92-93
Fulton County BMP Scenario .....	94-95
Huntingdon County BMP Scenario .....	96-97

## CORRIDORS OF OPPORTUNITY:

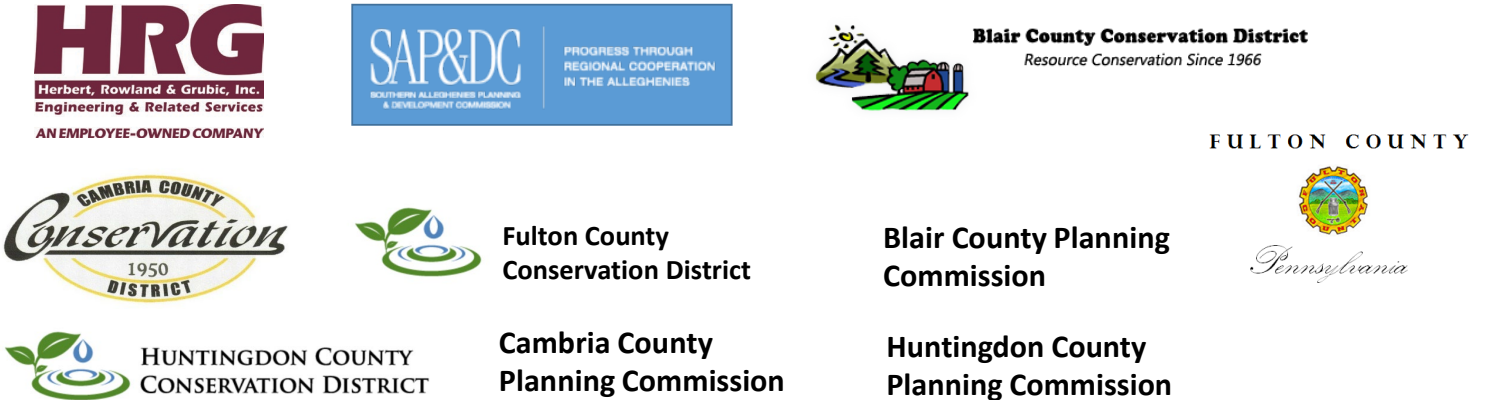
Blair County Corridors of Opportunity .....	98-108
Cambria County Corridors of Opportunity .....	109-119
Fulton County Corridors of Opportunity .....	120-130
Huntingdon County Corridors of Opportunity.....	131-142

## CAP TOP 5 MOST COST-EFFECTIVE INITIATIVES FLYER:

Southern Alleghenies Summary.....	143-144
-----------------------------------	---------

