

| 2025 Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – DAUPHIN COUNTY | | | | | | | | | | | | |
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| Priority Initiative 1: County Programmatic Initiatives | | | | | | | | | | | | |
| 1.1 | Advance the Dauphin County Regional Water Resource Enhancement Program | Finalize intergovernmental cooperation agreement and sign-up municipalities for participation Identify early actions valued most by participating municipalities | All municipalities in Dauphin County | Countywide | 2021 finalize intergovernmental cooperation agreement 2022 identify early actions | Commitment from all municipalities to work together to address water quality and flooding issues, jointly. Logistical challenges of geographies divided by multiple watershed boundaries. Uncertainty of future MS4 regulations that would impact the anticipated cost savings. | Planning, grant writing, coordination | | 1 – FTE Clean Water Coordinator for Planning Commission | \$130,000 per year \$1M line of credit – startup funding | 2025: WREP has continued with activities and has grown to now include 11 municipalities with the addition of Penbrook Borough. There is an RFP to conduct a comprehensive BMP inventory, that is anticipated to be undertaken in 2026. WREP also has filed various grant applications for stormwater water quality and stormwater projects. A total of three projects identified for potential funding. Currently, WREP is awaiting announcements of awards. WREP continues to undertake educational and outreach events including sponsorship in workshops and County watershed and wetland festivals. 2024: The 10 municipalities involved in WREP have continued to meet on a regular basis. These Municipalities have been collaborating on a priority project study, reviewing public outreach methods, MS4 meet ups and coordinated training and exploring alternative for a regional joint water improvement project which would help meet MS4 Permit requirements, reduce flooding and improve water quality. 2023: The 15 municipalities involved in WREP have continued to meet on a regular basis. These meetings will determine the components of the 2024 WREP program which will lead to urban BMP implementation with a focus on flood resilience with MS4 credit being a co-benefit in the next permit term. 2022: The intermunicipal agreement was finalized on 8/17/22. Outreach to all municipalities will proceed this summer with advisory committee meetings projected to occur during 2022 Q4. | |
| 1.2 | Advance local comprehensive planning efforts Implement existing Source Water Protection Plans | Consider intersection of areas of high nitrates in GW (use Conservation District Data), source water protection support from DEP, and develop communication strategy with municipal and landowner stakeholders in mind for BMP goals and quantitative action | Northern Dauphin Municipalities and Authorities, PADEP Bureau of Safe Drinking Water, DCCD | Wiconisco Creek watershed Other watersheds where feasible | 2022 – review raw water chemistry data to better quantify need and potential cost savings for treatment (DCCD Data) | Reinforcing the municipal role in coordinating with the water authorities to perform education and outreach. Landowner connection of farming activities to water supply needs in downstream municipalities. | Coordination of meetings and continued education. | | 1 – FTE Clean Water Coordinator for Planning Commission Source Water Protection Plan development | \$130,000 per year \$100,000 | 2025: The Dauphin County Comprehensive Planning process is underway. 2024: HRG is looking into Municipal Source Water areas for potential projects to promote higher water quality in these areas for future project implementation. Also, the Dauphin County Comprehensive Planning process will initiate in 2025. 2023: No progress to date. 2022: No progress to date. | |

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| 1.3* | Evaluate areas to establish riparian buffers to stabilize stream banks and limit encroachment | Utilize public data sets (future Chesapeake Conservancy?, PSU) to identify buffer gap project opportunities | Municipalities, Conservation District, Chesapeake Bay Foundation, Doc Fritchey Chapter Trout Unlimited, Capital Area Greenbelt Association, Tri-county Conewago Creek, Greening the Lower Susquehanna, Manada Conservancy, Paxton Creek Watershed and Education Association, Susquehanna Greenway Partnership, Dauphin County Woodland Owners Association | Countywide, Detweiler Park (demonstration BMPs), larger-sized municipal parks/public lands | 2022-2025 (MS4 support) 2026-beyond (all municipalities) | Adopting ordinances, may require a pilot project in a willing municipality to demonstrate success. Lack of technical assistance to support implementation goals for forest buffers. Buffer funding programs must include 5-10-year minimum maintenance plan, incentive money for landowners, or with volunteers to establish the buffer. | Landowner outreach; on the ground riparian project execution | | 1 – FTE Clean Water Coordinator for Planning Commission 1 – Additional Watershed Specialist for Conservation District | \$130,000 per year \$130,000 per year Expand Buffer Bonus Program to provide \$10,000 per acre of buffer installed to include 5-year maintenance contract \$220,000 total | 2025: The Hershey Buffer Project installed a 2.75 acre riparian buffer. The South Crawford Rd Stream Restoration Project, a Dauphin Subaward recipient, will install 1.4 acres of riparian buffer in early 2026. A potential small buffer/shrub and or meadow to lawn conversion has been identified. 2024: A site was identified and visited in November of 2023. The project is still pending on if it will move forward going into 2025. 2023: Utilizing CAP funds, DCCD is installing 3.5 acres of buffers across two sites in Spring 2024. A 2024 project has been identified with the Manada Conservancy which will account for 6+ acres of buffers. HRG continues to foster the relationship with PSU Ag and Enviro. Center's Riparian Ranger program through offering training sites and helping to recruit members. 2022: DCCD has a few buffers planned to be implemented within the next year from a legacy of landowner outreach with little success in funding. Staff turnover is going to make next steps a challenge, but the project information is available for CD and HRG staff to advance the lead. Ag producers are looking to plant buffers as well, the largest being 11-12 acres. To be planted within the next year. | |
| 1.4 | Implement County Hazard Mitigation Plan & Emergency Management Plan | See 2021 Hazard Mitigation Plan for flood trouble spots for municipalities, review PENNDOT Paxton Creek study for next steps and potential for FEMA BRIC funding | Municipalities, Planning Commission, Dauphin County Emergency Management, Local Emergency Management Agencies, Public Works Departments | Countywide Work with emergency management plan to identify flood prone areas. Millersburg Borough/Upper Paxton Township? | 2022 – review trouble spots and other stormwater drainage pinch points and include on a GIS map for regional project strategy | Flood controls can, if considered in design and maintained, capture pollution. Large scale projects are likely needed, which can be expensive and require large parcels of land to make a difference. Consider pairing up flood mitigation with a resilient park concept so that during dry weather, the general public can enjoy the area. | CRS program guides | | 1 – FTE Clean Water Coordinator for Planning Commission Planning, engineering, permitting, construction Flood elevation certificates for program entry 3– Municipal Planners | \$130,000 per year \$5,000,000 \$390,000 per year | 2025: Hazard mitigation plan was approved by the state in July and County Emergency management beginning to work towards implementation of recommendations. Also continued working with WREP as flooding was considered the number one hazard within County. 2024: The 2024 Hazard Mitigation Planning and plan update is underway. Additional funding received through PEMA to be utilized by the WREP program to model potential projects identified as problem flooding area. Annual review of current plan occurred in November. 2023: Annual review is scheduled for September 2023. Updates and additional information will be included based on public and shareholder input. Funding is being sought for the next complete update. 2022: Mapping of flood prone areas has been completed. In process of applying for Hazard Mitigation Grant Program, and have supported municipalities in applying for Hazard Mitigation grants. Creation of a Dedicated Hazard Mitigation Position >\$250,000 acquisition of a duplex in the Paxtang watershed | |

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| 1.5* | Act 167 Plan | Dauphin County’s Act 167 Plan is over 10 years old. Explore the feasibility of updating this plan if funding is available. Re-visit the model stormwater ordinance that would require/incentivize additional protections for streams | Tri County Planning Commission, Municipalities, DCCD, Municipal engineers and solicitor | Countywide | 2023 – collaborate with municipalities to discuss the benefits and challenges of tackling an update | Should local involvement exist additional responsibility. Finding funding to update a Countywide Act 167 Plan. Lack of DEP funding for plan update. | | | 1 – FTE Clean Water Coordinator for Planning Commission | \$130,000 per year \$250,000 for Act 167 Plan Update | 2025: No update. 2024: Dauphin County was not awarded a Growing Greener grant for plan improvements. Act 167 plans will remain unchanged for the foreseeable future. 2023: Dauphin County applied for a Growing Greener grant. 2022: The 2022/2023 state budget includes new funding to support the development of Act 167 plans. If funding is available, Dauphin County will explore the possibility of | |

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| 1.6* | Continue to Implement County Farmland Preservation Program | Total farmland preservation (193 farms in program currently – 18,546 acres) Estimated that (6) farms per year are preserved. Total goal of 24 over the next 4 years. -1,500 acres of farmland conservation Begin outreach campaign in fall Of 2021 | Farmland Trust and Agricultural Preservation Coordinator, NRCS, DCCD, Manada Conservancy | Ag land use area that fits farmland preservation criteria | 2021 – begin new outreach strategy 2021 – increase per acre pay 2022-2025 continue the program on annual basis | Technical assistance to coordinate preservation plans Preserved farms are required to have an NRCS Conservation Plan, work with farmers to ensure Conservation Plan is reported in PracticeKeeper. Recommend to make this a program requirement statewide. Gaining Plain Sect Involvement Generating additional applications is challenging. Long term administration, no money from the state to monitor track and enforce and easement, more than 100 inspections per year | Priority recommendation s, easement revision recommendation s, supplemental BMP funding research | \$1,750 per acre increase this year | Ag Land Preservation Staff Administrator - inspections, plan writing, and full farm walks every two years 1 – FTE Clean Water Coordinator for Conservation District | \$130,000 per year \$130,000 per year \$250,000 per farm funded, total of 24 farms \$6M | 2025:2 farms were preserved on totaling 155.79 acres. 2024: 4 Farms were preserved in 2024 totaling 403 acres. 2023: 6 farms will be preserved in 2023 totaling 530 acres. 2022: Five farms are planned for preservation through 2023. There are 11 left on the list to be preserved. | |

