Phase 3 Watershed Implementation Plan (WIP) Annual Progress Update and Two-Year Milestones Report – Luzerne 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 Highlight changes for 2024-2025 milestone period

Action # Green Yellow Red	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 + 2022+2023+2024) *add new 2023 progress above the existing 2021 and 2022 progress. Date each entry	**Reason for Change to Action Item** (2024-2025 milestone period)
							Technical	Financial	Technical	Financial		
Priority Initiative 1: Agriculture												
1.1	Nutrient Management Planning	Assist producers in obtaining nutrient management planning (including soil samples, manure analysis, and agronomy assistance). BMP's include Nutrient Management Core N, Core P, Timing, Placement, and Rate 5 operations per year	LCD, NRCS, Consultant	Agricultural production lands	2022-2025	Funding and Producer Participation	Producers must hire consultants themselves or receiving a minimal amount of assistance through local agencies	EQIP	Contracted Source	Dedicated funding to assist in this program	2024- Completed multiple plans for project implementation, five plans completed in 2024. 2023 - Nutrient management planning is being provided to landowners who contact the district for completion in addition to soil sampling for plan development. A program for specialized funding has not been established. One plan was completed in 2023. 2022- Nutrient management plans are being developed in addition to the completion of soil sampling where needed. A designated program to increase planning and sampling has not been established but is under planning for next year.	
1.2*	Collect data and verify existing BMPs on operations	50 existing agricultural operations	LCD	County	2021-2025	Time Capacity, Data Entry, Release of Records, producer participation and resistance	BMPs and plans that were funded through agencies and grants are already known	CAP BMP Verification Funds	Dedicated staff or contracted staff to compile existing data and complete outreach (e.g., producer survey, records research) and data entry	Dedicated and sustainable funding to this position	2024- Project initiative completed in 2023. 2023 - BMP verification was completed this year with assistance from LDG. BMPs were captured and entered into Practice Keeper for recording. 2022- Reporting and verification of existing BMPs is underway through the use of BMP verification funding from the Bay Office. An aerial verification platform has been created by LDG to located BMPs for field verification and entry by the district. Paper records were received of past projects implemented and papers will be gone through to identify if project locations can be found.	
1.3	Existing BMP Maintenance Program	Assist producers with education and resources for maintenance of existing BMPs to keep them functioning 1-2 operations per year	LCD, NRCS, PSU Extension	County	2022-2025	Funding and Producer participation	Technical specs of BMPs and guidance for BMP maintenance		Compile existing BMP designs, O&M specs and guidance, and review with producers	Dedicated and sustainable funding for staff time and funding to assist landowners with costly repairs/maintenance needs	2024- Projects completed in 2024 included, resurfaced animal trails and walkways, added a manure storage and waste transfer system, and added two structures for water controls. There is one additional project planned for 2025. 2023 - BMP maintenance projects are ongoing and being completed this year through the utilization of CAP implementation funds. 2022- BMP maintenance activities are being completed on an as needed basis although a program to identify additional needs and increase assistance availability is still under development and requires a designated funding source.	