# Stakeholders Involved with the Southern Alleghenies Countywide Action Plan

## The Planning Team

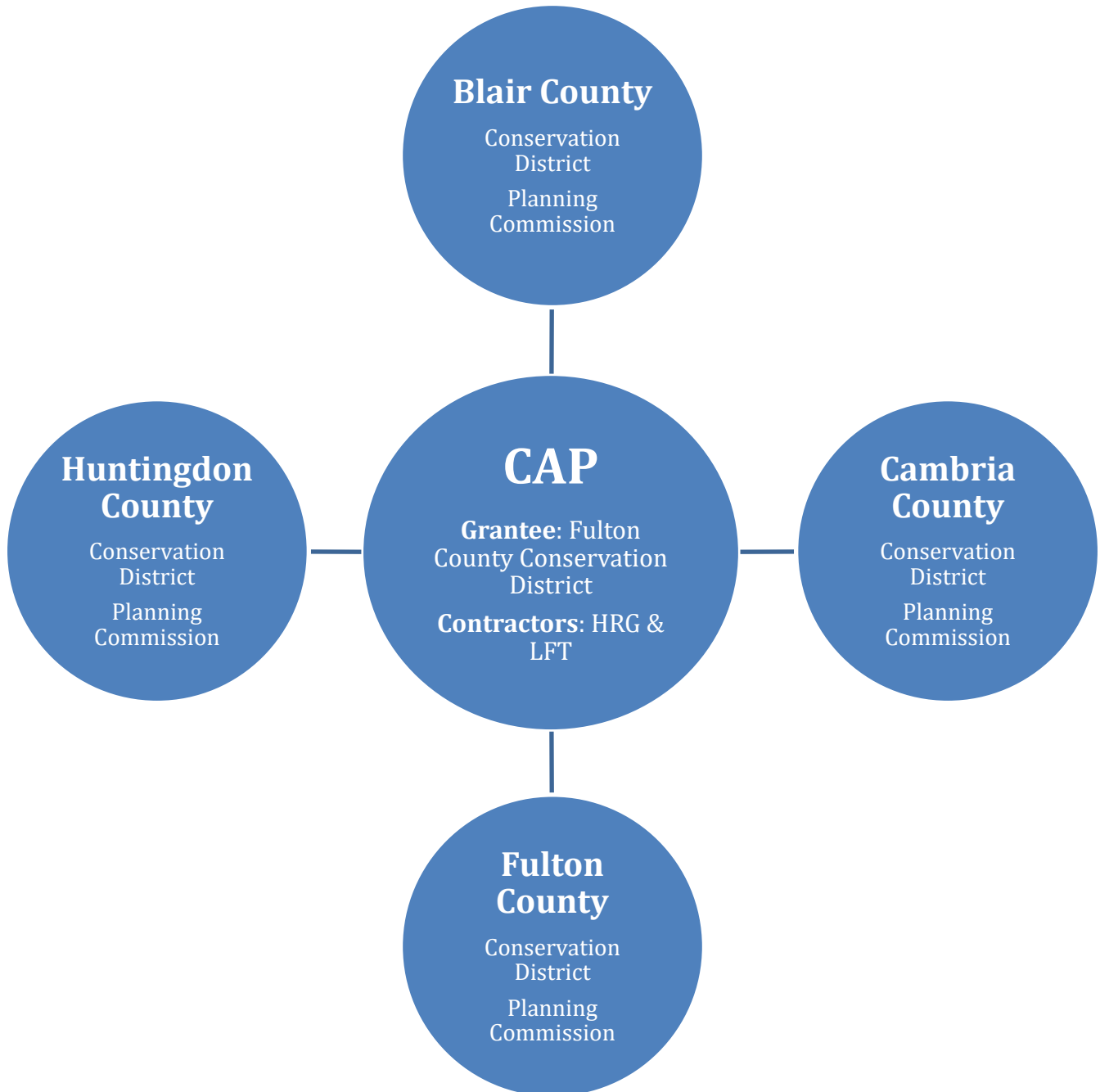


## The Partners



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

# Leadership Team: Blair, Cambria, Fulton, and Huntingdon Counties



## Southern Alleghenies Regional Executive Overview

### Plan Highlights

The Southern Alleghenies region consisting of Blair, Cambria, Fulton, and Huntingdon Counties were asked by the Department of Environmental Protection (PADEP) to participate in the Chesapeake Bay cleanup effort and develop a Countywide Action Plans (CAP) to reduce nutrients and sediment in local waterways. The Southern Alleghenies CAP provides a regional strategy for the four counties to partner together to achieve local clean water goals. The initiatives outlined in the plan will protect natural resources, promote agriculture sustainability, and increase conservation efforts. Local conservation efforts will benefit local communities throughout the Southern Alleghenies Region while assisting Pennsylvania with meeting its Chesapeake Bay requirements.

The counties were given the option to develop individual CAPs or develop a regional plan. The Southern Alleghenies Counties elected to develop a regional CAP to expand on existing partnerships in the Southern Alleghenies Region. Southern Alleghenies Planning and Development Commission (SAP&DC) and County Planning Departments from Somerset, Bedford, Cambria, Blair, Fulton, and Huntingdon Counties worked together on a regional comprehensive plan, called "[Alleghenies Ahead](#)," adopted by the counties in 2018. One of the regional priorities identified was for continued collaboration and coordination. So, when a regional approach was an option for CAP development, it was a natural next step to collaborate on this water quality improvement plan, too. Bedford County developed a CAP as a Tier 2 county in 2020, and Somerset County was not required to write a CAP, so the remaining four counties joined up through a Memorandum of Understanding. The regional approach on the "Alleghenies Ahead" Comprehensive Plan was successful in demonstrating how counties could work together to achieve common goals. The regional partnership also provides an opportunity to share resources to allow for cost effective implementation of the CAP.