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| 1.7* | Establish funding/staff support to assist the agricultural community 692 farms in Dauphin County (2017 USDA Census) | Approximately 150 farms have their plans in Dauphin County, goal is to complete 280 by 2025 (40% of total). Enter Conservation and Nutrient Management Plans into PracticeKeeper. Potential implementation challenges (Continued): In order to communicate effectively with the farming community one on one farmer outreach must be conducted. Farmers do not participate in outreach events or read information provided in newsletters. | DCPC, DCCD, Contracted planners, ACT 38 operators, Organic Farmers, Preserved Farms, integrators | Countywide | 2022-2025 | Limited compliance activities by DEP. In 2018 DEP conducted inspections in Northern Tier of Dauphin County and resulted in a lot of farmers to get Conservation Plans. Lack of Technical assistance to support the farming community Private sector Ag plans are not required to be shared with District staff. Work with ACT 38, Preserved farms and organic farms to report AG E&S and NRCS Conservation Plans. These operations are required to have plans, but no requirement to report the plans. It is recommended state agencies make changes to ACT 38 and Persevered Farm programs to require PracticeKeeper reporting. The most effective way to capture and report BMPs is through one on one farm visits. Farmers do not participate in surveys or other methods. | | | 6 – additional Ag Planners to provide technical assistance and ag planning 3 – FTE Design, Engineer, Permit 3 – FTE Inspector Construction Services 1 – FTE Clean Water Coordinator for Conservation District 1 – Administrative Assistant | \$780,000 per year \$420,000 per year \$315,000 per year \$130,000 per year \$75,000 per year | 2025: Lancaster Farmland Trust visited 78 farms in Lykens Township using CAP funding. Future plans may stem from these initial visits. 2024: Penn State University has been overseeing the rollout of the Agricultural Conservation Assistance Program (ACAP) which has helped bridge funding gaps for projects that help promote water quality and farm efficiency. 2023: Penn State University is creating a Center for Agriculture Conservation Assistance which will support the agricultural community and train conservation professionals in agricultural BMPs. A partnership between Penn State Extension, Lancaster Farmland Trust, and HRG is leveraging funding to initiate targeted farmer outreach in Dauphin County. 2022: The Foundation for Pennsylvania Watersheds applied for a Growing Greener grant totaling \$1.6 million to support additional ag engineering needs along with increased farm visits. In 2021 Lancaster Farmland Trust completed 20 farm visits. In 2022 the Lancaster Farmland Trust completed an additional 30 farm visits. Agriculture Conservation Assistance Program (ACAP) was announced in the Pennsylvania State Budget in July of 2022. | |
| 1.8 | University Partnership - Implementation | GIS deliverables, stormwater studies/monitoring, BMP field/aerial identification, regulatory support Develop undergraduate and graduate students to support staff with implementation as interns and upon graduation | Harrisburg University, PSU Harrisburg, Harrisburg Area Community College, PSU Ag and Environment Center (AEC), Shippensburg University, Widener University, Millersville University, Temple University | Countywide, university-owned land | 2022-2025 | Continued undergraduate/graduate engagement as students graduate, distance for students to travel. Lack of technical assistance professionals to mentor students. Lack of competitive paying job opportunities that ensure long term sustainable for recently graduated students | Outreach boots on the ground | | 5 – Student Internships to Support CAP Implementation | \$50,000 per year | 2025: No progress to date. 2024: College interns have been hired and have been involved with traffic related operations and counting at DCPD and improving GIS databases. 2023: Dauphin Planning: Two interns on staff in 2023. One was from Harrisburg University and the other was from Shippensburg University, who was then hired full time by TCRPC. 2022: Dauphin Planning: Two interns on staff in 2022: One from Harrisburg University and one from Pennsylvania Western University, California Campus. The interns contributed toward the data collection and mapping contained on the Water Quality and CAP portions of the website. | |

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| 1.9A | Water quality communication plan, leveraging existing documents and covering topics including hazard mitigation plan, MS4 municipalities, comprehensive plan and Act 167 | Develop messages and audience; execute plan and distribute messaging through staff and partners Utilize the DPJM County Countywide Action Plan (arcgis.com) - ARC GIS website as a source of consistent communication | Multi-partner, TCRPC as lead entity building upon environmental aspects | Countywide | 2022 – 2025 | Simplifying the resources that are available, targeting Dauphin County farmers and other landowners Sharing staff resources across the 4-county region | Website development and continued maintenance | | Website development and continued maintenance 1 – FTE Marketing and Outreach Coordinator 1 – FTE Clean Water Coordinator for Planning Commission | \$10,000 per year \$130,000 per year \$130,000 per year | 2025: The WREP Program continues to leverage participating municipalities public outreach events to discuss MS4. Additional communication plans are underway within the WREP Program. 2024: In 2024, there has been a synthesis of CAP-identified projects with WREP-identified projects within the Swatara Creek Watershed for analysis. WREP GIS data modeling and project selection is underway through the priority project study. The study is projected to be substantially complete in October 2024. 2023: The DPJM Countywide Action Plan website and GIS tracking data continues to be updated. 2022: The DPJM Countywide Action Plan website listed in the Performance Targets has been updated to include information about implementation of the Countywide Action Plans. Additionally, a GIS tracking data base has been added to capture the location of potential projects. | |

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| 1.9B | Utilize local arts and businesses to promote water quality messaging and general public education | Identify local businesses that support water initiatives or need clean water for their businesses to thrive Identify local artists who have a passion for water/environmental issues | Millworks, Paxton Creek Watershed & Education Association, Paxton Creek Cooperative (Capital Region Water, Susquehanna Township, Lower Paxton Township), CBF | Paxton Creek watershed? | 2022 – coalition building, one event | Fortitude to see small projects through to gain momentum and realize general public understanding about stormwater runoff, local stormwater fees may provide a reason for public to understand what they're paying for, will art translate to the call to action? | | | | \$5,000 | 2023: No progress to date. 2022: No progress to date. | 2023: Initial project idea stakeholders from 2021 are no longer involved in the lead organizations, so the idea hasn't gained traction. |
| 1.9C | Agricultural Communication Strategy | Develop a strategy to complete one on one farm visits. Develop a communication plan to engage integrators. Utilize Farm Bureau Newsletter for announcements Partner with pesticide meetings and other AG meetings to provide information. | CD, County Farm Bureau, Integrators, Ag Land Preservation, PSU Extension, NRCS | Countywide | 2022-2025 | One on one farm outreach is the best way to communicate with farmers in addition to reporting practices. Funding to support the technical assistance required to complete one on one farm outreach Outreach to integrators is a challenge due to the number of integrators and multiple country boundaries they serve. It is recommended DEP/PDA/SCC communicate with integrators on a frequent basis to reduce mixed messages. | | | 6 – additional Ag Planners to provide technical assistance and ag planning 1 – FTE Marketing and Outreach Coordinator 1 – FTE Clean Water Coordinator for Conservation District | \$780,000 per year \$130,000 per year \$130,000 per year See 1.9A for website costs. Costs for meeting attendance and administration may be covered through other funding requests. | 2025: Lancaster Farmland Trust visited 78 farms in Lykens Township for scoping to recommend BMPs for operations and gather preliminary information to inform engineer's inventory and evaluations (I&Es. Since January, HRG has worked in partnership with the Landcaster Farmland Trust, Clearwater Conservancy, and the Foundation for PA Watersheds to deliver targeted farm outreach visits and technical assistance to farm operations throughout the CAP region, providing shovel-ready designs that can be implemented when funding becomes available. 2024: Lancaster Farmland Trust will conduct 15 farm visits for scoping to recommend BMPs for operations and gather preliminary information to inform engineer's inventory and evaluations (I&Es) 2023: A partnership between Penn State Extension, Lancaster Farmland Trust, and HRG is leveraging funding to initiate targeted farmer outreach in Dauphin County. A total of 25 occurred in 2023. 2022: Farm visits have been utilized to conduct outreach to farmers about the Countywide Action Plan. In 2021 20 farm visits were conducted and in 2022 an additional 30 visits are scoped. The Foundation for Pennsylvania Watersheds submitted a Growing Greener grant titled 12-County Investment to Catalyze Agricultural Project Readiness that would support rapid scaling up of farm visits within Dauphin County. Scaling up of farm visits would allow for additional outreach to occur. | |