1.4*	Riparian Buffer and Stream Fencing	Implement Stream fencing and riparian buffer on crop and pasture lands 200 acres per year implemented and verified BMP's include forested riparian buffer with exclusion fencing	LCD, NRCS, DEP	Streams located along crop and pasture lands, targeting impaired watersheds	2021-2025	Funding and Producer participation/willingness to enter into long-term agreements	Development of planting specs, coordinating projects with landowners	Existing grant programs	Additional outreach to landowner & coordination/design of buffer projects	Dedicated and sustainable funding source for district staff positions & implementation of buffer projects	2024- Projects started in 2023 are wrapped up and 2024 Ag projects include stream exclusion fencing. The Stevens project consist of streambank fencing of 875 feet, which was implemented in 2024. There is one additional project planned for 2025. 2023 - Multiple riparian buffer and stream fencing projects are being completed and planned for future completion. 2022- Riparian buffer and stream fencing projects have been completed and are still under plan for this year. 8.23 acres of riparian buffer were installed this	
1.5	Manure to Mine Lands Program	Evaluate availability of excess manure and potential opportunities to treat abandoned mine lands. 1 Feasibility study	EPCAMR, LCD, Earth Conservancy, DEP BAMR	County	2022-2025	Farmer and Landowner Participation, extensive coordination effort, BAMR's modification of existing reclamation practices, Availability of excess manure	Historic programs	N/A	Feasibility study, Develop/coordinate program	Dedicated and sustainable funding source for staff position(s)	2024- Program feasibility meetings have occurred with EPCAMR and Earth Conservancy. Program deemed troublesome due to lack of place to establish trial. Potential to follow up with waste from water treatment plant as application. 2023 - This project is still of interest although is a lower priority until funding is identified to pursue this effort. 2022- This program is still of high interest and is looking to utilize BAMR, OSM, and infrastructure bill funds to implement this project in the on-	
1.6*	Wetland Creation/Enhancement on Farmlands	Create/enhance wetlands on agricultural lands that are less productive or within environmentally sensitive areas. 2 acres per year	LCD, NRCS	County – key environmentally important areas	2022-2025	Landowner Participation, permitting hurdles	Design assistance	Grants	Design assistance, landowner outreach, and project design/permitting	Dedicated and sustainable funding source for district staff positions & implementation of projects	2024- Wetland mitigation banking is of higher interest in the County. One wetland enhancement and two wetland creation projects have been completed in the County this year. E. Fork Toby Creek (listed in 2022) was not completed due to beaver impact, which includes an additional 1.9 acres of new wetland created by beaver activity in 2024. Beavers have converted 14.3 acres of wetland meadow to ponded marsh habitat. There is an additional 2 acres planned for 2025. An additional Wetland Enhancement project occurred on an Ag operation which totaled 19.6 acres. 2023 - Potential project sites have been identified for these projects although did not move forward this year for implementation. Planning and proper coordination efforts are still underway. 2022- Wetland creation and enhancement are being evaluated when potential project sites become available although has reached hurdles due to proper landowner cooperation and permitting. Planning and design were started to create a wetland area within an existing hay field along E. Fork Toby Creek that has been put on hold due to beaver activity creating a natural wetland area in the planned project site. A new site is being identified for the project.	

1.7	Soil Health Improvement	Implement soil health practices, (including no-till planting, cover crops, use of pollinator species, etc.) on agricultural lands. 500 acres per year, increasing by 25% yearly	LCD, NRCS	Countywide agricultural operations	2022-2025	Funding and Producer participation	Existing soil health technical guidance	Existing grant programs	Additional outreach to landowners & coordination of projects	Dedicated and sustainable funding source for district staff positions & implementation of projects	2024- Soil health days were completed in 2023 with a partnership to educate landowners. There is interest to establish this partnership again or expand upon it. Soil Health practices implemented this year include 22.8 acres of pollinator habitat, 84.4 acres of No-till, 553.13 acres of cover crop, and 55 people educated during a soil health/grazing field day event. An application was submitted to extend soil health partnership through Growing Greener Grant. 2023 - Multiple soil health field days have been held to increase soil health education within the county and increase no-till practice implementation. 2022- No-till planting and cover crop implementation has been promoted and continued to be utilized throughout the county. A Soil Health Education field day was completed to increase awareness of proper practices and increase county engagement.	
1.8*	Barnyard Agricultural BMP Implementation	Continuation of LCD's & NRCS's efforts to stabilize animal feeding and travel areas and to manage manure on existing agricultural operations. Complete 5 projects per year in addition to existing NRCS and County project implementations.	LCD, NRCS	Countywide agricultural operations	2022-2025	Funding and Producer participation/financial capabilities, technical designer availability	Project coordination & design	Existing grant programs	Additional outreach to landowner, coordination of projects, project design	Dedicated and sustainable funding source for district staff positions & implementation of projects	2024- Barnyard Ag BMP projects are being completed this year, with 3 Heavy Use Area BMPs being completed, and 1 manure storage BMP being completed. The Stevens property is being implemented in 2025, along with 3-4 planned for implementation in 2025, and 3 planned for discussion in 2025. 2023 - Barnyard project implementation has occurred this year to stabilize and reduce erosion within operations. 2022- Barnyard BMP projects have been identified and have ongoing hurdles due to the implementation challenges and the increased cost of construction. A project from 2014 was able to utilize CAP implementation funds to complete the project successfully this year.	

