

Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – PERRY COUNTY

Green - action has been completed or is moving forward as planned Yellow - action has encountered minor obstacles Red - action has not been taken or has encountered a serious barrier

Action #	Description	Performance Target(s)	Responsible Party(ies) and Partnerships	Geographic Location	Expected Timeline	Potential Implementation Challenges or Recommendations	Resources Available		Resources Needed		Progress to Date
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Priority Initiative 1: County Programmatic Initiatives											
1.1	Develop a Perry County Integrated Water Plan	Develop an integrated water plan to address water quality concerns in Perry County. Utilize existing plans that incorporate water quality goals to define more precise goals and leverage resources.	PCPC, Multi-partners, County Comprehensive Plan, Hazard Mitigation Plan, Perry County Greenways, Parks, Recreation and Open Space Plan, Act 167, Act 537 Plans, Source Water Protection, existing TMDLs	Countywide	2022	Connect County plans in meaningful ways to meet local water quality goals	Existing Perry County Water Supply Plan, Comprehensive Plan	TBD – Will require a substantial revision	1 – FTE Clean Water Coordinator for Planning Commission 1 – FTE Clean Water Coordinator for Conservation District Plan development	\$130,000 per year \$130,000 per year \$150,000 for plan development	2022: Met with DEP to discuss the opportunity and there are no available resources to support plan development. The County Comprehensive Plan is 75% complete and will be complete this year. The need for stormwater ordinances will continue to be a priority. CAP implementation is specifically called out as a goal in the County Comprehensive Plan.
1.2A	Implement County Comprehensive Plan policies and actions	Encourage that growth activities address existing water quality impairments through stormwater BMP implementation already required by local ordinance Annual review of municipal comprehensive plans for action items providing water quality benefits Annual solicitation of municipal interest in the Local Planning Assistance (LPA) Program Encourage the adoption of stream buffering and natural resource protection ordinances 3,000 acres of forest conserved	County Commissioners, Perry County Planning Commission, Municipal Governing Bodies, Municipal Planning Commissions, Municipal Zoning Officers, Perry County Greenways, Parks, Recreation and Open Space Plan	All 30 Perry County Municipalities Prioritize public spaces	Ongoing	Educating municipalities, updating local plans and ordinances, growth areas not consistent with Census urbanized areas Venue space for in-person meetings. Limited staffing. Municipal Officials have a tendency to chart their own direction. Outdated Municipal plans and lack of action attending to water quality.	Outreach and Education Plan Preparation encouraging buy-in with the Perry County Comprehensive Plan (One size-fit-all approach) Ordinances preparation Field work and project identification Held 30 meetings with the Natural Resources and Recreation Workgroup and the Economic Issues Workgroup (15 apiece)	\$62,100 (A portion of the budget) All 30 municipalities are eligible	2 – Municipal Engineers 1 – municipal planner 1 – FTE Clean Water Coordinator for Planning Commission 1 – Administrative Assistant	\$280,000 per year \$130,000 per year \$130,000 per year \$75,000 per year \$2,000 per acre of forest easement ☐ \$6M total	2022: There will be a new slate of implementation to follow adoption of the update to the Comprehensive Plan in December. More detail to come next year.
1.2B	Prepare an updated Comprehensive Plan	Develop Basic Studies component Solicit municipal projects (action items) Develop the Plan (Framing our Future) Develop the Action Plan (Picture in Motion)	Multi-partner effort County Board of Commissioners, PCPC, all interested municipalities, PCCD, PC EMA, etc.	Perry County and Multi-Municipal	2021 and ongoing	Encouraging 100% buy-in from municipal governing bodies to adopt the county plan for their own use. Local control/ increased enforcement may be a barrier.	Current County Comprehensive Plan; Municipal Comprehensive Plans; 2020 US Census figures; community surveys	PCPC Budget; Potentially supplemented by PA DCED through a MAP Program Grant	1 – FTE Clean Water Coordinator for Planning Commission 9 community surveys to be conducted, and draft reports prepared for municipal projects	\$130,000 per year \$150,000 for updated comprehensive plan	2022: Adoption of updated Comprehensive Plan will be by the end of the year. Next steps will be determined in 2023.