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| 1-10 1 | Countywide WQ Credit Offset Pilot | Demonstrate success of a pilot project area where MS4-regulated areas and non-regulated areas can benefit from achieving sediment and nutrient goals | MS4 municipalities that include agricultural land use in the vicinity of the Urbanized Area | MS4 watershed HUC12 pilot area—Swatara Creek watershed? | 2022–2023 | DEP acceptance of approach, permit compliance coordination among sectors, farmers in compliance with state and federal regulations | | | 1— FTE Clean Water Coordinator for Planning Commission 1— FTE Clean Water Coordinator for Conservation District | \$130,000 per year \$130,000 per year | 2023: The anticipated need for this has not come to fruition since all of the MS4s in Dauphin County are on track to meet their Pollutant Reduction Plan requirements by their permit deadlines. We will remove it from the CAP due to a lack of need. 2022: No progress to date. | 2023: The anticipated need for this has not come to fruition since all of the MS4s in Dauphin County are on track to meet their Pollutant Reduction Plan requirements by their permit deadlines. |

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| Priority Initiative 2: Reporting and Tracking | | | | | | | | | | | | |
| 2.1* | Existing BMP cataloguing (quantity and location) for select BMPs, expanding on general recommendations provided in QAPP BMPs = forest buffers, urban forest buffers, grass buffers, urban grass buffers, manure storages, wet ponds and wetlands, fencing | Expand use of existing buffer layer with urban hydrology layer R&D into distinguishing ag, pasture, and turf covers from grassed buffers Manual digitizing where leaf-off <1 ft resolution imagery is available Back check with staff field views where required Add data to Practice Keeper or another batch upload option (FieldDoc) | Harrisburg University, PSU Harrisburg, Harrisburg Area Community College, Chesapeake Conservancy, Stakeholder peer review - USGS, Farm Bureau, PDA, EPA | Countywide | 2022 – cataloguing 2023 – Practice Keeper batch upload processing and field views | EPA acceptance of the approach, further refine guidance in QAPP so that counties can accomplish this or so that the state can take the burden off of counties, utilize the approach to catalogue existing BMPs and do on the ground verification where required for reporting purposes, this is an accelerated BMP catch up approach while we continue to provide support to farmers on planning and BMP installs, reduce the amount of interruption of government entities on compliant farm operations. | Precision Conservation Tools General methodology outline BMP field backcheck | N/A | Further GIS and data processing/method refinement 6 – additional Ag Planners to provide technical assistance and ag planning 5 – Student Internships to Support CAP Implementation | \$46,000 (2022 only) \$780,000 per year \$50,000 per year | 2025: No progress to date. 2024: Capital RC&D has obtained \$934,000 through a NFWF SWG to do farmer outreach to verify existing BMPs and identify new potential projects for BMP implementation. 2023: No progress to date. Lack of funding for verification and cataloguing is the issue. In December of 2021, Dauphin County was awarded \$30,000 to conduct Phase 1 of a multi-phased BMP verification remote sensing effort. Dauphin County elected to use all of the money on the remote sensing analysis focusing on six priority BMPs including: Barnyard Runoff Controls, Animal Waste Management Systems, Forest Buffers, Grassed Waterways, Streambank Exclusion Fencing, wet ponds and detention basins. Remote sensing data analysis performed by the Chesapeake Conservancy is being finalized in August of 2022 and results are provided in an online ARC Gis Portal. Qualified 3rd party staff will begin field verification efforts to verify the remotely identified practices. A BMP Verification Quick Guide is being developed by HRG to assist with field verification efforts. In April of 2022, the Foundation for Pennsylvania Watersheds applied for a NFWF Most Effective Basins grant to support Phase 2 of the BMP verification analysis in the MEB in Dauphin County. Initial results from | |
| 2.2* | Identify future ag/urban project opportunities using automated means | BMP opportunity analysis – ag conservation, land retirement, alternative crop, forest restoration Back check with staff field views Batch upload to FieldDoc to calculate credit opportunity | Lead – Chesapeake Conservancy Stakeholder peer review – Harrisburg/SHIP/PSU/Etc. University, USGS, Farm Bureau, PDA, municipalities with MS4 permits, Municipal Engineers, Dauphin County Woodland Owners Association | Countywide | 2022 – cataloguing 2023 – batch upload processing and field views 2024 – 2025 – implementation focus | Different data set scales/precision | Precision Conservation Tools Batch upload processing BMP field backcheck | N/A | Further GIS and data processing/method refinement 5 – Student Internships to Support CAP Implementation | \$46,000 (2022 only) \$50,000 per year | 2025: Removed from the CAP. 2024: No progress to date. 2023: As a part of the Chesapeake Conservancy’s Cooperative Agreement with the Chesapeake Bay Program, the CIC has been working to adapt the USDA Agricultural Conservation Planning Framework (ACPF) toolbox and produce its related GIS conservation practice opportunity outputs for the entire watershed. The toolbox outputs a suite of NRCS agricultural practice opportunities at the field scale -- some have direct equivalents to Bay Program BMPs, while others do not. Since there are many assumptions made to produce these opportunity footprints across the entire watershed, they are not intended to be ground truth and should only serve as a high level reference for helping to plan efforts in combination with expert on-the-ground input. The outputs are expected to be publicly available after June 2024. | 2025: Action item has been removed from the CAP. |

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| 2.3* | Develop a local system to capture data collection on urban structural and non-structural practices | Add development related BMPs to PK/FieldDoc so that as land use data sets are updated, there are accompanying BMPs | Municipal engineers, Chesapeake Conservancy, DCPC, Tri County Regional Planning, student interns | Urban/suburban landscape | 2022 | Currently municipalities are not collecting BMP data because it is not required in non-MS4 communities. Must incentivize communities to report, no existing system in place. FieldDoc would need to be accessible to municipalities to self-report BMPs that are installed and continue to function. | Reporting platform | N/A | Training 5 – Student Internships to Support CAP Implementation 3 – Municipal Planner | N/A \$50,000 per year \$390,000 per year | 2025: WREP currently has an RFP to conduct a comprehensive BMP inventory, that is anticipated to be undertaken in 2026. 2024: No progress to date. 2023: No progress. 2022: Phase 1 of BMP verification will identify Wet Ponds and Detention Basins in Dauphin County. Field verification will need to occur on these projects. PA DEP has updated FieldDoc to allow for additional reporting of urban practices. | |
| 2.4* | Implement a documentation program for commercial and homeowner nutrient applications in developed lands Support current legislation for fertilizer bill. | Support fertilizer legislation where legislation requires reporting, be the data clearinghouse Legislation will support the implementation of Urban Nutrient Management – 1,000 acres | PSU Extension, PDA | Countywide | TBD based on fertilizer legislation if passed | Education of responsible parties, receiving timely information, training on reporting system, will need direction from State on what's expected and any reporting system that's developed. | TBD based on fertilizer legislation if passed | TBD based on fertilizer legislation if passed | 1 FTE Clean Water Coordinator for Planning Commission | \$130,000 per year Urban Nutrient Management \$10 per acre to \$10,000 | 2023: No update. 2022: On July 11, Governor Wolf signed SB 251, a bipartisan bill sponsored by Senator Gene Yaw (R) and Senator Carolyn Comitta (D), into law. Pennsylvania now has a law governing turfgrass fertilizer application dates, practices, rates, and type of fertilizer used. We are uncertain on how documentation and crediting will occur with the new bill. | 2023: DEP is recognizing conservation landscaping through reporting in FieldDoc. Awaiting DEP's direction on the future of Urban Nutrient Management Plans. |
| 2.5* | Improve Agricultural BMP reporting utilizing PracticeKeeper, Capital RC&D Transect Survey, PSU Survey, Manure Transport Reporting and Remote Sensing | Increase reporting of agriculture plans into PracticeKeeper. Work with Capital RC&D to improve current transect survey routes to be more inclusive. Work with PSU to produce better response rate to the PSU survey for Dauphin County. Work with PDA/DEP to improve manure transport reporting. | DEP, DCCD, NRCS, PDA, NRCS, Dauphin County Farm Bureau, Capital RC&D, Chesapeake Conservancy, PSU Survey, Manure Brokers | Countywide | 2022-2025 | Private sector ag planners do not have access to PracticeKeeper. Ag planners do not have time to report into PK. Current Capital RC&D routes are not all inclusive and could be improved. Current response rates are low and miss a large demographic of Dauphin County farmers. Manure brokers are not required to report data annually. CAST data is not inclusive. | | | 5 – Summer interns for reporting and verification | \$50,000 – per year See 3.5 for funding needs to improve cover crop reporting for Capital RC&D | 2025: DCCD participated in the Capital RC&D transect Survey in Spring 2025. HRG continues to provide technical support where needed with the PracticeKeeper 3rd party entry module. 2024: DCCD participated in the Capital RC&D transect Survey in Spring 2024. 2023: DCCD participated in the Capital RC&D transect Survey in Spring 2023. 2022: In the Spring of 2022 HRG participated in a beta testing group for the PracticeKeeper 3rd Party Module. PADEP initially released the module in June of 2022 before recalling the system for additional bug fixes. Phase 2 of the BMP verification grant submitted by the Foundation for PA Watersheds includes budget for interns from Susquehanna University to enter BMPs into PracticeKeeper. | |
| Priority Initiative 3: Achieve New Pollutant Reductions | | | | | | | | | | | | |