Priority Initiative 2: Urban and Developed Stormwater												
2.1	MS4 Community Partnership Projects	Partner with MS4 Communities to assist with sediment and nutrient removal projects. Target projects that MS4 communities are implementing that would increase nutrient reductions.	WVSA, DAMA, municipalities, LCD, County Planning	MS4 Communities	2021-2025	Cost of implementation and development of partnership.	Program Guidance, project design	Cost of implementations	Provide input and identify possible cooperative efforts for project implementation/enhancement	Dedicated and sustainable funding source for district staff positions & implementation of projects	2024- Kingston Borough planting of 100 trees in an MS4 was completed this year. A partnership with Wyoming Valley Sanitary Authority for Basin Retrofits with plantings at multiple school districts has occurred within 2024, and completion of a 0.5 mile planting with DAMA partnership is planned for 2025 and a MS4 educational event partnership with PSU Extension is planned for discussion in 2025. Additionally, the Kingston project with the addition of 200 tree plantings and Sutton Hills project, are proposed for 2025 implementation. 2023 - WVSA and DAMA are still completing projects to increase nutrient and sediment removal throughout the MS4 communities. 2022- WVSA and DAMA are proceeding with design and permitting for multiple new and retrofit projects for sediment collection, stormwater catchment, and urban stream restoration. These projects should be implemented shortly. On top of projects in development, multiple BMP designs, stormwater park, restoration sites, and stabilization projects have been completed by townships and municipalities from 2020-2022. A partnership for these projects has been under development and has been utilized when appropriate for review and additional funding.	
2.2	Residential Stormwater Management Program	Develop an outreach, technical assistance, and cost-share program for implementing water quality improvement BMPs on residential and small commercial properties. 75 residential properties per year	LCD, PSU Extension, WVSA, DAMA	County	2022-2025	Lack of staffing, funding for materials; resistance to participation; maintaining BMPs	Existing example programs	Cost of management	Dedicated staff to develop and coordinate the program	Dedicated and sustainable funding source for district staff positions & implementation of outreach programs and projects	2024- Act 167 updates are being discussed for Tobys Creek along with outreach. Rain Barrel workshops being held in the spring of 2025. 2023 - A specific program for this has not been developed although planning has been discussed to hold a workshop or education event to increase residential stormwater implementation. 2022- Program planning and feasibility discussion have occurred, and this initiative is looking for dedicated funding to implement. Potential funding sources include DEP EE Grant and Economic Development funds.	

2.3	Existing Stormwater BMP retrofit and Maintenance Program	Upgrade and maintain existing basins, drainage systems to improve function 10 systems per year	Municipalities, WVSA, DAMA, School Districts, landowners, Recreational properties	Existing sites within county	2022-2025	Funding; identifying suitable facilities	Example projects, Guidance documents, Development of planting specs, coordinating projects with landowners	Municipal/authority funds	Design assistance, landowner outreach, and project design/permitting, Site data collection;	Dedicated and sustainable funding source for staff position(s)/consultants and design/implementation funds	2024 - Stormwater BMP retrofit projects are being evaluated by the Conservation District to help partners with implementation and maintenance of retrofits around the County. A partnership with Wyoming Valley Sanitary Authority for Basin Retrofits with plantings at multiple school districts has occurred within 2024. LCD has plans to assist Master Gardeners in April of 2025, where a speaker and presentation will take place, covering basin and raingarden retrofit topics. 2023 - Retrofit projects have been ongoing to increase system functionality and increase nutrient and sediment reduction. Additional project sites are under discussion for completion. 2022- WVSA and DAMA are proceeding with design and permitting for multiple new and retrofit projects. These projects should be implemented shortly. Stormwater BMP retrofits are occurring through MS4 projects and on an as needed basis as they meet the needed criteria. A program to establish a backlog of needed infrastructure retrofits is under discussion. Funding to increase retrofit capacity will need to	
2.4	Urban Green Space and Planting	Increase Green Space and continue to plant trees and shrubs within urban settings 35 acres per year	Municipalities, Landowners, LCD, PSU Extension	Developed areas with minimal green space	2021-2025	Funding and Participation	Development of planting specs, coordinating projects with landowners	Tree sapling source	Design assistance, landowner outreach, and project design	Dedicated and sustainable funding source for staff position(s) and design/implementation funds	2024- LCD assisted pheasants forever with an educational event at a local school to increase the pollinator habitat3.1 acres in 2024. Grass to pollinator habitat occurred in Lehman Township at Lehman sanctuary in 2024, resulting in 1.4 acres of pollinator habitat created. Kingston Borough Street and Park Tree initiative planted 1.4 acres of urban trees in 2024. Sutton Hills residential planting project is proposed for 2025. 2023 - This action item is still of high interest although needs a dedicated funding source to move forward. 2022- Urban green space and plantings are of high interest and possible project sites have been discussed. A designated funding source will need to be identified to move this project forward. Ten Million Trees and DCNR funding may be utilized in the future.	