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1.2C	Implement the Source Water Protection Plans	<p>Help ensure the groundwater and surface water resources of the county are protected from overuse or degradation.</p> <p>Work with municipal authorities to educate on benefit of Source Water Protection Plan – work with DEP on development of Plans where needed.</p> <p>Installation of cautionary signage</p>	Bloomfield Borough Council, New Bloomfield Water Authority, Blain Borough, Millerstown Borough, Newport Borough?, Liverpool Borough	<p>Bloomfield Borough</p> <p>Blain Borough</p> <p>Millerstown Borough</p> <p>Other interested municipalities</p>	Ongoing	<p>Overcoming lost farm revenue where BMPs take up crop land and pastureland.</p> <p>Educating local farmers on the municipal well recharging areas.</p> <p>The ability to provide real value in exchange for anticipated land production loss in areas where manure application should be reduced.</p>	Coordination of meetings and continued education.	Bloomfield Borough	<p>1 – FTE Clean Water Coordinator for Planning Commission</p> <p>Manure application offset expenses to reduce manure application to certain well influencing areas.</p>	<p>\$130,000 per year</p> <p>\$ TBD for new Source Water Protection Plans</p>	2022: HRG and Perry County explored options with PA DEP to develop SWPP's. PADEP mentioned they are available to assist with new plan development, but no further progress to date. Work to identify potential municipalities in the fall.
1.2D	Evaluate areas to establish riparian buffers to stabilize stream banks and limit encroachment	Identify landowners willing to participate and work with the following partners to identify (5) buffer opportunities – 41 forested riparian buffer acres (portion of Action 3.6)	Municipalities, Conservation District, PCPC, NRCS, CBF, watershed groups, Central Pennsylvania Conservancy	<p>Countywide</p> <p>Prioritize public land: Lynn Sheaffer Dum Memorial Park, Millerstown Park, Wagner Park, Alta Nage Park, Little Buffalo State Park, Marysville Lions Club</p>	5-10 years	<p>Adopting ordinances, may require a pilot project in a willing municipality to demonstrate success.</p> <p>Lack of technical assistance to support implementation goals for forest buffers.</p> <p>Buffer funding programs must include 5-10-year minimum maintenance plan, incentive money for landowners, along with volunteers to establish the buffer.</p>	Landowner outreach; on the ground riparian project execution	Portion of County Planning Budget	<p>1 – FTE Clean Water Coordinator for Planning Commission</p> <p>1 – FTE Clean Water Coordinator for Conservation District</p>	<p>\$130,000 per year</p> <p>Expand Buffer Bonus Program to provide \$10,000 per acre of buffer installed to include 5-year maintenance contractà \$410,000 total</p>	<p>2022: PCCD's Watershed specialist is focused on 15 square miles for buffer restoration and protection work in the Montour and Baken Creek watersheds.</p> <p>A Baken Creek Outreach event was held in October of 2022 where 29 landowners attended. Of the 29, 14 are interested in planting buffers.</p> <p>Additionally, PCCD's intern used aerials to identify current buffered areas and incorporated into GIS. PCCD will use this data to identify gaps in buffer coverage which will lead to targeted outreach.</p> <p>Through PCCD's partnership with Keystone 10 Million Trees distribution, technical assistance and promotional incentives engaged over 80 lanownwers to plant trees as buffers.</p>
1.3	County Sewage Plan – prepare an updated Act 537 Plan	<p>One-time adoption of ordinance with enforcement, inspection, and tank pumping.</p> <p>Prepare grants, develop basic studies component, develop the action plan</p>	Interested municipalities, Board of Commissioners, PCPC	<p>Municipalities</p> <p>Howe – Township recently introduced pumping schedule</p>	<p>2023: 1st year is plan development</p> <p>2024: 2nd year is implementation</p>	<p>Landowner education will be needed to promote proper on-lot septic system maintenance.</p> <p>Encouraging 100% buy-in from municipal governing bodies to adopt the county plan for their own use.</p> <p>Funding limitations and enforcement of Act 537.</p>	Current County Sewage Plan; Municipal Act 537 Plans; 2020 US Census figures, Pumping Schedules	PCPC Budget; Potentially supplemented by PA DCED through a MAP Program Grant	<p>Inventory of latest municipal sewage facilities</p> <p>1 – FTE Clean Water Coordinator for Planning Commission</p>	\$125,000	2022: No progress to date.