| 2025 Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – DAUPHIN COUNTY | | | | | | | | | | | | |
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| Action # | Description | Performance Target(s) | Responsible Party(is) and Partnerships | Geographic Location | Expected Timeline | Potential Implementation Challenges or Recommendations | Resources Available | | Resources Needed | | Annual Progress to Date (2021 to 2025) | Reason for Change to Action Item (2023-2025 milestone period) |
| | | | | | | | Technical | Financial | Technical | Financial | | |
| 3.1a | Implement Paxton Creek Master Plan | Restoration includes naturalized channel, vegetated riparian zones, green space, large parks, multi-use trails North Paxton Park Greenway 7,600 linear feet Paxton Creek Park 5,300 linear feet South Paxton Greenway 5,400 linear feet | Capital Region Water, PennDOT, City of Harrisburg, PCWEA, HRA, USGS | North Paxton Creek Greenway, Paxton Creek Park, South Paxton Creek Greenway | 2021 Begin implementation Ongoing construction and maintenance | Obtaining required permits for stream corridor reconstruction, funding to support expensive restoration efforts; plan implementation requires a dedicated, multi-jurisdictional team and potentially significant land acquisition | N/A | N/A | 1 – FTE Clean Water Coordinator for Planning Commission 1 – FTE Clean Water Coordinator for Conservation District N/A | \$130,000 per year \$130,000 per year \$60 - \$90 million dollar estimate | 2025: Project from 2024 is completed. Additional collaboration may occur with the new permit. 2024: Susquehanna Township, CRW, and Lower Paxton Township have a Joint PRP for Paxton Creek which will have achieved their sediment reduction goals with implementing a stream restoration project at Stray Winds Farm in Lower Paxton Township. Construction is underway (Fall 2024). 2023: No progress to date. County, City of Harrisburg, and Capital Region Water have been meeting in an effort to define roles and responsibilities to advance the Master Plan. 2022: Capital Region Water and CREDC are taking the lead on this project, though many partners are at the table and roles are being determined. A partner agreement will be drafted with quarterly meetings. Design funding is being investigated for the project. Once the concept design is completed, feasibility and final design will be completed, including eminent domain as needed. | |
| 3.1b | Implement Paxton Creek Master Plan | Provide adequate channel size and flood conveyance to reduce 100-year flood elevation to 314 feet, provide stormwater retention and treatment Ongoing monitoring conducted by USGS | PennDOT, City of Harrisburg, PCWEA, HRA, Capital Region Water, USGS | North Paxton Creek Greenway, Paxton Creek Park, South Paxton Creek Greenway | 2021 Begin implementation Ongoing construction and maintenance | Obtaining required permits for stream corridor reconstruction, funding to support expensive restoration efforts; plan implementation requires a dedicated, multi-jurisdictional team and potentially significant land acquisition | N/A | N/A | 1 – FTE Clean Water Coordinator for Planning Commission 1 – FTE Clean Water Coordinator for Conservation District N/A | \$130,000 per year \$130,000 per year \$60 - \$90 million dollar estimate | See 3.1a above. | |
| 3.2a | Manada Creek Coldwater Conservation Plan | Prioritization of the stream channel for restoration projects, riparian restoration including buffers Establish buffers between MNDA 08.72 and 07.12 Stream restoration below MNDA 07.12 Agriculture BMPs near state Route 443 Education and enforcement of septic tank maintenance | DCCD, Doc Fritchey Chapter TU, Wildlife Program Fort Indiantown Gap, Manada Creek Watershed Association, Sewage Enforcement Officers, municipalities in the watershed | Manada Creek, Fort Indiantown Gap | 2022-2025 | Willingness of private landowner to implement BMPs that will improve water quality. Funding to support restoration efforts. Lack of technical assistance to promote and support implementation of restoration practices. | | Coldwater Heritage Grant – 2013 Manada Creek | 1 – FTE Clean Water Coordinator for Planning Commission 1 – FTE Clean Water Coordinator for Conservation District | \$130,000 per year \$130,000 per year \$1,000,000 for plan implementation and restoration prioritization | 2025: The Hershey Buffer Project was implemented at the end of 2024.Additional projects through this partnership are possible for future years. 2024: The identified project in 2024 is out to bid for construction in the fall of 2024. Additional projects through this partnership are possible for future years. 2023: Through a partnership with Manada Conservancy and the Hershey Trust, DCCD has identified potential projects for 2024 and 2025. 2022: No progress to date. | |

| 2025 Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – DAUPHIN COUNTY | | | | | | | | | | | | |
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| 3.2b | Clarks Creek Coldwater Conservation Plan | Prioritization of the stream channel for restoration projects, riparian restoration including buffers, include fish habitat restoration, promote stormwater management BMPs were feasible | DCCD, Doc Fritchey Chapter TU, Clarks Creek Watershed Association, Middle Paxton Township and Rush Township | Clarks Creek, Middle Paxton Township and Rush Township | 2022-2025 | Willingness of private landowner to implement BMPs that will improve water quality. Funding to support restoration efforts Lack of technical assistance to promote and support implementation of restoration practices | | | 1 – FTE Clean Water Coordinator for Planning Commission 1 – FTE Clean Water Coordinator for Conservation District | \$130,000 per year \$130,000 per year \$1,000,000 for plan implementation and restoration prioritization | 2025: Removed from the CAP. 2024: In 2024, the Plan was reviewed by the District and HRG. From the perspective of the District, because of the wooded nature of the watershed and low impact of urban centers and agriculture, there are no foreseeable projects in Clarks Creek at this time. 2023: No progress to date. 2022: No progress to date. | 2025: Action item has been removed from the CAP due to the District review conducted in 2024. |
| 3.2c | Develop a WIP for Spring Creek East | Develop a WIP/Alternative Restoration Plan for Spring Creek that is consistent with CAP initiatives and can help to support implementation of the CAP. | Doc Fritchey TU, Penn State Extension, Derry Township Municipal Authority | Spring Creek – Derry Township/ Conewago Township | 2022-2025 | Funding to support the development of a Coldwater Conservation Plan. No watershed organization currently exists for Spring Creek. | | | 1 – FTE Clean Water Coordinator for Planning Commission 1 – FTE Clean Water Coordinator for Conservation District | \$130,000 per year \$130,000 per year \$150,000 for Coldwater Conservation plan development | 2025: WIP has been completed and approved by PA DEP. The Spring Creek East Watershed Alliance has started investigating potential projects in the area. At their meetings this year, conversations on focusing on networking to share community projects and outreach were had. 2024: The Doc Fritchey TU is near completion on writing their 319 WIP for Spring Creek. They have received assistance in writing the plan from the Center for Watershed Protection, PSU, and EPR to complete the plan. Once the plan is approved, there has been activity to create a Spring Creek Watershed Association that will register as a 501c3 to revive grants to implement projects within the watershed. Three projects have already been identified on Spring Creek which would be legacy sediment removal and stream restoration projects that would look to be completed in 2025/2026. 2023: The Spring Creek (Hershey) WIP continues to develop and is in the field assessment phase. The plan is being developed through a partnership with Derry Township, Penn State, DCCD, The Center for Watershed Protection, and EPR. 2022: \$14,971 from 319 grant funds (via pass-through from Trout Unlimited Doc Fritchey) to assist with the development of a 319 plan for Spring Creek (Hershey) - Penn State will be completing virtual and in person land surveys of the watershed in summer 2022 to create a comprehensive list of | |

| 2025 Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – DAUPHIN COUNTY | | | | | | | | | | | | |
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| | | | | | | | | | | | potential ag BMPs (and potentially urban stormwater). Water Quality Monitoring plan was approved by EPA. | |
| 3.2d | Support implementation of Conewago Creek WIP Update, which will result in cover crops, conservation tillage, riparian buffers, grazing land management, cropland retirement, nutrient management, streambank stabilization, streambank fencing, animal management waste systems, contour farming/strip cropping, ag E&S control, floodplain restoration, constructed wetlands and wet swales, bioswales, bioretention/rain gardens, and permeable pavement. | Assist existing WIP team where requested on funding needs, landowner outreach, and reporting. | Tri-county Conewago Creek Association, PSU AEC, Londonderry Township, Conewago Township, TetraTech, LandStudies, Red Barn Consulting, TeamAg, Rosetree Consulting, HRG, Dauphin County Conservation District, DEP, NFWF, NRCS, USGS | Conewago Creek watershed – Hoffer Creek, Brills Run, Lynch Run, Conewago mainstem | Year 2 Milestone Year 5 Milestone Year 10+ Milestone (see page 57 of WIP Update for details) | Many partners and great momentum should enable the group to move forward. Technical assistance and funding at this scale will be a challenge. Willing landowners are a challenge. | | Penn State AEC Recipient | | \$14M (WIP update scope), \$54M overall watershed restoration | <p>2025: Londonderry Township is actively utilizing funding from LSA, SRBC CU, and NFWF to implement Phase 4 of Londonderry's Conewago Floodplain restoration. The Conewago Floodplain Restoration Phase 4 is currently Design and Permitting phase.</p> <p>2024- Phase 4 of the stream restoration is currently in the design phase. Additional funding is required to remove the 130,000 cubic yards of legacy sediment that was removed and stockpiled on the site.</p> <p>2023: Phases 1, 2, and 3 of the stream restoration goals were accomplished in a project in Londonderry Township. Tri-County Conewago Creek Association continues to take actions to develop projects and fundraise for these WIP efforts. https://conewagocreek.net/meeting-minutes/</p> <p>2022: \$955,282 from NFWF - "The Chiques-Conoy-Conewago Regional Partnership: Integrating the Cloud, Muddy Boots and the Business of Farming to Get Farmers to Yes" - while much of this work is in Lancaster County, it does include the Dauphin County portion of the Conewago and all of Londonderry Township outside of the Conewago as well. These funds are to be spent by December 2022. Also supported buffer plantings and maintenance in East Hanover Twp, Londonderry Twp, Lower Swatara Twp, and Derry Twp.</p> | |