The Southern Allegheny Region encompasses over 2,100 square miles of land and 4,400 miles of stream that all drain to the Chesapeake Bay. This land is represented by roughly 74% natural or forested land, 17% agricultural land, and 9% developed or urban land. Nutrients and sediment are generated from agricultural and developed lands, so roughly 26% of the land are the focus in the CAP. Of the 4,400 stream miles, approximately 10% of the region's streams are impaired with much of the impairment coming from Acid Mine Drainage (AMD). All these factors play into how much nutrients and sediment enter the Chesapeake Bay from the Southern Allegheny Region. PADEP estimated that in 2019 the Southern Allegheny Region was contributing 11.6 million pounds of nitrogen and 770 thousand pounds of phosphorus to local waterways on an annual basis. By 2025, these counties are looking to reduce 2.9 million pounds of nitrogen and 136 thousand pounds of phosphorus. The table below shows modeled estimates for pollutants in 1985 and 2019 along with the 2025 state goals for Southern Allegheny Region.

<b>Year</b>	<b>Nitrogen (pounds/year) delivered to Southern Allegheny waterways</b>	<b>Phosphorus (pounds/year) delivered to Southern Allegheny waterways</b>
<b>1985</b>	12,259,000	1,158,000
<b>2019</b>	11,635,000	770,000
<b>2025 Goal</b>	8,709,000	634,000
<b><i>Reduction Target</i></b>	<b><i>2,926,000</i></b>	<b><i>136,000</i></b>

To achieve the goals outlined above, the Southern Alleghenies CAP identifies priority initiatives and actions that support the region’s goal of protecting healthy streams and rivers while restoring waterways that need additional help. The CAP includes five priority initiatives that are broken into actions items with manageable and measurable goals. These action items will evolve over time based upon early plan implementation successes and changes in local priorities.

**Goals of the Countywide Action Plan**

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 County clean water goals. Where not managed properly, agricultural land releases nutrients and sediment into local waterways similar to other land uses. Many goals in Priority Initiative #2 focus on determining what steps local farmers 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**

The Southern Alleghenies Planning Team connected with over 200 stakeholders from across the region. A few common themes were identified through these discussions that informed the development of the CAP. Below are the themes identified by various stakeholders:

- Keep high quality water high quality. The Southern Allegheny Region is full of headwater watersheds that contain high quality and exceptional value streams. Most funding programs are dedicated to impaired stream segments. It is important for the Southern Allegheny Region to continue to put efforts toward protecting existing healthy waters.
- Southern Allegheny Region is a community of action! Many individuals and organizations are already taking steps to clean up local waterways. The CAP helps by fostering new connections and leveraging resources to reach common goals (water quality and otherwise).

- Monitoring water quality matters. The region must continue to monitor water quality to ensure management actions are working and to geographically focus efforts to the most impaired watersheds. Expanded assessment by PADEP in areas that have not been fully assessed will assist the regional with long-term water quality improvement/protection.
- Regional partnerships are key. The Southern Allegheny region already collaborates on existing efforts like Alleghenies Ahead, which demonstrates the power of working together to share resources and funding. Limited resources can stretch further if 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, new funding streams are critical. The implementation team is working to identify actionable solutions from across the public and private sectors.

### **Opportunities for Success**

Many opportunities for success in Southern Allegheny Region 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 Southern Alleghenies CAP can achieve.

#### **Short Term:**

- Continue to implement the Pollutant Reduction Plans in MS4 communities.
- Continue to expand cover crop incentive programs to engage more landowners.
- Begin Phase 2 of remote sensing and BMP verification to document and report practices.
- Explore gaps in water quality monitoring to develop a more robust water quality monitoring plan.
- Engage landowners willing to implement projects to begin funding applications.

#### **Long Term:**

- Set-up a regional technical assistance program to serve the needs of farmers and landowners in all four counties.
- Establish a program to rapidly delist catchments associated with the update of the Juniata River Watershed Management Plan.
- Work with over 400 new farmers to write and develop conservation and nutrient management plans.
- Identify some private funding sources that may be able to supplement public funding sources/existing sources utilized for 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 column in the planning template, the programmatic recommendations template suggests solutions to overcome many of the identified challenges. The following challenges are common topics throughout many of the action items and, if not addressed, will stall progress.

**Funding:** The Southern Alleghenies CAP is estimated to cost approximately \$300 million over five 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 Southern Alleghenies CAP proposes 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 Southern Alleghenies CAP 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 other related disciplines.

**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 on their property is voluntary. Faced with competing priorities for their land and the fact that best management practices 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. In order to overcome these challenges, incentive payments and market-driven outcomes must be 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 in a timely manner. If permit application submittals need to be of higher quality to accelerate processing, training should be provided to practitioners.