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1.4	Implement County Hazard Mitigation Plan	<p>Improve flood prone areas with BMPs that also enhance water quality</p> <p>Encourage municipal officials to enact stormwater management ordinances consistent with Act167 and Act102</p> <p>Maintain current capital improvement list – update on annual basis</p>	County Planning Commission, municipalities, Perry County EMA (Floodplain Administrator)	29 of 30 Municipalities, only exclusion is Landisburg Borough (no floodplain is mapped)	2023 - 2025	<p>Funding, land for BMPs, site constraints for enlarging culverts/raising bridges.</p> <p>Enforcement and compliance of stormwater ordinances.</p>	Existing digital floodplain mapping	None/Not applicable	<p>1 – FTE Clean Water Coordinator for Planning Commission</p> <p>Additional detailed flood mapping where there are no immediately available base flood elevations established</p>	<p>\$130,000 per year</p> <p>\$100,000</p> <p>\$186,000 project implementation, obligated 10% of the project cost</p>	2022: Second review of the annual update is in August of 2022.
1.5	Act 167 Plan Development	<p>Phase 1: Prepare Grants, Inventory of waterway obstructions, look to incentivize ordinances to protect water quality</p> <p>Phase 2: Prepare Grants and Plan Preparation</p>	PCPC, all municipalities, Board of Commissioners, multi partner needs	Countywide	2021 - 2025	<p>Should local involvement exist, additional responsibility for enforcement.</p> <p>Find funding to develop a Countywide Act 167 Plan.</p> <p>Lack of DEP funding for plan update.</p>	Institutional knowledge		<p>1 – FTE Clean Water Coordinator for Planning Commission</p> <p>Consultant</p>	<p>\$130,000 per year</p> <p>\$150,000</p>	<p>The 2022/2023 state budget includes new 2022: funding to support the development of Act 167 plans. Perry county currently has no Act 167 plan, but with new funding plans to explore opportunities to develop an Act 167 Plan.</p> <p>Look to establish a municipalities meeting in 2023 to discuss municipal ordinances and begin exploration of Act 167 plan development.</p>
1.6*	Implement County Farmland Preservation Program with farmland preservation program incentives enhancement	<p>Total farmland preservation (69 farms in program currently – approx. 9844 acres)</p> <p>4 additional farms will be added by 2022 totaling 10,500 acres</p> <p>Look to fund 1-2 additional farms per year in preservation program. – 10,700 acres of farmland conservation</p>	Lancaster Farmland Trust and Perry County Farmland Preservation Board, NRCS, Perry County Greenways, Parks, Recreation and Open Space Plan	Ag land use areas that fit farmland preservation criteria	2021-2022 – explore incentive opportunities	<p>Time/technical assistance to coordinate preservation plans with funding and technical assistance</p> <p>Preserved farms are required to have an NRCS Conservation Plan, work with farmers to ensure Conservation Plan is reported in PracticeKeeper. Recommend making this a program requirement statewide.</p> <p>Sharing NRCS data is challenging.</p>	Priority recommendations, easement revision recommendations, supplemental BMP funding research		<p>Farmland Preservation Staff Administrator</p> <p>1 – FTE Clean Water Coordinator for Conservation District</p>	<p>\$130,000 per year</p> <p>\$130,000 per year</p> <p>\$250,000 per farm funded, total of 8 farms à \$2M</p>	<p>2022: Continuing to preserve farms using RCPP and ACEP funds. 10,000 acres have been preserved to date.</p> <p>A connection between NRCS planning and farmland preservation would assist us with advancing our preservation strategy which includes pairing state funding with NRCS funding. A full time staff person filling both roles would accelerate the program.</p> <p>Two farms totaling 222 acres were preserved in 2022, and there are 27 farms remaining on the ranking list.</p>

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1.7*	<p>Establish funding and staff support to assist the Agricultural community & conduct one on one farm outreach visits</p> <p>759 farms exist in Perry County</p>	<p>Approximately 100 farms have their plans (Conservation/ Ag E&S and/or nutrient/manure management plans) in Perry County, goal is to complete 200 by 2025.</p> <p>Work with private ag consultants to document plan reporting.</p> <p>Implementation challenges (continued): In order to communicate effectively with the farming community one on one farmer outreach must be conducted.</p> <p>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.</p>	PCCD, Contracted planners, Act 38 operators, preserved farms, Organic Farmers, Integrators	Countywide	2021-2025	<p>Limited compliance activities by DEP.</p> <p>Lack of Technical assistance to support the farming community.</p> <p>Private sector Ag plans are not required to be shared with District staff.</p> <p>All counties will work with Act 38, Preserved farms and organic farms to report Ag E&S and NRCS Conservation Plans. These operations are required to have them, but no requirement to report the plans. It is recommended state agencies make changes to Act 38 and farmland preservation programs to require PracticeKeeper reporting.</p>	<p>Field verification, troubleshooting</p> <p>Site visits and plan review</p> <p>Inspections – 50 per year, 1 hour per plan for data entry, 3 hours per inspection (some operations much longer)</p>		<p>6 – additional Ag Planners to provide technical assistance and ag planning</p> <p>3 – FTE Design, Engineer, Permit</p> <p>3 – FTE Inspector Construction Services</p> <p>1 – FTE Clean Water Coordinator for Conservation District</p> <p>1 – Administrative Assistant</p>	<p>\$780,000 per year</p> <p>\$420,000 per year</p> <p>\$315,000 per year</p> <p>\$130,000 per year</p> <p>\$75,000 per year</p>	<p>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 will complete an additional 10 farm visits.</p> <p>Agriculture Conservation Assistance Program (ACAP) was announced in the Pennsylvania State Budget in July of 2022. This program will provide all counties in Pennsylvania with funding totaling \$154 million over the next 3-years to support Ag project implementation and technical assistance needs.</p>
1.8	<p>Juniata River Watershed Management Plan</p> <p>Identify a rapid delisting watershed as part of the plan.</p>	<p>WPC applied for DCNR C2P2 grant to update the Juniata River Watershed Management Plan. CAP can help leverage funding for the Juniata River Watershed Management Plan.</p> <p>Work with the Chesapeake Conservancy to rapidly delist a watershed within the Juniata River Watershed Plan.</p>	Western Pennsylvania Conservancy, Chesapeake Conservancy	Juniata River Watershed (Blair, Fulton, Huntingdon, Juniata, Mifflin, Perry)	<p>2021 – Conservancy Exploring funding options</p> <p>2022 – outreach and planning</p> <p>2023 – start implementation</p>	<p>Performance Target Continued: Our goal is basically to update the existing plan with work that has been done since the original plan, do some more in-depth GIS analysis, and get public and municipal input into what they see are the issues in the watershed. I think the GIS analysis will be a big part of the process. We’re planning on using the new 1-meter resolution data set, incorporating some of the buffer gap analysis work from Chesapeake Conservancy, etc.</p>		DCNR Grant	<p>1 – FTE Clean Water Coordinator for Planning Commission</p> <p>1 – FTE Clean Water Coordinator for Conservation District</p>	<p>\$130,000 per year</p> <p>\$130,000 per year</p> <p>WPC applied for \$37,785 with \$37,286 match</p> <p>Rapid Delisting Approach Project and Program Budget \$1M</p>	<p>2022: Juniata Watershed Management Plan Update is a DCNR grant that will cover the entire Juniata River watershed. The planning process will include partners from the county conservation districts in the watershed, Juniata College, St. Francis University, Chesapeake Conservancy, HRG, Foundation for PA Watersheds, Little Juniata River Association, and county planning commissions. Project will start with a kick-off meeting late summer/early fall.</p>