| 2025 Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – DAUPHIN COUNTY | | | | | | | | | | | | |
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| 3.3* | Help farmers and operators to be in compliance with state and federal Conservation and Nutrient Management Plans | Soil and Water Quality Conservation Plans (Ag E&S) 33,700 acres Nutrient Management (Manure Management) 40,300 20,000 acres of Core N, 14,400 20,000 acres of Core P Work with ACT 38 operators (22), Preserved Farms (193), and certified organics to document plans required as part of the program | 4R Alliance, DCCD, Dauphin County Farm Bureau, NRCS, Private Sector Agriculture Farm Visits | Countywide Ag Land | 2022-2025 | Lack of DEP inspections. Reporting and verification of AG Plans, NRCS plans expire and do not get reverified, private plans are never entered. Lack of technical assistance to support agriculture planning and implementation, one on one farm outreach is best way to capture existing plans. Act 38 plans and plans for preserved farms not required to be entered into PK, the recommendation is to require State programs to enter plans into PK State agencies must work with integrators to ensure they are requiring compliance by farmers. Some integrators require compliance, but not all, great way to communicate with farmers as well. | Educational support | | 6 – additional Ag Planners to work with farmers to develop required plans | \$780,000 per year \$15 per acre for a total cost of \$505,500 \$15 per acre for a total cost of \$604,500 | 2025: 4 Manure Management Plans for 1411.51ac. and 3 AG E & S plans for 1394.61 Acres. Nutrient Management Plans Covering 1281.21 Nutrient Balance sheets for 758 ac 2024: 9 Manure Management plans for 986.96 ac 10 AG E&S Plans covering 1017.44 Ac Nutrient Management Plans covering 401.07 Acres Nutrient Balance Sheets for 1070 Acres. 2023: A lack of plans has been identified by DCCD as a barrier for implementing projects. Through farmer outreach, DCCD is working to identify gaps in plans and target farms that require them. DCCD has prepared 16 Manure Management Plans in 2023 totaling 1,446.83 acres and 13 Ag E&S plans totaling 2,131.79 acres. Nutrient management totals are 1,674 acres and nutrient balance sheets total 1,231 acres. 2022: PACD recently announced their Growing Greener grant for Ag Plan Reimbursement. Farmers in Dauphin County will be able to take advantage of this opportunity to produce Ag E&S and Manure Management Plans. HRG attended the rollout of this program to maximize opportunities to get farmers additional plans. | 2023: Goals were changed due to acres already implemented (Core P), or lack of progress (Core N). |
| 3.4 | Advanced Nutrient Management (4R) Practice Education and Implementation | Transition manure management plans to nutrient management plans and incentivize implementation Increase reporting of supplemental nutrient management BMPs through existing programs and initiatives Increase existing 4R practice N Rate by 1,700 acres, N Timing and Placement, P Timing, Rate and Placement by 1,000 acres. Increase existing 4R practice N/P Rate, Placement, Timing by 4,000 acres. Explore the idea of increasing pre-side dress nitrogen testing (PSNT) or Chlorophyl testing to District program participants | 4R Alliance, CBF, DCCD, Dauphin County Farm Bureau, NRCS, Private Sector Agriculture Farm Visits | Countywide AG Land | 2022-2025 | Landowner interest, BMP verification (annual) Lack of Technical assistance to support agriculture planning and implementation Additional funding to support soil testing. Soil testing is key to meeting the recommendations of supplemental BMPs. Machine dependent for most farming operations Cost of fertilizer is self-regulating farmers to use less fertilizer; therefore, lower rates | Educational support | | 6 – additional Ag Planners to work with farmers to meet 4R standards | \$780,000 per year \$10 per acre of advanced nutrient management planning per type total cost for all is \$67,000 | 2025: No progress to date. Removed from the CAP. 2024: No progress to date. 2023: HRG has worked with the counties on methods to integrate supplement NM reporting into current workflows in the Chesapeake bay Contract, Nutrient Management Contract, current PSNT programs, and equipment rental programs. HRG also provided outreach at several events to increase adoption of 4R practices within the region. 2022: No progress to date. | 2025: Action item removed from the CAP due to no current or anticipated progress. 2023: Goals were changed due to acres already implemented and continued progress of initiative. Action Number Performance Target verbiage updated for the 2023 Milestone. |

| 2025 Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – DAUPHIN COUNTY | | | | | | | | | | | | |
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| 3.5* | Implement Practice to improve soil health and sustainability (Tillage Management and Cover Crops) | Determine feasibility of having a county/state cost share program to enhance adoption of the annual practice Implement tillage management and cover crops on an annual rate of 24,000 45,000 acres High Residue, 10,000 14,000 acres Conservation Tillage, 4,000 3,000 10,000 acres Low Residue, 6,000 21,000 acres of cover crops. and 15,000 acres of cover crops with fall nutrients | DCCD, Dauphin County Farm Bureau, NRCS, Private Sector Agriculture Farm Visits | Countywide Ag Land | 2022 – investigation 2023 – next steps | Capacity to manage the program at the county level, landowner interest Lack of technical assistance and farm planners to work with farmers to transition to High Residue Tillage Current verification methods do not accurately capture implemented amounts – work with Capital RC&D to improve Transect Survey Routes Farmers are harvesting cover crops for forage, need accurate efficiency crediting for commodity cover crops Existing Cover Crop Programs have strict plant by date that does not work with changing weather patterns and wetter years Organic farmers are using tillage to manage weeds and vertical tillage is becoming more popular among farmers, younger generation is “trying” tillage for experience | Transect survey | | 6 – additional Ag Planners to transition farmers to high residue County DCCD – staff to administer the program Capital RC&D Transect Survey | \$780,000 per year \$90 per acre traditional per year \$540K for a 5-year total of \$2.7M (incentive payment, administration, Capital RC&D reporting) \$50 per acre fall nutrients per year \$750K for 5-year total of \$3.75M \$50,000 | 2025: Dauphin County planted 13,762 acres of cover crops in 2025. 2024: Dauphin County planted 10.077 acres of cover crops in 2024. 2023: Dauphin County planted 7,742 acres of cover crops in 2023. 2022: From 2020 to 2021 Cover Crops in Dauphin County increased by over 8,500 acres. | 2025: Low residue goal was increased due to achieving original goal. 2023: Goals were increased to reflect number of acres already being treated, or decreased to reflect of lack of progress of action item. |
| 3.6 | Implement more pasture management BMPs Use Ag Land Preservation Goals to reach Pasture Management Goals | Off Stream Watering – 150 1,100 acres Forest buffers on fenced pasture corridor – 10 150 acres Grass buffers on fenced pasture corridor – 10 300 acres Land Retirement to Ag Open Space –170 650 acres Precision Intensive Rotational/Prescribed Grazing - 300 acres | DCCD, Dauphin County Farm Bureau, NRCS, Private Sector Agriculture Farm Visits, CBF | County ag lands – landowners who raise horses, dairy, beef and other pasture grazing animals | 2025 | Landowner education, BMP funding for non-buffer work, plan updates, data gathering Lack of Technical assistance to support agriculture planning and implementation Old NRCS plans need to be updated to comply with prescribed grazing definition – difficult to get landowner buy-in – fund alternative watering and fencing; most pastures are streamside Increasing construction costs are cancelling NRCS contracts | Landowner education | | 6 – additional Ag Planners to provide technical assistance and ag planning 3 – additional FTE environmental technician/rapid delisting program management | \$780,000 per year \$390,000 per year Off stream Watering \$500 per acre \$75K total FB Buffer W/ Exclusion \$10,500 per acre \$105K total GB Buffer W/ Exclusion \$2,750 per acre \$27.5K total Land Retirement \$500 per acre \$85K total | 2025: The PAS program will improve the gap in technical assistance requirements for ACAP projects by allowing practitioners to design and certify conservation practices that do not require a professional engineer. This program will accelerate the implementation of pasture BMPs, cropland stormwater runoff, and barnyard runoff control projects utilizing ACAP funds 2024: Capital RC&D is spearheading an initiative to identify project locations for additional BMPs to be implemented on farms. 2023: Prescribed grazing established as a new goal for 2023. 2022: Phase 1 of BMP verification identified 247 potential hits for streambank exclusion fencing. This data set will allow for increased reporting of buffered acres with exclusion fencing. | 2023: Goal was increased to reflect number of acres already implemented. |