**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, or are part of another regulatory reporting avenue, is challenging with available technologies and data sharing constraints. As a result, many projects continue to go unreported, and farmers aren't getting recognition for their conservation efforts. The current system of one-on-one farms visits to catch up on best management practice (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, so 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 practices continue to improve.

Additional challenges are listed withing 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 Summary

The Southern Alleghenies CAP focuses implementation across five (5) priority initiatives that will result in water quality improvements: 1) County programmatic initiatives, 2) reporting and tracking, 3) achieving new pollutant reductions – individual counties, 4) achieving new pollutant reductions – regionally, and 5) research, education, and training. Each of these priority initiatives is broken down into action items that result in improvements to water quality. The CAP establishes a regional framework to guide implementation partners and County teams on how to be strategically successful in restoring and protecting water quality. Many of the initiatives are designed to be regional in nature and involve more than one of the counties. Each county that is involved in an initiative is denoted through color coding and an identification of (B) Blair, (C) Cambria, (F) Fulton, and (H) Huntingdon following the action item. Finalization of the CAP is the beginning of a multiyear implementation effort that will adapt over time. Additional funding and resources are critical components to the CAP success and are detailed in each action item.

### Priority Initiative 1: Regional Programmatic Initiatives

Priority Initiative 1 of the Southern Alleghenies CAP includes regional programmatic initiatives that support or identify water quality goals that are already in progress within 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, and others. 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 five (5) action items listed in the County Programmatic Initiatives section of the CAP.

- Action 1.1A/B/C Implement County Comprehensive Plan policies and actions
  - Conserve 11,900 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 1.5 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 Continue to Implement County Farmland Preservation Programs
  - Preserve 5,690 acres of farmland by 2025, secure additional funding to support goals
- Action 1.7 Establish Funding to Support the Agricultural Community
  - Work with 425 farms by 2025 to ensure they follow required agricultural conservation and nutrient management plans

- Action 1.10 A/B Create a Regional Water Quality Communications Plan
  - Develop a communications plan leveraging existing plans and organizations to ensure 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 Southern Alleghenies CAP 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. All landowners, operators, and partners deserve recognition for the work they are doing, so in order 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 Existing BMP Cataloguing
  - Identify the location of BMPs through manual and automated digitizing using high resolution aerial imagery and perform field visits where on-the-ground verification is required by regulators
  - Upload BMP implementation data into PracticeKeeper and FieldDoc, as appropriate
- Action 2.5 Improve Agricultural BMP Reporting Utilizing Existing Platforms
  - Increase reporting of plans in PracticeKeeper
  - Work with Capital Resource Conservation and Development (Capital RC&D) and Penn State University (PSU) Producer Survey to produce more complete results

### **Priority Initiative 3: Achieve New Pollutant Reductions – Individual Counties**

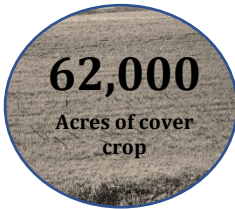
Priority Initiative 3 of the Southern Alleghenies CAP identifies action items in each county that are a part of existing programs or plans. Individual action items include initiatives such as Watershed Implementation Plans (WIPs), Section 319 WIPs, Alternative Restoration Plans, Coldwater Conservation Plans, etc. Each county has its own subsection within Priority Initiative 3. Below is brief overview of the action items for each county.

- Blair County
  - Implement the Plum Creek and Sugar Run Restoration and Preservation Plans, work with the Trout Unlimited non-point source technical assistance program, implement the National Fish and Wildlife Foundation Innovative Nutrient and Sediment Reduction grant received in 2021, explore watershed implementation plan development for Spencer Run, and work with the Altoona Regional Digester to document nutrients processed
- Cambria County
  - Implement the Cambria County Conservation District Strategic Plan and implement the Brubaker Run Coldwater Conservation Plan

- Fulton County
  - Develop watershed restoration plans for Big Cove Creek and Cove Run
- Huntingdon County
  - Implement the Miller Run and Standing Stone Creek Cold Water Conservation Plans and Shoups Run 319 WIP; partner with Juniata University Urban Tree Initiative; explore options for developing a watershed restoration plan for Great Trough Creek, Dudley Discharge, Fort Run and Warriors Run

## Priority Initiative 4: Achieve New Pollutant Reductions – Individual Counties

Priority Initiative 4 of the Southern Alleghenies CAP identifies action items that results 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 the quality of 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 regulations 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 regulations for farmers and landowners who have farm animals. Nutrient Management Plans help with properly applying animal manure to cropland while maximizing the benefits to soil health. Conservation Districts, 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 5: Research, Education and Training**