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1.9A	Water quality communication plan, leveraging existing documents and covering topics including Comprehensive Plan, Hazard mitigation plan, Act 167, Greenways Plan, Perry County Water Supply Plan Utilize existing TMDLs as part of the messaging	Develop messages and audience; execute plan and distribute messaging through staff and partners. Utilize the DPJM County Countywide Action Plan (arcgis.com) - ArcGIS website as a source of consistent communication	CBF, Chesapeake Conservancy, NRCS, PCCD, TCRPC, Private Sector Agriculture Farm Visits, municipalities, Farm Bureau	Countywide	2022 – 2025	Simplifying the resources that are available, targeting Perry County farmers and other landowners. Sharing staff resources across the 4-county region.	ArcGIS Hub Website 1 – lead county contact		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	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. Cocolamus Creek is undergoing the development of an alternative restoration plan to address nutrients and sediment. The plan is set to be finished by the end of 2022. Utilize the TMDL as messaging leverage.
1.9B	Agricultural Communication Strategy	One on one farm outreach is the best way to communicate with farmers in addition to reporting practices. Work to develop a plan to complete one on one farm visits. Work to develop a communication plan to engage integrators. Attend private partner ag meetings to provide information. Utilize Farm Bureau Newsletter for announcements	PCCD, County Farm Bureau, Integrators, County Farmland Preservation Board, PSU Extension, NRCS, CBF	Countywide	2022-2025	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 county boundaries they serve. It is recommended DEP/PDA/SCC communicate with integrators on a frequent basis to reduce mixed messages.		PCCD – portion of funding	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 would be covered through other funding requests.	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 10 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 Perry County. Scaling up of farm visits would allow for additional outreach to occur.

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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, grassed waterways, 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)	Local University or Students who live locally but attend nearby Universities, 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 reporting catchup approach while we continue to provide support to farmers on planning and BMP installs, reduce the amount of interruption of government entities to compliant farm operations	Precision Conservation Tools General methodology outline BMP field backcheck	N/A	Further GIS and data processing/method refinement 5 – Student Internships to Support CAP Implementation 6 – additional Ag Planners to provide technical assistance and verification support	\$46,000 (2022 only) \$50,000 per year \$780,000 per year	2022: In December of 2021, Perry County was awarded \$30,000 to conduct Phase 1 of a multiphased BMP verification remote sensing effort. Perry County elected to use a portion of the money for a remote sensing analysis focusing on five priority BMPs including: Barnyard Runoff Controls, Animal Waste Management Systems, Forest Buffers, Grassed Waterways, and Streambank Exclusion Fencing. 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 Perry County. Initial results from Phase 1 look excellent in providing opportunities to take credit for practices on the ground that are not currently reported.
2.2*	Identify future ag/urban project opportunities using automated means	BMP opportunity analysis – ag conservation, land retirement, alternative crop, forest conservation, stream 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, Marysville Borough, Municipal Engineers, PCPC	Marysville Borough Countywide where feasible	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	2022: No progress to date.
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, PCPC, Municipalities	Urban/suburban landscape	2022	Currently municipalities are not collecting BMP data because it is not required in non-Municipal Separate Storm Sewer System (MS4) communities. Must incentivize communities to report, no existing system in place.	Reporting platform	N/A	Training 5 – Student Internships to Support CAP Implementation 1 – Municipal Planner	N/A \$50,000 per year \$130,000 per year	2022: The Foundation for Pennsylvania Watersheds applied for a NFWF Most Effective Basins grant in April of 2022 to support Phase 2 of BMP verification remote sensing analysis. Phase 2 will include analyzing wet ponds and detention basins in urban areas across Perry County. PA DEP has updated FieldDoc to allow for additional reporting of urban practices.

