Countywide Action Plan Overview
Clearfield County

Plan Highlights

The Clearfield Countywide Action Plan is the most comprehensive local plan that has ever been completed to address local and state water quality issues within Clearfield County. This plan represents the roadmap for Clearfield County to follow to achieve pollution reduction goals that will improve water quality, recreation, and quality of life. The planning process, competed by Clearfield County Conservation District, involved meeting with over 100 stakeholders to add ideas, initiatives, and build partnerships that were not previously known. Over 1000 hours of work has gone into the development of this plan and over 100 priority initiatives have been developed that represent the most cost effective and locally needed best management practices (BMPs). Over the past 9 months, we have held over 30 meetings with the agricultural sector, urban/developed sector, and conservation organizations to collect ideas, opinions, and current work goals to ensure the most efficient implementation of this plan and reduce duplication of efforts. The implementation of this plan will be critical to the restoration of waterways, reduced flooding, and increased recreation both locally and throughout the Chesapeake Bay Watershed overall. Partners, stakeholders, landowners, and organizations are ready to take on the goals, and through strategic planning and partnerships the water quality improvements will create a better Clearfield County for generations to come.

Key Findings

During the development of the CAP plan there were a variety of key findings identified. The first and most obvious finding was that there is a severe lack of funding in all organizations and programs that could be used to implement the plan. Nearly every organization we spoke with identified funding as the limiting factor in their current efforts. The next was the inaccurate representation of land use in Clearfield County that is impacting our BMP implementation rates and loading values. The misclassification of strip mine, pipelines, gas wells, turf, and stream corridors as agricultural land use resulted in an extremely inaccurate representation of the land available to implement BMPs and impacted the total loading rates for the county. Another key finding was the need for programmatic, regulatory, and policy changes that are needed to properly implement the plan and achieve pollution reduction goals. Along the same line was the need for improvements to the current funding program administration and structure, that would allow for accelerated implementation of BMPs and improved water quality. Next was the need for centralized transparent reporting. Each organization's programs are being tracked in different ways, and progress that has been reported by some organizations is not being shared with other partner organizations, resulting in a large duplication of efforts, and lost opportunities to implement more BMPs. Another key finding was the need for abandoned mine land remediation and drainage treatment to be incorporated into the Bay model. Clearfield County has the most abandoned mine land in Pennsylvania, and AML/AMD treatment is not receiving water quality improvement credit. Key findings that were encouraging are the development of previously unknown partnerships between organizations, and new partnership opportunities for implementing BMPs in the future.

Opportunities for Success

The CAP plan development in Clearfield County identified several key opportunities for successfully improving water quality, increasing recreation, and quality of life for residents of Clearfield County. The first and most obvious was the enhancement of current partnerships already in place with Trout Unlimited, Western Pennsylvania Conservancy, Susquehanna River Basin Commission, PA Fish and Boat Commission, Department of Conservation and Natural Resources, and US Department of Agriculture to implement water quality programs. Discussions about the CAP goals and initiatives led us to decisions about our strengths and weaknesses, and how we can build upon our current programs to accelerate progress. Another encouraging opportunity was the rekindling of old partnerships with North Central PA Conservancy, WPC – Land Conservation Staff, American Rivers, and Headwaters RC&D Council, and the future projects that will come from the CAP process. Notably, there were many new partnerships formed between municipal authorities and engineering firms that will accelerate urban BMP installations and build upon programs that were not previously known. Another discovered opportunity for success was the mutual initiatives that can leverage funding to achieve greater pollution reduction results. These mutual initiatives were previously unknown and will be implemented through strategic planning and grant applications. The final most notable opportunity for success is the targeted education about CAP priorities that is needed to accelerate implementation.