Priority Initiative 5 of the Southern Alleghenies CAP focuses 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 CAP. 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 levels 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 summary and the detailed Southern Alleghenies CAP. 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 enhancements through additional allocations, 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 project implementation
- Action 1.23 – Create a statewide cover crop incentive program
- Action 1.33 – Institute a bi-annual remote sensing program to increase reporting and verification of practices

## Corridors of Opportunity








The Countywide Action Plan requires broad scale planning across entire county jurisdictions. Although the most effective planning efforts may be accomplished at a jurisdictional level, implementation of the plan can be more 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 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 effective results.

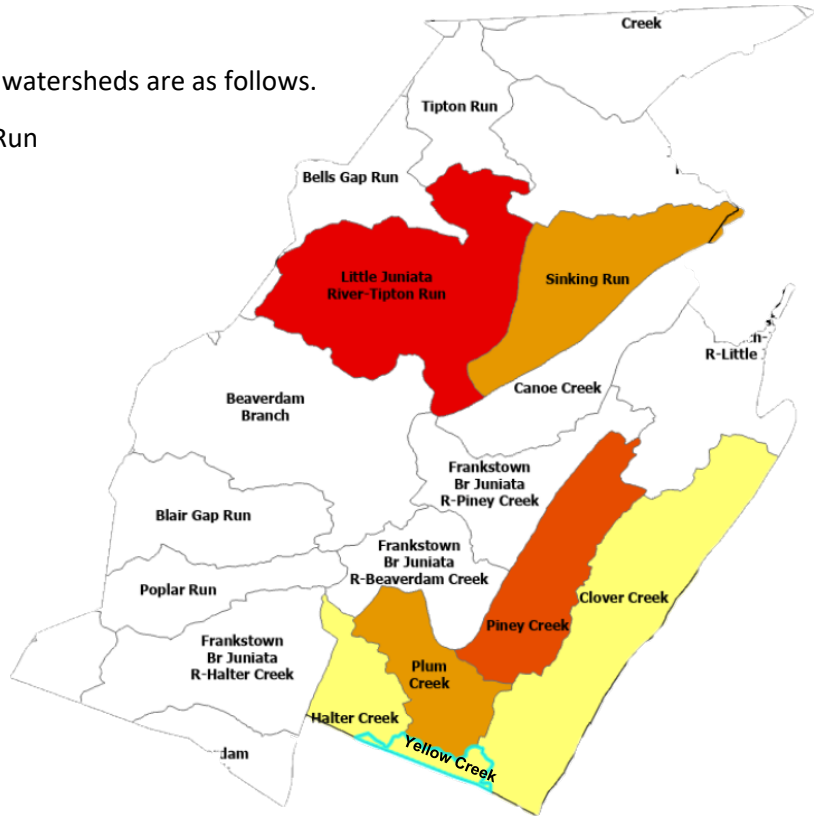
1. *Existing Total Maximum Daily Load (TMDL) & Impaired Stream Miles:* does a watershed have an existing TMDL? If so, what does the TMDL address? How many miles of impaired streams are in the watershed?
2. *Total Nitrogen:* Based on the Chesapeake Bay Programs top 25% nitrogen loading rates along with [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 this 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 effective water quality improvements and leverage the most co-benefits.

**Blair County:**




In Blair County the top seven (7) priority watersheds are as follows.