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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 – 1,200 acres	PSU Extension	Countywide	TBD	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 Urban Nutrient Management \$10 per acre--> \$12,000	\$130,000 per year	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.
2.5*	Improve Agricultural BMP reporting utilizing PracticeKeeper, Capital RC&D Transect Survey, PSU Survey, Manure Transport Reporting and Remote Sensing	Enter 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 Perry County Work with PDA/DEP to improve manure transport reporting	DEP, PCCD, NRCS, PDA, NRCS, Perry 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. County Ag planners do not have time to report private sector plans 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 Perry County farmers. Manure brokers are not required to report data annually. Data is not inclusive.	Technical Support to enter plans into PK		5 – Summer interns for reporting and verification See 3.5 for funding needs to improve cover crop reporting for capital RC&D	\$50,000 – paid internships	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.
2.6*	Ensure accurate reporting of Water, Sewer and Wastewater Treatment Plant nutrient loading and plant upgrades	Work with Water, Sewer and Waste Treatment facilities to accurately document plant upgrades to capture nutrient reductions.	Marysville Borough just applied for reduced rates. Newport is doing storm sewer separations Suez (private sewer/water utility)	CSO and Waste Treatment Facilities	2022-2025	Need DEP to work with waste facilities to accurately document plant upgrades. Need reductions to be accurately captured in CAST. Work with DEP to determine how composting helps to reduce nitrogen and phosphorus. Accurately document	Municipal Engineer		1 – FTE Clean Water Coordinator for Planning Commission 1 – FTE Clean Water Coordinator for Conservation District	\$130,000 per year \$130,000 per year \$TBD Infrastructure Funding	2022: This fall, collect upgraded facilities data and coordinate with PADEP to ensure reductions are being credited in CAST. Utilize the monthly meeting to coordinate efforts.
Priority Initiative 3: Achieve New Pollutant Reductions											
3.1	Development of watershed plan for Baken Creek	Partner to include CAP Goals into the development of the watershed plan. Mimic the Chesapeake Conservancy Rapid Delisting approach for this watershed Add 2 instream monitors logging real time data (streamflow, turbidity, nitrate)	PCCD	Baken Creek Watershed	2021-2022 (plan developed) 2022-2031 (implementation begins)	Lack of technical assistance and funding to support with BMP implementation.	Engineering Tech	\$10,000 in stream monitoring	1 – FTE Clean Water Coordinator for Conservation District	\$130,000 per year \$1,000,000 for implementation of Baken Creek Plan	2022: ARP has been completed. PCCD plans to apply for 319 funding in 2023 to aid implementation.