Challenges to Implementation

The CAP planning process identified a variety of challenges to the plan implementation. The first and most important is lack of funding support to implement the initiatives within the plan. Every discussion with stakeholders and partners led to the topic of the obvious lack of funding. Currently available local, state, and federal funding does not even come close to the amount of funding that is needed to properly implement this plan, and success will not be achieved without a major investment in grant funds from state and federal sources. The second most important challenge to implementation was the lack of staff resources to implement the plan. The CAP planning team is strong, and there is a wealth of technical expertise to implement the plan, but without future funding support for plan implementation the plan will lead to intended progress. Staff resources of every organization and agency are already operating at or near maximum capacity for program administration and support, with not much available time to increase workload to implement the BMPs within this plan. The technical knowledge shared is immense but like most things, time and money are the limiting factors to success. The third most notable challenge is the lack of local, state, and federal financial, and legislative support. Current programs, laws, and policies are dated and need legislative updates and increased financial and technical resources. Without the support, these plans will not make progress and efforts will stall. The next most important limiting factor to the implementation of the CAP plan is the lack of landowner support and the ideological barriers that still exist in communities against environmental improvement projects. The implementation of plan initiatives can only be achieved if time and resources are utilized educating and providing targeted outreach to increase landowner buy in and participation. The final challenge is the timeframe to implement the planned initiatives. There is no doubt that the CAP plan will accelerate progress, but the

implementation of the initiatives within the plan is simply not achievable by 2025. Considering that the administration of one environmental restoration grant, from initial application to final grant closeout, takes approximately 4-5 years the full implementation of the plan by 2025 is clearly not achievable in the current state of financial resources and work to be done. Regardless, this plan will guide efforts and resources in the most efficient way possible, resulting in improved water quality for everyone.

We would like to thank the following organizations for their work and expertise though the development of the plan.

Clearfield County Commissioners
Clearfield County Planning
Clearfield Municipal Authority
USDA Natural Resource Conservation Service
USDA Farm Service Agency
Western Pennsylvania Conservancy
North Central PA Conservancy
Chesapeake Conservancy
PA Department of Environmental Protection
Clearfield County Farm Bureau
Clearfield County Farmers
Trout Unlimited
PA Fish and Boat Commission
SRBC
DCNR
Townships and Municipalities of Clearfield County
Army Corp of Engineers
American Rivers
American Water
Headwaters RC&D
Moshannon Creek Watershed Association
Clearfield County Farmland Preservation
St. Francis University

Plan Summary (2 to 3 pages)

Priority Initiative 1: County Programmatic Initiatives

1.0 Implement County Farmland Preservation Program with Farmland Preservation Program incentives enhancement
1.1 Chesapeake Bay Technical Inspection/ Plan Data Gathering
1.2 Nutrient Management/Manure Management Delegation Agreement
1.3 Continue Development of Agricultural Plans
1.4 Develop and implement no-till verification from CD district rental program
1.5 Continue to implement and Increase capacity of no-till program
1.6 Increase amount of Chlorophyll testing and PSNT testing on corn acres
1.7 Develop new Watershed Restoration Plans
1.8 Update existing watershed restoration plans as needed
1.9 Update and Implement County Hazard Mitigation Plan
1.10 Update County Comprehensive Plan
1.12 Develop Countywide Act 167 Plan
1.13 Support PA AML campaign
1.14 Conservation Priority Plan for County

Priority Initiative 2: Reporting & Tracking

2.0 Initiate additional water quality monitoring sites that promote long-term trend evaluation at key locations in Clearfield County
2.1 Establish baseline of current practices for comparison with future implementation
2.2 Identify future ag/urban project opportunities using GIS Technologies
2.3 Increase reporting of Nutrient management BMPs through Chlorophyll testing and PSNT testing on corn acres
2.4 Document water quality improvements and biological improvements downstream of BMP project sites

Priority Initiative #3: Achieving New Pollutant Reduction Goals

Agriculture

3.0 Project management staff
3.1 Develop and Implement Nutrient Management BMPs
3.2 Implement BMPs in current Act 38 Plans
3.3 Develop and Implement Soil Conservation Plans
3.4 Low and no-till tillage BMPs
3.5 Cover Crops
3.6 Plan and Install pasture management BMPs
3.7 Plan and Install Ag Riparian Buffer BMPs
3.8 Implement more barnyard runoff control/loafing lot management/ag stormwater management
3.9 Animal waste management BMP implementation for livestock
3.10 Accelerated implementation of grassed waterways on critical runoff areas in priority watersheds.
3.11 Agricultural Land Retirement