| 2025 Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – DAUPHIN COUNTY | | | | | | | | | | | | |
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| 3.7* | Riparian buffer and re-forestation BMPs | 363 800 riparian forest buffer acres, (353) acres lost since 2017 need reverified 41 750 riparian grass buffer acres – (31) acres lost since 2017 need reverified 29 300 acres – Agriculture Tree Planting 12 acres – urban forest buffer Forest Conservation – 2,100 acres Tree Planting - Canopy - 1 acre Forest Planting - 1 acre | CBF, Dauphin County Woodland Owners Association, TU – Doc Fritchey, Swatara/ Paxton Creek/ Tri-Valley/ Twin Valley/ Wiconisco/ Clarks Creek, Watershed Association, Manada Conservancy, NRCS, DCCD, Municipalities, Environmental Team Corps, CAGA, PWECA, Scout Troops | Countywide Explore implementation at Ned Smith Center, Millersburg & Wiconisco park | 2022 -2023 – line up landowners for new acres, re-verify acres “lost” in reporting system 2023-2025 – in the field implementation | Landowner partnerships, landowner education, volunteer acceptance of buffer plantings, buffer maintenance guide for farmers, routine site visits to confirm buffers are thriving, invasive species removal during establishment Lack of technical assistance to conduct landowner outreach, implementation and maintenance of proposed projects Flash grazing must be allowed with buffer installation Funding program must include a 5-10-year maintenance program to establish buffers along with incentive program \$4K minimum per acre payment | Materials Mapping | Budget available to be determined | 6 – additional Ag Planners to provide technical assistance and ag planning 3 – additional FTE environmental technician/rapid delisting program management | \$780,000 per year \$390,000 per year Forest Buffer \$10,500 per acre \$325K Grass Buffer \$2,500 per acre \$25K Tree/Forest Planting \$10,000 per acre \$290K Forest Conservation \$2,000 per easement acre \$4.2M | 2025: The Hershey Buffer Project installed a 2.75 acres riparian buffer. The South Crawford Rd Stream Restoration Project, a Dauphin Subaward recipient, will install 1.4 acres of riparian buffer in early 2026. 2024: A 2.75 acre buffer is being implemented by the Manada Conservancy in the fall of 2024. 2023: Utilizing CAP funds, DCCD is installing 3.5 acres of buffers across two sites in Spring 2024. A 2024 project has been identified with the Manada Conservancy which will account for 6+ acres of buffers The Capital Area Greenbelt association is leveraging a 2022 Community Conservation Partnerships Program grant of \$54,600 for the construction of approximately 12 acres of riparian forest buffers between 19th and 28th streets, along the Lower Spring Creek. The project is almost halfway through the four year effort, site preparation and planting has been completed with two years of establishment remaining. 2022- DEP Growing Greener - Prioritizing Forested Buffer Incentives - Tier 1 and 2 Counties, Huntingdon, Juniata, and Dauphin - NRCS Codes: 560/575/340/382/561/468/516/367/558/578/580/620/645/360/313/614 - Conservation Districts and NRCS, This project will pickup landowner cost-share for NRCS practices if a buffer is installed, we also pay for site prep and maintenance of buffers. We have 12 projects, still looking for more, and are in the process of contracting with 7 contractors to do site prep and maintenance on buffers. In September of 2022, HRG will contact the Alliance for the Chesapeake Bay to establish a Riparian Ranger Program in Dauphin County. PSU Extension Master Watershed Stewards will be the leader in running the program. | 2025: Forest buffer goal was increased based on achieving the current goal. 2023: Goal was increased to reflect number of acres already implemented. |

| 2025 Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – DAUPHIN COUNTY | | | | | | | | | | | | |
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| | | | | | | | Technical | Financial | Technical | Financial | | |
| 3.8 | Wetland restoration implementation on marginal production ag land | 20 120 acres of Wetland Restoration Identify 1 large property owner from University of Vermont restorable wetland layer to help identify where wetland restoration is feasible | Nature Conservancy, Hershey Trust, Northern Dauphin County Farmer, Manada Conservancy | Hoffer Creek (TNC), Armstrong Creek, Powells Valley Creek, Swatara Creek (East and South Hanover Township), Conewago Creek | 2022-2025 | Willing landowner; appropriate siting, design, and construction for successful restoration result. Lack of technical assistance for landowner outreach and agriculture planning to identify potential site locations. | Landowner outreach | | 3 – additional FTE environmental technician/rapid delisting program management 2 – stream biologist | \$390,000 per year \$280,000 per year Wetland Restoration \$30,000 per acre \$600K | 2025: The Whisper Woods Phase 2 project that will be installed by the end of 2025 includes 0.8 acres of wetland restoration. 2024: HRG has been utilizing existing maps and outreach to determine potential locations for wetland restoration projects. From there HRG plans to develop a regional grant application for the SRBC Consumptive Use Grant. 2023: As part of 2023 CAP funds, in Spring of 2024, 1.5 acres of wetland will be replanted to replace lost ash trees in Lower Paxton Township. Additional wetland restoration has been identified in the area an may be planted in Fall 2024. 2022: no progress to date. | 2025: Goal was increased based on achieving the original goal. |
| 3.9 | Stream restoration | 49,800 5,000 13,335 LF (1 mile) (9 miles) Urban Stream Restoration 3,000 15,000 Linear feet (3 miles) Agriculture Stream Restoration Armstrong Creek has shovel ready project needs \$800k in funding. | Army Corps of Engineers, Chesapeake Bay Foundation, PA Fish & Boat Commission, Watershed associations, DF Chapter TU, MS4 municipalities | Rural areas of Dauphin County – Armstrong Creek Urban areas - Paxton Creek, Asylum Run, Slotznick Run, Swatara Creek and its tributaries, Conewago Creek and its urban tributaries | 2022 – 2025 | Design/permit/construction cycle seems to work in two-year increments, there is an assumption that eroded/degraded streams exist based upon 403(d) listing – should that not be the case in the field, adjust quantitative goal down and ensure buffers are in place. Lack of funding to cover engineering design. Chesapeake Bay Pollutant Reduction Plans are primarily focused on stream restoration, so it’s a great partnership opportunity for the county to assist municipalities where there’s a need for regional funding solutions for the current permit term and future permit terms. | GIS Design/GP-1 permit | | Design, permit, construction services 3 – Municipal Engineers 3 – FTE Design, Engineer, Permit 2 – Stream biologist | Assume urban \$900/LF \$45M Assume rural \$400/LF - \$800K \$420,000 per year \$420,000 \$280,000 per year | 2025: The South Crawford Rd Stream Restoration Project, funded through the 2025 CAP Block Grant, is a high-priority project aimed at restoring 900 feet of an unnamed tributary to Manada Creek in Hummelstown, PA. The stream currently poses public safety and environmental risks due to erosion and lack of riparian buffer. Once complete in late 2025 or early 2026, the project will restore the stream, reconnect the floodplain, and install native vegetation to reduce sediment pollution, enhance habitat, and improve flood resilience. The West Hanover Stream Restoration Project, also funded through the 2025 CAP Block Grant, is a stream restoration project in West Hanover Township, designed to stabilize 630 feet of eroded stream banks along an unnamed tributary to Manada Creek. The project, to be completed in 2025 or early 2026, aims to reconnect the stream to its historical floodplain, reduce nutrient and sediment loads, and enhance habitat through native riparian plantings. 2024: Susquehanna Township, CRW, and Lower Paxton Township have a Joint PRP for Paxton Creek which will have achieved their sediment reduction goals with implementing a stream restoration project at Stray Winds Farm in Lower | 2025: Goals were increased to reflect number of linear feet already restored. 2023: Goals were increased to reflect number of linear feet already restored, or decreased to reflect of lack of progress of action item. |