Priority Initiative 3: Wastewater												
3.1	Reporting of On-Lot Septic BMPs	Continue and enhance tracking and accounting for on-lot septic system pumping by WW treatment facilities for proper pollutant reduction credits. 250 systems per year	Wastewater Treatment Facilities, DEP	County	2022-2025	Need for standardized process for accurate accounting	Existing program for municipalities, pumping and maintenance	Pumping costs	Formal tracking system	Costs associated with staffing for BMP reporting	2024- Not pursuing due to the data capture being completed by septic companies for system pumping and reporting. 2023 - This action item is still of interest although a program to collect this information has not been created. 2022- This initiative has not been started as a program has not been established to complete this. Reporting of on-lot Septic systems could be captured through additional BMP verification	

Priority Initiative 4: Watershed Health												
4.1	AMD Treatment for Nutrient Reductions	Detailed evaluation of nutrient loads in AMD discharges and development of treatment plans. Evaluate 3 sites per year	EPCAMR, BAMR, LCD, Earth Conservancy, Landowners	AMD treatment sites: Mehoopany Creek, Bowman Creek, Fishing Creek, Susquehanna River, Lackawanna River, Delaware River Basin, Nescopeck Creek, and Catawissa Creek Watersheds	2023-2025	High Cost, Landowner participation, complex treatment systems	Existing AMD treatment technologies	Funding for existing treatment reductions	Chemical analysis of discharges and specific treatment designs, measured flow data	Funding for research, design, & construction	2024- On Going partnership with EPCAMR to collect nutrient levels at various sites is occurring. BAMR AML grant is being applied for this Fall to reclaim mine spoil piles on State Game Lands 260. This application will include the sampling for possible treatment of an AMD feature. 2023 - AMD treatment sites are being evaluated now that the BAMR subgrants are open for application. Additional site information needs collected and reviewed before application submission. 2022- AMD treatment evaluation has been occurring and is still of high interest for completion. This initiative is planned to be completed once funding is secured through BAMR, OSM, and infrastructure funds in the up-coming years. A prioritized list of project sites is under development.	
4.2	Stream Restoration	Provide bank protection, instream habitat and riparian buffers on streams in degraded sections of streams in rural and developed areas. 400 linear feet per year	LCD, municipalities, Trout Unlimited, watershed associations	County impaired streams Mehoopany Creek, Bowman Creek, Fishing Creek, Susquehanna River, Lackawanna River, Delaware River Basin, Nescopeck Creek, and Catawissa Creek Watersheds	2022-2025	High cost/lack of matching funds, Lack of available land for stream restoration, landowner participation	Standard stream design guidance	Existing grant programs (e.g. Growing Greener), Public lands in urban areas (parks, trails, etc.)	Project coordination, Design/permitting services	Dedicated and sustainable funding source for district staff position & funding for design, permitting, and implementation of projects	2024- Dam removed and replanted under Growing Greener Grant. Two EWP projects in planning for streambank stabilization in Toby Creek watershed for implementation in 2025. Proposed projects implementation in 2025, include the Huntington Creek Project, which is planned, with TU contacted for design and the Pine Creek Road streambank stabilization project that will be completed in partnership with DGVR and TU. 2023 - Stream restoration projects have been ongoing with multiple stream restoration projects applied to for Growing Greener funding to implement additional stream restoration projects in 2024. One Emergency Watershed Protection Project was completed, stabilizing 190 feet of stream bank. 2022- Stream restoration projects have been completed this year and are under development and planning for continued implementation. Two projects for Emergency Watershed Protection were completed totaling 284 linear feet of streambank stabilization. District is constantly evaluating projects sites and will continue to implement them as funding becomes available.	
4.3	Riparian Buffer Development	Protect and plant trees along critical stream sections. Implement and verify 200 acres per year	LCD, watershed associations, Trout Unlimited	County impaired streams Mehoopany Creek, Bowman Creek, Fishing Creek, Susquehanna River, Lackawanna River, Delaware River Basin, Nescopeck Creek, and Catawissa Creek Watersheds	2022-2025	Landowner cooperation/willingness to enter into long-term agreements (DCNR program), volunteers for planting, limited availability of certain tree species	Development of planting specs, coordinating projects with landowners, Standard guidance, education/outreach materials	Existing Grant Programs	Additional outreach to landowners and volunteers & coordination/design of buffer projects	Dedicated and sustainable funding source for district staff positions & implementation of buffer projects	2024- Planting of Water Willow along the Susquehanna River has occurred this year to restore its vegetated buffer and revegetate banks, this resulted in 1,000 Water Willow plantings along 3,000 linear feet of the Susquehanna River. The Epsy Run project was completed in 2024 with 1.65 acres of riparian trees, and phase II of Epsy Run has been applied for through 2025 CAP funding. The addition of 2,000 Water Willow plantings have been applied for through 2025 CAP funding. 2023 - Riparian buffer areas have been planted this year to stabilize and protect stream banks and limit erosion. 2022- Riparian buffer plantings are being implemented throughout the county to protect critical stream stability and water quality. Verification of riparian buffers is occurring and is being reported. 8.23 acres of riparian buffer were implemented this year.	