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3.2*	Help farmers and operators to be in compliance with state and federal requirements: Ag Compliance and Nutrient Management Plans	<p>Soil and Water Quality Conservation Plans (Ag E&S) 13,300 new acres</p> <p>Nutrient Management & Manure Management Plans 19,300 new acres of Core N and 15,300 new acres of Core P</p> <p>Work with Act 38 operators (33), Preserved Farms (69), and certified organic farms to document plans required as part of their respective programs</p> <p>Work with the submittal of Act 39 Nutrient Balance Sheets for documentation</p> <p>Implementation challenges (continued): Recommended for DEP to continue funding for Ag Plan development – CEG Program</p>	4R Alliance, PCCD, Perry County Farm Bureau, NRCS, Private Sector Agriculture Farm Visits, PA Sustainable Agriculture (PASA), ACT 38 farms, Preserved Farms, Integrators	Countywide Ag Land	2022-2025	<p>Lack of DEP inspections. Reporting and verification of Ag Plans, NRCS plans expire and do not get reverified, private plans are never entered.</p> <p>Lack of Technical assistance to support agriculture planning and implementation, one on one farm outreach is best way to capture existing plans.</p> <p>Act 38 and Preserved Farms not required to enter plans in PK, recommended to require programs to enter plans into PK.</p> <p>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.</p>			<p>6 – additional Ag Planners to work with farmers to develop required plans</p> <p>\$780,000 per year</p> <p>\$15 per acre for a total cost of \$199,500</p> <p>\$15 per acre for a total cost of \$289,500</p>	<p>2022: An additional 2,200 acres of Conservation Plans and 1,800 acres of Core Nutrient Management was reported in 2021 compared to 2020 reporting.</p> <p>As part as the Chesapeake Bay Technician Agreement, staff capacity will allow for 20 additional plans for farms on an annual basis.</p>	
3.3	Advanced Nutrient Management (4R) Practice Education and Implementation	<p>Work with manure management and nutrient management plans to document and report 4R practices</p> <p>Increase existing 4R practice (N/P Rate, Timing and Placement by 1,800 acres)</p>	4R Alliance, PCCD, Perry County Farm Bureau, NRCS, Private Sector Agriculture Farm Visits, PA Sustainable Agriculture (PASA)	Countywide Ag Land	2022-2025	<p>Landowner interest, BMP verification burden (annual).</p> <p>Lack of Technical assistance to support agriculture planning and implementation.</p> <p>Additional funding to support soil testing. Soil testing is key to meeting the recommendations of supplemental BMPs.</p> <p>Machine dependent for most farming operations.</p> <p>Cost of fertilizer is self-regulating farmers to use less fertilizer; therefore, lower rates result.</p>	Educational support		<p>6 – additional Ag Planners to work with farmers to meet 4R standards</p> <p>\$780,000 per year</p> <p>\$10 per acre of advanced nutrient management planning per type ☐ total cost for all is \$108,000</p>	2022: No progress to date.	

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3.4*	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, pay per acre of cover crop implemented. Implement tillage management and cover crops on an annual rate of 32,500 acres High Residue, 12,500 acres Conservation Tillage, 3,000 acres Low Residue, 17,000 acres of cover crops and 12,000 acres of cover crops with fall nutrients Implementation challenges (continued): Organic farmers are using tillage to manage weeds and vertical tillage is becoming more popular among farmers.	PCCD, Perry County Farm Bureau, NRCS, Private Sector Agriculture Farm Visits, PA Sustainable Agriculture (PASA) All partners need to be on the same page, following the same guidance.	Countywide Ag Land	2022 – investigation 2023 – next steps	Capacity to manage the program, 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	Transect survey 4 - Existing No-Till farm equipment for Rent		6 – additional Ag Planners to transition farmers to high residue CD District shared No-till Drill County PCCD – staff to administer the program	\$780,000 per year \$75,000 drill, with maintenance \$90 per acre traditional per year ☒ \$1.53M for a 5-year total of \$7.7M (incentive payment, administration) \$50 per acre fall nutrients per year ☒ \$600K for 5-year total of \$3M \$50,000	2022: PCCD purchased a no till drill in the spring of 2022 with CAP Block Grant funds to rent to farmers to implement no-till. To date the no-till drill has helped to plant 425 acres of High Residue Tillage Management. Additionally, PCCD is using the CAP Block Grant to administer a Cover Crop Program. The Cover Crop Program registration closed in July and 3,218 acres of farmland is registered to receive cover crops in the winter of 2022. From 2020 to 2021 CAST progress Conservation tillage reduced by 6,800 acres, however High Residue Tillage increased by 8,100 acres.