Urban

3.12 Install 225 acres treated of "infiltration practices" (infiltration basins, infiltration trenches)
3.13 Install 150 acres of permeable pavement
3.14 Treat 375 acres of impervious developed land use with bio retention and rain gardens
3.15 Treat 150 acres of developed land use with wet ponds and wetlands
3.16 Convert 225 acres of urban turf grass to Conservation Landscape/Turf to Meadow Conversion
3.17 Install urban riparian buffers on private and public lands
3.18 Increase Urban Tree Canopy
3.19 Curwensville Lake Tree Planting
3.20 Increase Urban Forest Planting
3.21 Runoff Reduction Performance Standard and Storm Water Treatment Performance Standard Implementation
3.22 Impervious surface reduction projects (10 acre goal)
3.23 Implement Urban Nutrient Management
3.24 Impervious Disconnection (100 acres)
3.25 Septic and Wastewater Improvement and Developments

Landscape BMPs

3.26 Wetland Installation and restoration
3.27 Stream Restorations
3.28 Floodplain Restoration
3.29 Continue Dirt and Gravel Road program
3.30 Increase capacity of Dirt and Gravel Road Projects with additional funding
3.31 Waterway Obstruction Removal
3.32 Farmland Conservation
3.33 Forest Conservation
3.34 Wetland Conservation
3.35 Recreational Access Developments

AMD Treatment /AML Reclamation/Sediment Reduction

3.36 AML Reclamation
3.37 Implement Upper West Branch Susquehanna Rivers Conservation Plan
Implement Upper West Branch Susquehanna QHUP
3.38 Implement PFBC Susquehanna River Management Plan
3.39 Implement Chest Creek Assessment and Restoration Plan
3.40 Implement Spring Run and Snyder Run Coldwater Conservation Plan
3.41 Implement Rogues Harbor Run Coldwater Conservation Plan
3.42 Implement Kratzer Run Assessment and Coldwater Conservation Plan
3.43 Implement Anderson Creek WIP (including Little Anderson Creek WIP Update of 2020/2021)
3.44 Implement Hartshorn Run WIP
3.45 Implement Montgomery Creek WIP (including 2021 update)
3.46 Implement Lick Run Coldwater Conservation Plan
3.47 Implement Trout Run Watershed Acid Deposition Assessment and Restoration Plan
3.48 Implement Potts Run Coldwater Conservation Plan
Implement Potts Run AMD Restoration Plan
Implement Qualified Hydrologic Unit Plan for the Potts Run Watershed
3.49 Implement the Morgan Run Watershed Mine Drainage Assessment and Restoration Plan
Implement Morgan Run 319 WIP (under development 2021)
Implement Qualified Hydrologic Unit Plan for Morgan Run watershed
3.50 Implement the Muddy Run Watershed AMD Restoration Plan
3.51 Implement projects identified as priorities in the Clearfield Creek Assessment
3.52 Implement recommendations of Acid Mine Drainage Assessment of Valley Forks Run study

3.53 Implement Hubler Run WIP
3.54 Implement Moravian Run Restoration Plan
3.55 Implement Deer Creek Watershed Implementation Plan
3.56 Implement recommendations from Potter Run AMD Watershed Assessment
3.57 Implement recommendations from Rupley Run AMD Watershed Assessment
3.58 Implement Emigh Run Watershed Mine Drainage Assessment and Restoration Plan
3.59 Implement Shimel Run Mine Drainage Assessment and Restoration Plan
3.60 Implement Moshannon Creek Headwaters Mine Drainage Assessment and Restoration Plan
Implement Moshannon Creek Phase II Mine Drainage Assessment and Restoration Plan
Implement Moshannon Creek Headwaters Coldwater Conservation Plan
Implement recommendations from Moshannon Creek Reassessment Coldwater Conservation Plan (under development 2021)
3.61 Implement Sinnemahoning Creek Watershed Conservation Plan
Implement Bennett Branch Sinnemahoning Creek QHUP
3.62 Implement outstanding TU Technical Assistance Recommendations
3.63 Acid Deposition Remediation

Priority Initiative #4: Research, Education & Training

4.1 Local studies of agricultural BMPs to assess impacts to profitability
4.2 4R Practice Education
4.3 On Farm BMP showcase field days
4.4 On Farm Soil Health field days
4.5 Farmer to farmer training and outreach events that increase success of no till and cover crops
4.6 Grazing Education
4.7 Increase the usage of nutrient monitoring technologies on farms
4.8 Legislative field days and education
4.9 Riparian Buffer Education
4.10 Land Conservation and Preservation Education
4.11 Climate Change Education
4.12 Update economic benefits of AMD treatment
4.13 Public education events about urban stormwater practices
4.14 Urban Nutrient Management Education
4.15 Education about stormwater issues and benefits of stormwater remediation
4.16 Developer and Engineer Education Events
4.17 Promote Carbon Credit Program participation to increase no-till and cover crops