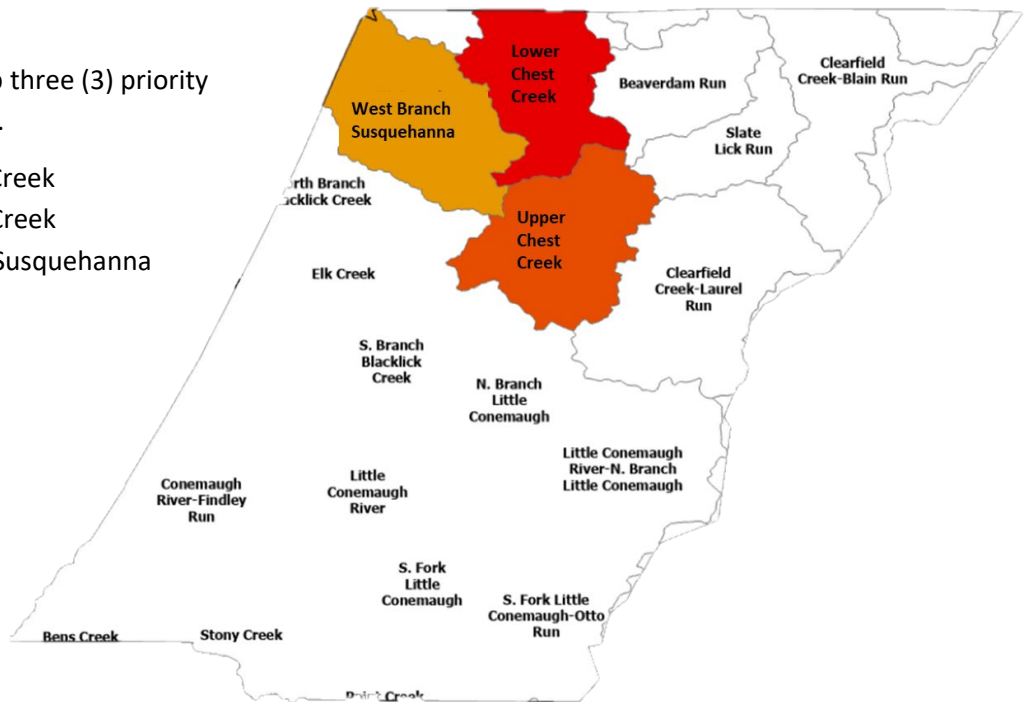
-  1. Little Juniata River – Tipton Run
-  2. Piney Creek
-  3. Plum Creek
-  4. Sinking Run
-  5. Halter Creek
-  6. Clover Creek
-  7. Yellow Creek



**Cambria County:**

In Cambria County the top three (3) priority watersheds are as follows.






-  1. Lower Chest Creek
-  2. Upper Chest Creek
-  3. West Branch Susquehanna

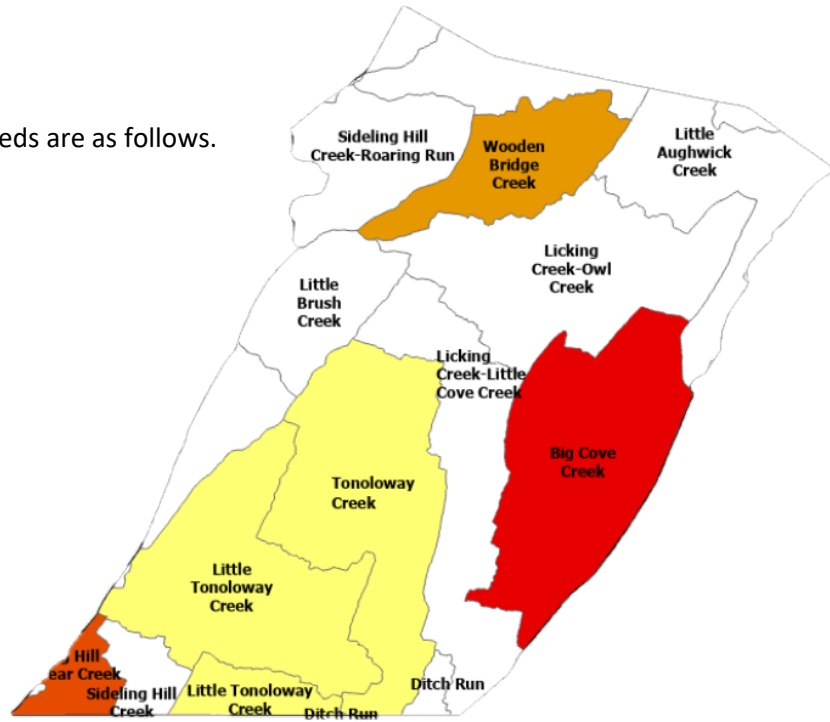




**Fulton County:**

In Fulton County the top five (5) priority watersheds are as follows.

-  1. Big Cove Creek
-  2. Sideling Hill Creek – Bear Creek
-  3. Wooden Bridge Creek
-  4. Tonoloway Creek
-  5. Little Tonoloway Creek



**Huntingdon County:**

In Huntingdon County the top seven (7) priority watersheds are as follows.

-  1. Warriors Mark Run
-  2. Shaver Creek Gregory Run
-  3. Shaver Creek
-  4. Saddler Creek
-  5. Crooked Creek
-  6. Little Juniata River
-  7. Raystown Lake