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3.5	Implement more pasture management BMPs	<p>Prescribed grazing – 3,000 acres</p> <p>Off Stream watering without fencing/pasture alternative watering – 1,800 acres</p> <p>Forest buffers on fenced pasture corridor – 5 acres</p> <p>Grass buffers on fenced pasture corridor – 20 acres</p> <p>Land Retirement to Ag Open Space – 200 Acres</p>	PCCD, NRCS, Private Ag Consultants, CBF, Chesapeake Conservancy, Capital RC&D, PA Sustainable Agriculture (PASA)	Countywide ag lands – landowners who raise horses, dairy, beef, and other pasture grazing animals	2025	<p>Landowner education, BMP funding for non-buffer work, plan updates, data gathering.</p> <p>Lack of Technical assistance to support agriculture planning and implementation.</p> <p>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.</p> <p>Increasing construction costs are resulting in canceled NRCS contracts.</p>	Landowner education	Existing funding available	<p>6 – additional Ag Planners to provide technical assistance and ag planning</p> <p>3 – additional FTE environmental technician</p>	<p>\$780,000 per year</p> <p>\$390,000 per year</p> <p>Prescribed grazing \$540 per acre ☐ \$1.62M total</p> <p>Off stream Watering \$500 per acre ☐ \$900K total</p> <p>FB Buffer W/ Exclusion \$10,500 per acre ☐ \$53,000 total</p> <p>GB Buffer W/ Exclusion \$2,750 per acre ☐ \$55,000 total</p> <p>Land Retirement \$500 per acre ☐ \$100K total</p>	<p>2022: Phase 1 of BMP verification identified 145 potential hits for streambank exclusion fencing. This data set will allow for increased reporting of buffered acres with exclusion fencing.</p> <p>Perry County Grazing Group, which has existed for two years, has 15-20 members who practice rotational grazing and act as a peer to peer network.</p>
3.6*	Riparian buffer and re-forestation BMPs	<p>400 riparian forest buffer acres, (365) acres lost since 2017 need reverified</p> <p>500 riparian grass buffer acres – (40) acres lost since 2017 need reverified</p> <p>250 acres – Agriculture Tree Planting</p> <p>6 acres – urban forest buffer</p> <p>1 acre – urban tree canopy</p> <p>1 – acre of urban forest planting</p>	CBF, Chesapeake Conservancy, NRCS, PCCD, Private Sector Agriculture Farm Visits	Countywide	<p>2022 – line up landowners</p> <p>2023-2025 – implementation</p>	<p>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.</p> <p>Flash grazing must be allowed with buffer installation.</p> <p>Funding program must include a 5-10-year maintenance program to establish buffers along with incentive program \$4K minimum per acre payment.</p> <p>No extended lease or easement.</p>	Materials	Budget available to be determined	<p>6 – additional Ag Planners to provide technical assistance and ag planning</p> <p>3 – additional FTE environmental technician</p>	<p>\$780,000 per year</p> <p>\$390,000 per year</p> <p>Forest Buffer \$10,000 per acre ☐ \$410K</p> <p>Grass Buffer \$2,500 per acre ☐ \$1.2M</p> <p>Tree Canopy \$5,000 per acre ☐ \$5K</p> <p>Tree/Forest Planting \$10,000 per acre ☐ \$2.5M</p>	<p>2022: Phase 1 of BMP verification will identify potential hits for grassed waterways and forest buffers implemented in the past 10 years. These potential BMPs will need field verified but provide a great opportunity to identify BMPs not currently reported.</p> <p>396 acres of riparian buffers have been verified and entered into PracticeKeeper.</p>

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3.7	Wetland restoration implementation on marginal production ag land	5 - acres of Wetland Restoration 30 - Acres of Wetland Enhancement and Rehabilitation Identify 1 large property owner from University of Vermont restorable wetland layer to help identify where wetland restoration is feasible	Chesapeake Conservancy, PCCD, NRCS, Private Sector Agriculture Farm Visits, CBF	Countywide	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 2 – stream biologist	\$390,000 per year \$280,000 per year Wetland Restoration \$30,000 per acre ☐ \$1.1M	2022: No progress to date.
3.8	Stream Restoration (Urban and Agriculture)	14,000 Linear feet (~3 mile) Urban Stream Restoration 6,000 Linear feet Agriculture Stream Restoration	CBF, Chesapeake Conservancy, TU National, PFBC Stream Restoration Team, PCCD, PCPC	Rapid delisting areas top priority & Countywide based on landowner interest	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.			Lack of funding to cover engineering design. Assume \$900/LF - \$13M Assume \$400/LF - \$2.4M \$280,000 per year \$420,000 per year \$280,000 per year	2022: No progress to date.	
3.9	Implement more barnyard runoff control/loafing lot management	60 acres of barnyard runoff controls 500 acres of agricultural drainage management	PCCD, Chesapeake Conservancy, NRCS, Perry County Farm Bureau	Countywide Farms	2022-2025	Landowner buy-in and project development/funding. 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 \$6.8M in total Agriculture Stormwater Management \$10K per acre ☐ \$5M	2022: Phase 1 of BMP verification will identify where barnyard clusters are located and determine if they are livestock operations or poultry operations. Those operation can be cross referenced with PracticeKeeper and other BMP verification data sets to consider outreach to farms without both.

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3.1	Animal waste management BMP implementation for livestock	2,800 new AUs of livestock 1,600 new AUs of poultry	PCCD, SCC, CEG Program, County Farm Bureau	Livestock & 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.	Project implementation	Average NRCS Cost share is about \$75,000 per acre	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 \$7.7M in total	2022: BMP Verification Phase 1, shows the potential to report an additional 52 animal waste storage facilities currently not reported through PracticeKeeper. Those 52 facilities will need to be field verified.
3.11*	Manure Transport out of Perry County	Transport 750 dry tons per year out of Perry County	PCCD, NRCS, Perry 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	2022: Manure transport documentation still remains an issue. Look to state agencies for support working with manure haulers and brokers to collect data. From 2020 to 2021 manure transport increased by 4,400 dry tons of manure (according to CAST).
3.12*	MS4-related Chesapeake Bay Pollutant Reduction Plan Implementation	Plan implementation by end of current permit term Vegetated Open Channels – 29 acres treated Infiltration Basin – 5 acres treated Dry Extended Detention Basin – 43 acres Storm Drain Cleanout – 13,900 lbs. of solid removed Marysville Borough has signed lease with Lions Club to implement Projects near the pond. (70% of requirement)	Marysville Borough PCPC, Tri County Regional Planning Commission	Marysville Borough	2022-2023	Municipal capacity to implement plans (technical, financial). Flexibility to work outside of designated urbanized area.	Municipal engineer design/permit, construction readiness	Unknown	2 – Municipal Engineers 1 – municipal planner	\$280,000 per year \$130,000 per year \$700,000	2022: Borough is on track to implement their PRP which will result in the reporting of the performance target BMPs.