| 2025 Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – DAUPHIN COUNTY | | | | | | | | | | | | |
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| Action # | Description | Performance Target(s) | Responsible Party(is) and Partnerships | Geographic Location | Expected Timeline | Potential Implementation Challenges or Recommendations | Resources Available | | Resources Needed | | Annual Progress to Date (2021 to 2025) | Reason for Change to Action Item (2023-2025 milestone period) |
| | | | | | | | Technical | Financial | Technical | Financial | | |
| 3.10 | Implement more barnyard runoff control/loafing lot management | 24,600 120 acres of barnyard runoff controls 2 acres of loafing lot management 39 acres of agriculture drainage management | DCCD, NRCS, Dauphin County Farm Bureau, Private Sector Ag Consultant | Countywide Farms | 2022-2025 | Lack of Technical assistance to support agriculture planning and implementation. Lack of funding to cover engineering design. Increasing construction costs are cancelling NRCS contracts. | | | 6 – additional Ag Planners to provide technical assistance and ag planning 3 – FTE Design, Engineer, Permit 3 – FTE Inspector construction Services | \$780,000 per year \$420,000 per year \$315,000 per year Barnyard Runoff Control \$175K per project, assume 1 acre per project \$1.725M in total Agriculture Stormwater Management \$10K per acre \$390K | 2025: 2.9 acres of barnyard runoff control were installed on projects in 2025. 2024: 2.6 acres of barnyard runoff control were installed on projects in 2024. 2023: No progress to date. 2022: Phase 1 of BMP verification will identify where barnyard clusters are located and determine if they are livestock operations or poultry operations. This will help determine potential locations for management BMPs. | 2025: Goal was increased to reflect number of acres already being treated, and an increase in available funding for related projects. 2023: Goal was increased to reflect number of acres already being treated, and an increase in available funding for related projects. |
| 3.11a | Animal waste management BMP implementation for livestock | 2,000 33,500 AUs managed through new BMPs 1,700 AUs animal mortality composting management | NRCS, DCCD, County Farm Bureau | Livestock and Poultry farms | 2022-2025 | Time to get through planning, design, and construction; outreach to smaller farms that likely need the assistance; match cash value for small farms; readiness to plan/implement projects when outreach efforts yield willing landowners. Lack of funding to cover engineering design. | Engineering | | 6 – additional Ag Planners to provide technical assistance and ag planning 3 – FTE Design, Engineer, Permit 3 – FTE Inspector construction Services | \$780,000 per year \$420,000 per year \$315,000 per year Animal waste management system \$175,000 per project, assume 100 AUs per project \$3.5 M in total | 2025: 1,102 AEU's of animal waste management BMP were implemented in 2025 . 2024: 528.8 AEUs of animal waste management were implemented in 2024. 2023: 846.56 AUs of animal waste management and 245.36 AUs of animal mortality composting were implemented in 2023. 2022: BMP Verification Phase 1, shows the potential to report an additional 108 animal waste storage facilities currently not reported through PracticeKeeper. This will help determine potential locations for management BMPs. | 2023: Goal was increased to reflect number of acres already being treated, and an increase in available funding for related projects. |
| 3.11b | Manure Transport out of Dauphin County | Transport 2,000 dry tons per year out of county | DCCD, NRCS, Dauphin County Farm Bureau, Manure Brokers | Countywide | 2022-2025 | Current reporting standards do not require manure broker and haulers to report manure transported. New regulations must be developed to require haulers and brokers to submit information to DEP. | | | 1 – FTE Clean Water Coordinator for Conservation District | \$130,000 per year | 2025: No progress to date. Remove from the CAP. 2024: No progress to date. 2023: New goal for 2023 | 2025: Action item removed from the CAP due to no current or anticipated progress. |

| 2025 Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – DAUPHIN COUNTY | | | | | | | | | | | | |
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| | | | | | | | Technical | Financial | Technical | Financial | | |
| 3.12* | Urban Stormwater Management Non-Regulated Communities | Implement existing ordinances and Catalogue existing BMPs that fit into this category Runoff Reduction Performance Standard – 936 4,000 acres treated Stormwater Treatment Performance Standard – 13 acres treated | DCPC, DCCD, developing municipalities, Tri County Regional Planning, Municipal Engineers, PSU Master Watershed Stewards | County-wide | Ongoing 2022-2025 | Coordination/ training for municipal staff, FieldDoc batch opportunity, non-MS4 engagement (what’s in it for them?), difficulty obtaining past information (MS4s typically have databases from 2003-present) | Reporting platform | | 5 Summer interns for reporting and verification 3 – Municipal Engineers 3 – municipal planner | \$50,000 per year \$420,000 per year \$390,000 per year Project budget: \$4M | 2025: No progress to date. 2024: Both Upper Dauphin Communities have decided to not remain in WREP. However, Upper Paxton Township and Millersburg Borough are working independently to combine efforts for a flooding / community water improvement project for the Tanners Run area. 2023: Funding remains an issue for those communities not included in WREP. One, non-regulated municipality is involved with WREP. Buy-in was offered to multiple municipalities, but without regulation, most did not see the benefit. 2022: A potential pilot project has been identified in Millersburg Borough and Upper Paxton Twp. | 2025: Action item was changed from green to yellow based on no progress. 2023: Goal was increased to reflect number of acres already being treated. |
| 3.13* | MS4-related Chesapeake Bay Pollutant Reduction Plan Implementation | Plan implementation by end of current permit term (2023) Wet Ponds and Wetlands – 167 acres treated Bioretention and Raingardens – 153 193 acres treated Bioswale – 75 acres treated Vegetated Open Channels – 18 200 acres treated Infiltration Practices – 22-200 264 acres treated Dry Extended Detention Ponds – 181 282 acres treated Advanced Street Sweeping – 296 200 miles-358 Acres Dry Detention Ponds – 2 635 acres treated Stream Restoration (see Initiative 3.9) | West Hanover Township, Lower Paxton Township, Susquehanna Township, Capital Region Water, Swatara Township, Lower Londonderry Township, Hummelstown Borough, Paxtang Borough, Penbrook Borough, Steelton Borough, Highspire Borough, Middletown Borough, Derry Township, South Hanover Township, East Hanover Township, PSU Master Watershed Stewards, Audubon, TNC, CBF | Urbanized planning area | 2023 – might be 2025 if they’re individual permittees | Municipal capacity to implement plans (technical, financial) Develop a grant funding source just for MS4 communities so they are not competing against all stakeholders. Need larger sources of funding. Land available to implement projects. Expanded flexibility to work outside of designated areas | Municipal engineer design/permit, construction readiness MCM Support, which may result in project readiness – see County 2021-2022 implementation plan | Unknown | 3 – Municipal Engineers 3 – municipal planner | \$420,000 per year \$390,000 per year Project budget \$5.4M | 2025: MS4s continue to implement their individual PRPs. Both 2025 CAP Block Grant projects are PRP projects. 2024: MS4s continue to implement their individual PRPs. 2023: MS4s continue to implement their individual PRPs. A goal of WREP is to have the 15 MS4 municipalities participating in the program enter into a join PRP in 2024. 2022: No progress to date. | 2025: Goals were increased to reflect number of acres already being treated. 2023: Goals were increased to reflect number of acres already being treated, or decreased to reflect of lack of progress of action item. |

| 2025 Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – DAUPHIN COUNTY | | | | | | | | | | | | |
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| 3.14 | Conservation Landscaping/Turf to Meadow Conversion | Promote new program and enable one large tract landowners’ participation 100 10 new acres of Conservation Landscaping | DCPC, DCNR, Watershed Organizations, Municipalities, PSU Master Watershed Stewards, Audubon, TNC, CBF | Developed areas in County municipalities | 2022 - 2025 | Landowner education and acceptance. Existing mowing ordinances and weed ordinances can be a challenge to implementation. | Planting plan assistance | | 3 – FTE Municipal Planner 3 – additional FTE environmental technician | \$390,000 per year \$390,000 per year \$2,500 per acre meadow à \$250,000 budget | 2025: The Spring Creek/Work Release Center Lawn Conversion Project and the Serb Park Project will be installed in fall of 2025. 2024: Two projects, one at Dauphin County Work Release and one at St. Nicholas Serbian Orthodox Church, will establish a total of 2.84 acres of turf to meadow conversion through CAP Block Grant funding. The projects are being bid in Fall of 2024 with implementation in Spring of 2025. 2023: A project has been identified along Spring Creek in Swatara Township. This project will be implemented in 2024. 2022: \$6,190 from WPC DCNR Watershed Forestry Funding - awarded to East Hanover Township Parks and Rec and Penn State Extension is assisting. 1.24 acre turf to meadow conversion in the community park to be completed fall 2022 and spring 2023, and will include field day trainings for other municipal/grounds crews to attend and learn. | 2023: Goal was changed due to lack of progress of action item. |
| 3.15* | Continue dirt, gravel, low volume road program | 14 miles overall restored through past projects and future projects Dirt & Gravel Road Erosion & Sediment Control - Driving Surface Aggregate with Outlets - 35,000 LF (6.5 miles) | DCCD | Countywide | 2025 | Continue D&G Road program funding. Expand Dirt and Gravel Road Program to include farm lanes. | Education, technical assistance, project oversight | \$1.68 Million | 1 – FTE Clean Water Coordinator for Conservation District | \$130,000 per year Dirt and Gravel Roads \$40 per foot TBD | 2025: No progress to date. 2024: No projects have been completed in 2024, however, projects are in the pipeline to be completed through 2024 and into 2025. 2023: 2 DGR projects, one 3,437.17 feet long and one 3,365.43 feet long, were installed in 2023. 2 LVR projects, one 6,506.94 feet long and one 3,365.43 feet long, were installed in 2023. | |
| 3.16* | 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. | Local Municipalities, DEP and PennDOT | Countywide | 2023 | PennDOT’s and Municipal willingness to cut back on mowing programs. DEP Chesapeake Bay Program will need to assist in the education of PennDOT. | | | 1 – FTE Clean Water Coordinator for Planning Commission 1 – FTE Clean Water Coordinator for Conservation District | \$130,000 per year \$130,000 per year | 2023: No progress to date. 2022: No progress to date. | 2023: Consistent lack of progress and lack of coordination/buy in from PennDOT through State partners. |