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Agricultural Best Management Practice Implementation Amounts for Clearfield County Based on Recommended State Implementation Rate					
Best Management Practices	**2019 Implementation**	**State Recommendations**	**Clearfield County Goals**	**Difference Between Scenarios**	**Units**
Ag Compliance					
Conservation Plans	3362	26800	26800	0	acres
NM N Core Manure	2222	23800	23800	0	acres
NM P Core Manure	715	7500	7500	0	acres
Barnyard Runoff Control	15	0	6	6	acres
Soil Health					
High Residue Tillage	1912	7100	10000	2900	acres
Conservation Tillage	1135	2700	2700	0	acres
Traditional Cover Crop	744	1300	2000	700	acres
Cover Crop with Fall Nutrient	0	4200	5000	800	acres
Prescribed Grazing	225	2800	4000	1200	acres
Horse Pasture Management	0	0	1000	1000	acres
Off Stream Water Systems	0	0	100	100	acres
Low disturbance manure incorp	0	0	1700	1700	acres
Interseeded Cover Crop	0	0	1000	1000	acres
Expanded NM					
NM N Core Fert	0	2300	2300	0	acres
NM P Core Fert	0	875	875	0	acres
NM Rate N	522	2800	2800	0	acres
NM Rate P	0	2800	2800	0	acres

NM Placement N	0	3600	3600	0	acres
NM Placement P	0	2800	2800	0	acres
NM Timing N	0	4000	4000	0	acres
NM Timing P	0	2800	2800	0	acres
Manure Storage					
Manure Storage Facility	628.50	1900	1900	0	AEUs
Manure Storage Facility (Poultry)	0	0	450	450	AEUs
Diary Precision Feeding					
Precision Feed Management		110	0	-110	AEUs
Integrated System for Elimination of Excess					
Manure Transport	0	0	0	0	tons
Manure Compost	0	0	3000	3000	tons
Ag Riparian Zones					
Forested Riparian Buffer	59.78	680	285	-395	acres
Forested Riparian Buffer with exclusion fence	0.26	440	250	-190	acres
Grass Riparian Buffer	14.35	380	285	-95	acres
Grass Riparian Buffer with exclusion fence	4.08	150	250	100	acres

Urban and other Landscape Best Management Practice Implementation Amounts for ClearfieldCounty Based on Recommended State Implementation Rate					
Urban Riparian					
MS4 Riparian Forest buffer	0	2	0	-2	acres
Non-MS4 riparian buffer	0.99	110	100	-10	acres
Urban Stormwater					
Impervious Surface Reduction	0	0.55	10	9.45	acres
Stormwater Performance Standard -RR	0	0	150	150	acres
Filter Strip Runoff Reduction	0	0	50	50	acres
Wet Ponds and Wetlands	0	0	150	150	acres
Infiltration Practices w/o Sand, Veg. - A/B soils, no underdrain	0	0	225	225	acres
Permeable Pavement w/o Sand, Veg. - A/B soils, no underdrain	0	0	150	150	acres
Impervious Disconnection to amended soils	0	0	50	50	acres
Bioswale	0	0	225	225	acres
Bioretention/ raingardens	0	0	375	375	acres

- A/B soils, no underdrain					
Woods and Pollinator habitat					
Conservation Landscaping		170	170	0	acres
Urban Forest Planting		170	170	0	acres
Septic					
Septic Connections	0	0	3000	3000	New Connections
Urban Tree Planting					
Urban Tree Canopy	0.67	3	3	0	acres
Urban Nutrient Management					
Urban Nutrient Management Plan	0	3000	0	-3000	acres
Forest Farm and Natural Area Conservation					
Farmland Conservation		900	900	0	acres
Forest Conservation		6800	6800	0	acres
Wetland Conservation		340	340	0	acres
Stream and Wetland Restoration					
Urban Stream Restoration	0	26700	26700	0	ft
Non-Urban Stream Restoration	3491	10200	10200	0	ft
Wetland Restoration	18	50	50	0	acres
Abandon Mine Reclamation	407	0	24000	24000	acres
Dirt and Gravel Road E&S Control	57047	0	500000	500000	ft