4.4	Farmland and Forestry Preservation	Quantify existing preserved open space to ensure proper pollutant reduction credits and Preserve additional farmland and natural lands. Add 500 acres per year	LCD, County Planning & Zoning Department, North Branch Land Trust	County farm and forestlands	2021-2025	Having enough staffing resources to compile, verify, report data, and coordinate additional preservation efforts and Funding to purchase conservation easements	Existing land trust and Farmland Preservation Program resources	Existing grant programs	Additional outreach to landowners and coordination of data collection effort and future land preservation projects	Dedicated and sustainable funding source for staff positions & additional Funding to purchase additional conservation easements	2024- Two farms have been preserved within 2024, resulting in 124.2 acres preserved. Three projects are planned for 2025 to preserve three additional farms. 2023 - Additional farm and forest acreage was persevered this year. Increased funding would be needed to reach original preservation goals. 2022- Farmland and forestry preservation applications are being received and are being preserved when funding is available to do so. 133.11 acres have been preserved this year. Increased funding is needed to reach additional acreage goal each year.	

4.5	AML Reclamation Planning and AMD Restoration	Restoring AML impacted areas, enhancing existing and future AML reclamation projects to include additional conservation benefits (e.g., use of AMD sludge and biosolids for soil improvement, planting warm season grasses and use of Forest Reclamation Approach for improved SW mgmt. & wildlife habitat, etc.), and treating AMD discharges to restore water quality. Evaluate 3 projects per year	DEP BAMR, EPCAMR, Earth Conservancy, Trout Unlimited, private landowners	Mining-impacted areas of the County Mehoopany Creek, Bowman Creek, Fishing Creek, Susquehanna River, Lackawanna River, Delaware River Basin, Nescopeck Creek, and Catawissa Creek Watersheds	2024+	High Cost, Landowner participation, complex treatment systems	Existing AMD treatment technologies and AML land reclamation standards	Funding for reclamation and restoration	Project coordination, Design/permitting services	Funding for staff positions and to design, permit, implement projects	2024- BAMR AML grant is being applied for this Fall to reclaim mine spoil piles on State Game Lands 260. This application will include the sampling for possible treatment of an AMD feature. 2023 - Multiple project sites have been under discussion and planning for grant submission through the BAMR subgrants this year or early in 2024. 2022- AMD reclamation and restoration are still of high interest for completion but has not progressed passed the planning stage. This initiative is planned to be completed once funding is secured through BAMR, OSM, and infrastructure funds in the up-coming years.	
4.6*	Reporting and Verification of Existing BMPs	Collect data on and verify status (including operation & maintenance needs) of existing, recently completed, and in-progress BMPs 50 watershed projects	LCD, partnering organizations, local governments, and state agencies (DEP, DCNR, PGC, & PFBC)	County	2021-2025	Having enough staffing resources to compile, verify, and report data	BMPs and plans that were funded through agencies and grants are already known	N/A	Dedicated staff or contracted staff to compile existing data and do outreach (e.g., partner survey, records research) and data entry	Dedicated and sustainable funding to this position	2024- LCD completed this initiative in 2023 with BMP verification funds. 2023 - BMP verification and reporting has been completed this year to collect existing BMP practices throughout the landscape. All practices captured have been entered in the Practice Keeper System for tracking. 2022- Watershed BMPs are being implemented, verified, and reported using BMP verification funding from the Bay Office.	
4.7	Wetland Enhancement & River Shoreline Improvement	Improve and expand wetland habitat and beneficial aquatic plant habitat for improved water quality Complete 25 acres per year	LCD, landowners, partnering organizations, and state agencies (DCNR, PGC, & PFBC)	County – key environmentally important areas	2021-2025	Landowner Participation, funding sources for implementation, permitting hurdles	Design assistance	Current enhancement and improvement funding	Design assistance, landowner outreach, and project design/permitting	Dedicated and sustainable funding source for district staff positions & implementation of projects	2024- Completion of water willow planting of 1000 stems on the Susquehanna River for shoreline restoration and the proposal of a 2000 stem planting planned for 2025 under CAP implementation funding. 2023 - This program is still of high interest and is still under discussion to select the appropriate method to conduct the study before project implementation. 2022- This initiative has been under discussion to find a university to conduct Water Willow research and its benefit on shoreline improvements through project implementation	