| 2025 Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – DAUPHIN COUNTY | | | | | | | | | | | | |
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| 3.17 | Private Funding & Grant Administration | Identify some private funding sources that may be able to supplement public funding sources/existing sources utilized for stakeholders, continue to work with partners to facilitate additional funding | Existing project implementer networks, Ag Choice Farm Credit, Hershey Trust | Countywide | 2022-2023 | Need to expand network, educational aspect of less common funders, logistics of utilizing unproven funding sources (or lesser known). Grant administration is a challenge due to limited staff and time consuming nature of grant reporting and administration. | Financial services | | 1 – FTE Conservation District Grant Manager 1 – FTE Planning Commission Grant Manager 2 – staff accountants | \$130,000 per year \$130,000 per year \$140,000 per year | 2025: No progress to date. 2024: No progress to date. 2023: FFAR and Walton Family Foundation opportunities did not proceed. No progress to report from County-led activities. 2022: HRG and LFT are exploring potential opportunities to apply to the Foundation for Food & Agriculture Research (FFAR) and the Walton Family Foundation's new program, Achieving Conservation through Targeting Information, Outreach and Networking (ACTION) to support innovative research that increases adoption of conservation practices. A potential grant application would bolster farm visits in Dauphin County to increase the adoption of Conservation Practices. | 2025: Action item removed from the CAP due to no current or anticipated progress. |
| 3.18 | Partner with local environmental organizations and integrators performing conservation work | Partner with The Hershey Company, Land O’ Lakes and PSU Extensions to build capacity, expand education and outreach and utilize resources. Work with PSU extension to secure long term funding for Master Watershed steward coordinator. Work with Audubon to leverage Green Ribbon Landscapes and partner on more plantings in urban areas. Work with integrators to ensure conservation practices are reported. Working to ensure farms have conservation plans, buffers, cover crops and no-till. | The Hershey Company, Land O’ Lakes, PSU Extension and Master Watershed Stewards (14), PSU Master Watershed Stewards, Audubon, TNC, CBF, PennAg | Countywide | 2022 – assist The Hershey Company with corporate development of science-based targets for water for their cooperate environmental goals, connect with Audubon on Green Ribbon Landscape opportunities in Dauphin County 2023-2025 – evaluate opportunities | Funding to support ongoing PSU Extension support Reporting Conservation Practices installed with private integrator funding Support Ag Conservation Assistance Program (ACAP) | CAP Coordinator | | PSU Extension Coordinator 1 – FTE Clean Water Coordinator for Planning Commission | \$10,000 per year \$130,000 per year | 2025: The County CAP Partnership worked with Hershey Trust and Manada Conservancy. The creation of the Dauphin County Subaward Program to open the CAP Block Grant funding to municipalities, non-profits and other organizations may lead to future projects working with these organizations. 2024: The County CAP Partnership continues the partnership with the Manada Conservancy and the Hershey Trust. 2023: 2023: Through a partnership with Manada Conservancy and the Hershey Trust, DCCD has identified potential projects for 2024 and 2025. 2022: No progress to date. | |
| Priority Initiative 4: Research, Education, and Training | | | | | | | | | | | | |

| 2025 Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – DAUPHIN COUNTY | | | | | | | | | | | | |
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| 4.1 | Develop new water quality monitoring data into Chesapeake Data Explorer/ Chesapeake Monitoring Cooperative database | Successful data input/acceptance by ALLARM and other environmental groups program by end of 2021 | ALLARM, TU – Doc Fritchey, Swatara/ Paxton Creek/ Tri-Valley/ Twin Valley/ Wiconisco/ Clarks Creek, Watershed Association, SRBC, Manada Conservancy, DCCD, DEP | Countywide | 2022 | Data precision, QAQC, opportunity to educate landowners about local stream health and what they can do about it | Data QAQC and training Data input | N/A | Volunteers for Water quality monitoring New monitoring equipment 3 – additional FTE environmental technician 2 – stream biologist/environmental scientist | N/A \$10,000 \$130,000 per year \$280,000 per year | 2025: ALLARM (Dickinson College) has continued interest in more restoration monitoring. 2024: Dauphin County Conservation District is considering investing time and resources into additional water quality monitoring if new WIPs are established in the County. 2023: Dickinson College’s Alliance for Aquatic Resource Monitoring (ALLARM) is a community science center that works with communities in the Mid-Atlantic region to use science as a tool to investigate stream health while generating data that can be used for aquatic protection and restoration efforts. ALLARM’s Stream Team program aims to develop baseline water quality data examining the relationship between land use, geology, and water quality. PA communities have collected biological, chemical, and physical data, and continue to do so in these targeted counties: Cumberland and Dauphin. There are currently 19 active Stream Team Sites in Cumberland County, and 3 active sites in Dauphin County. Monitoring data for these active sites, as well as sites not currently monitored in Cumberland, Dauphin, and Perry Counties are located in the CMC Data Explorer, which is a regional database for Community-collected data throughout the Chesapeake Bay Watershed. More information and the Data Explorer can be found here: https://cmc.vims.edu/#/home | |
| 4.2 | Leverage restoration of Wildwood Lake in terms of sediment reduction credits and study of nitrogen reductions tied to performance of retained wetlands | Completed background study of nitrogen reduction performance by existing wetland system Formal partnership between Dauphin County and USACE through Section 206 for the Aquatic Ecosystem Restoration program, utilizing Growing Greener grant as local match toward initial phases of the project | Dauphin County Parks and Recreation Department, DEP, USACE, Friends of Wildwood, HRG, Normandeau | Wildwood Lake park property (owned by Dauphin County, located within Harrisburg city limits) | 2022-2024 2021-2022 | The many co-benefits of restoration are sometimes conflicting and addressing the needs of all stakeholders while honoring the wild nature of Wildwood is a delicate balance. The restoration of Wildwood Lake is expected cost at least \$10 million, and the only cost-effective approach is through a USACE partnership. | Survey base mapping and abbreviated wetland absence/presence mapping Survey base mapping, soil sampling, and abbreviated wetland absence/presence mapping | N/A \$147,000 | Bio- and geochemical study of nitrogen sequestered/processed by wetland system Feasibility study, design, engineering, construction | \$1M \$10M (estimated, to be confirmed upon potential USACE feasibility study) | 2025: Revised permit submitted to USACE on 9/8/2025. Project partners continue to investigate funding opportunities for future implementation. 2024: Final permit submittal will occur in 2024 while project fundraising continues by County partners. 2023: Wildwood Park restoration/dredging is shovel ready for Phase 1 with the exception of final permits from USACE. Dauphin County continues to pursue construction funding from various sources. The nitrogen reduction study concept has not yet advanced but will likely gain traction once the construction schedule is known. 2022: The formal partnership with USACE did not occur due to it being unacceptable for Growing Greener funds to be used as match. The design of the restoration project has advanced and will be completed by the end of 2022. No comprehensive funding source exists for the implementation of the full project, so phased fundraising will advance in early 2023 and will continue. The nitrogen reduction performance study has not advanced due to lack of funding and as a result of having to pivot from the USACE partnership but remains a goal through 2024. | 2023: Eliminated the USACE partnership from the CAP as it did not ultimately occur. |

| 2025 Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – DAUPHIN COUNTY | | | | | | | | | | | | |
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| | | | | | | | Technical | Financial | Technical | Financial | | |
| 4.3 | Supporting watershed associations for short-term success and long-term sustainability aligning with their goals | Develop new or reestablish existing watershed associations to support with CAP implementation. Watershed organizations can support with outreach, engagement, new project identification and implementation | National Trout Unlimited, ALLARM, TU – Doc Fritchey, Swatara/ Paxton Creek/ Tri-Valley/ Twin Valley/ Wiconisco/ Clarks Creek, Watershed Association, SRBC, Manada Conservancy, DCCD, DEP, All Things Swatty, Swatara Water Trail | Countywide | Ongoing | Willing volunteers and leaders to establish and run watershed organizations to be successful and support with implementation. | Social media shares, meeting logistics Project development support | Limited match | 1 – FTE Clean Water Coordinator for Planning Commission 1 – FTE Clean Water Coordinator for Conservation District | \$130,000 per year \$130,000 per year \$5000 per organization to produce promotional materials (hats, shirts, stickers) for members \$40,000 per year | 2025: The CAP funded, Hershey Trust Buffer Project partnered with the Manada Conservancy to complete the project at the end of 2024. 2024: POWR has applied for Growing Greener funds to obtain resources for Watershed groups to utilize for technical assistance for project design. 2023: Through a partnership with Manada Conservancy and the Hershey Trust, DCCD has identified potential projects for 2024 and 2025. 2022: \$162,422 from DEP Growing Greener - a portion of these funds supported to initiation of the Master Watershed Stewards program in Dauphin County. The funds are set to expire in December 2022. Live Stakes planted in Centennial Acres park (Lower Paxton) as well as a live stake nursery to expand access to live stakes for future projects, as well as educational signage. | |
| 4.4 | Leverage Dauphin County Return on Environment and Kittatinny Ridge conservation goals | Partner with Kittatinny Ridge where goals align with evolving CAP implementation | The Nature Conservancy, DCNR, Audubon Pennsylvania, Appalachian Trail Conservancy, get outdoors PA | Susquehanna Water Gap/Capitol Area | Ongoing | Future land conservation efforts will take time and funding to see through in the Kittatinny corridor, but they are important to pursue because they preserve clean water. | | | | TBD | 2025: No update. 2024: No update. 2023: Increasing the advertising and awareness has occurred in 2023. 2022: Audubon Pennsylvania and Manada Conservancy are prioritizing land for protection. | 2025: Action item removed from the CAP due to no current or anticipated progress. |