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3.13*	Urban Stormwater Management Non-Regulated Communities	Implement existing ordinances at local municipal level Catalogue existing BMPs that fit into this category and newly built ones Runoff Reduction Performance Standard – 82 acres treated Wet Ponds and Wetlands – 100 acres treated; 5 acres conserved Impervious surface reduction – 1 acre Advanced grey infrastructure IDDE – 130 acres treated Work with municipalities to document street sweeping activities – Goal TBD	PCPC, PCCD, developing municipalities, Tri County Regional Planning Commission, contracted engineer, water authority	Countywide	Ongoing 2022-2025	Coordination/ training for municipal staff, FieldDoc batch upload opportunity, non-MS4 engagement (what’s in it for them?), difficulty obtaining past information (MS4s typically have databases from 2003-present; non-MS4s typically have no database)	Reporting platform		5 Summer interns for reporting and verification 2 – Municipal Engineers 1 – municipal planner	\$50,000 – per year \$280,000 per year \$130,000 per year Stormwater BMP budget \$750,000 Wetland conservation ☐ \$10,000	2022: Look to host municipal meeting in 2023 to discuss potential opportunities to implement local ordinances for stormwater management. Future BMP verification funding will be allocated towards urban stormwater BMP cataloguing.
3.14	Conservation Landscaping/Turf to Meadow Conversion	Promote new program and enable one large tract landowners’ participation 80 new acres of Conservation Landscaping	TCRPC, PCCD, Municipalities, Chesapeake Conservancy, CBF, DCNR, Western Pennsylvania Conservancy	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		1 – FTE Municipal Planner 3 – additional FTE environmental technician	\$130,000 per year \$130,000 per year \$2,500 per acre meadow--> \$200,000 budget	2022: No progress to date.
3.15*	Continue dirt and gravel road program	19 miles overall restored through past projects and future projects Continue to implement the program annually	PCCD	Countywide	2025	Continue D&G Road program funding Expand Dirt and Gravel Road Program to include farm and residential lanes	Education, technical assistance, project oversight	\$2.4 Million since 1998	1 – FTE Clean Water Coordinator for Conservation District	\$130,000 per year Dirt and Gravel Roads \$40 per foot --> TBD	2022: Current projects are on track. The low volume road portion of the program has new requirements for stream crossing requiring stronger engineering vetting which may prove to be too expensive for townships moving forward. Our QAB Recommended and our Board approved pausing stream crossing projects through December 2024. Moose Road project (DGR) was completed and a new contract for Mt Pleasant Road was Board approved. This project will be completed in 2023.

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3.16*	Work with PennDOT and local municipalities to reduce frequency of mowing/ spraying 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. Potential to use sustainable mowing for hay for ag use	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	2022: No progress to date.
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	Countywide	2022-2023	Need to expand network, educational aspect of less common funders, logistics of utilizing unproven funding sources (or lesser known).4 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	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 Perry County to increase the adoption of Conservation Practices.
Priority Initiative 4: Research, Education, and Training											
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. Map existing monitoring locations. Implement 25 new water quality monitoring stations.	ALLARM, Keystone Water Resources Center, Juniata College, Juniata County Watershed Association, Harrisburg University	Ag impaired streams and Countywide	2023	Data precision, QAQC, opportunity to educate landowners about local stream health and what they can do about it. Currently no groups doing water quality monitoring. Limited USGS monitoring (streamflow only).			Volunteers for Water quality monitoring New monitoring equipment 3 – additional FTE environmental technician 2 – stream biologist	N/A \$125,000 – 25 new monitors \$130,000 per year \$280,000 per year	2022: In the fall of 2022, HRG will convene the Watershed Specialist to identify the largest "gaps" of water quality monitoring data, develop strategies to comprehensively incorporate new data to support CAP efforts. ALLARM is in the process of developing citizen scientist monitoring data collection protocols to assist with stream health data collection. Should the protocol be approved, it will be shared with all Counties.
4.2	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.	Conservation District, Tri-County Regional Planning Commission	Countywide Shermans Creek Buffalo Creek	Ongoing	Willing volunteers and leaders to establish and run watershed organizations to be successful and support with implementation.	Social media shares Project development support		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 --> \$5,000 per year	2022: No progress to date.