

Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Template – SNYDER 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)	Partners	Geographic Location	Expected Timeline	Potential Implementation Challenges or Recommendations	Resources Available				Resources Needed			
							Technical	Source	Financial	Source	Technical	Suggested Source	Financial	Suggested Source
Priority Initiative 1: County Programmatic Initiatives														
1.1A	Implement County Comprehensive Plan policies and actions (Adopted 2001)	<p>Ensure that growth activities address existing water quality impairments through stormwater BMP implementation already required by local ordinance</p> <p>Preserve Environmentally sensitive, culturally, and economically important areas from new development through zoning and ordinances</p> <p>Conserve 1,600 acres of forest.</p> <p>Conserve 60 acres of wetlands.</p>	SCPC, growth boundary municipalities, CKCOG, SEDA-COG	Multi-township	Ongoing	<p>Educating municipalities, Updating local plans and ordinances, Growth areas not consistent with Census Urbanized Areas</p> <p>Local governments willing to propose to ordinances to protect economically and environmentally friendly landscapes</p> <p>Work with solar farms for zoning purposes and BMP implementation.</p> <p>Comprehensive Plan is underdevelopment and will be updated in the coming years.</p>	Education, outreach	1 SCPC staff person			1 – FTE Clean Water Coordinator for Planning Commission	Snyder County Planning Commission (SCPC)	<p>\$130,000 per year</p> <p>\$2,000 per acre of forest conserved through easement → Total \$3.2M</p> <p>\$2,000 per acre of wetland conserved through easement → Total \$120K</p>	<p>DEP</p> <p>Funding Options:</p> <p>PA DCNR Community Conservation Partnerships Program</p> <p>CFA Greenways, Trails, and Recreation Program</p>

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1.1B	Advance local comprehensive planning efforts	Protecting Snyder County’s surface water and groundwater as a viable resource is critical to preserving water quality and healthy communities Snyder County will work with DEP to help develop Source Water Protection Plans for systems that service <100K users.	Multi-township	Multi-township	1-2 years	Reinforcing the municipal role in coordinating with the water authorities to perform education and outreach.					1 – FTE Clean Water Coordinator for Planning Commission	Planning Commission	\$130,000 per year	DEP									
	Implement the Source Water Protection Plan																						
	Preparation and implementation of an effective stormwater management plan										DEP	DEP							Source Water Protection Plan development	PADEP Northcentral Regional Office, utility staff, private sector	\$100,000	USDA/FSA/NRWA Source Water Protection Program	
											Freeburg Borough	Freeburg Borough											
											Middleburg Borough	Middleburg Borough											
											McClure Borough	McClure Borough											
			Selinsgrove Borough	Selinsgrove Borough																			
			Aqua PA	Aqua PA																			
1.1C	Advance local comprehensive planning efforts	Improve flood prone areas with BMPs that also enhance water quality Work with Selinsgrove Borough Flood Prevention Plan	Multi-Township, Selinsgrove Borough	Within responsible party municipalities	5-10 years	Flood controls can capture pollution, if considered in design and maintained.	CRS program guides	FEMA Region III STAFF			1 – FTE Clean Water Coordinator for Planning Commission	Planning Commission	\$130,000	DEP									
	Facilitate efforts to minimize flood impacts																						
											Project Implementation	Consultants	\$500,000	PEMA/FEMA									

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1.1D*	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 implement new buffers Work with Chesapeake Conservancy through rapid de-listing approach to identify new landowners.	Municipalities, Conservation District, CBF, Pheasants Forever, National Trout Unlimited, Chesapeake Conservancy, Watershed Associations, Susquehanna University	Countywide	5-10 years	Adopting ordinances may require a pilot project in a willing municipality to demonstrate success. Look to revise and promote ordinances where feasible. Some ordinances promote destruction of buffers due to “mowing” ordinances. Buffer funding programs must include 5-10-year minimum maintenance plan, incentive money for landowners, along with volunteers to establish the buffer.	landowner outreach; on the ground riparian project execution	1 County GIS staff person, 2 Conservation District staff people			1 – FTE Clean Water Coordinator for Planning Commission 1 – Clean Water Coordinator for Conservation District	Planning Commission 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 → \$2.2M total	DEP DEP Funding Options: CFA Watershed Restoration and Protection Program PA Fish and Boat Commission CBF, Alliance for the Bay DCNR, Growing Greener, NFWF

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1.1E	Adopt and update an on-lot sewage management program (Act 537)	Look to review and update all Act 537 plans by municipality. Explore plan creation for municipalities for those who do not have a plan, look to incorporate new pumping guidelines.	Municipalities, Sewage Enforcement Officer	Municipalities where public sewer is not available.	5 years	Landowner education will be needed to promote proper on-lot septic system maintenance.	Utilize existing DEP model ordinances as guidance		Sewage Enforcement Officer	Municipalities	1 – FTE Clean Water Coordinator for Planning Commission	Planning Commission	\$130,000 per year \$1,000,000 funding to update willing municipalities	DEP DEP/DCED/CAP Grant
1.2*	Act 167 Stormwater Management	Revise existing model stormwater ordinance where needed. Look to incentivize additional protections for streams. Support implementation of existing ordinances where feasible. Look to revise Act 167 to encompass a countywide plan.	SCPC, municipal engineers, CKCOG, SEDA-COG, Municipalities	Countywide	2021 – discuss interest to pursue and funding opportunities	Political will and involvement from local municipalities. Funding to develop and implement an Act 167 plan is limited.					Act 167 Plan Development 1 – FTE Clean Water Coordinator for Planning Commission	Consultant Planning Commission	\$500,000 \$130,000 per year	DEP DEP

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1.3*	Continue to Implement County Farmland Preservation Program.	<p>Total preservation farm goal (28 farms in program currently – 2,993 acres)</p> <p>Look to fund 4-5 additional farms per year in preservation program. – 1,500 acres of farmland conservation</p> <p>Preservation of Agriculture and Open Space Land Use through the encouragement of local governments to implement effective land use ordinances</p> <p>Utilize conservation easements to protect land</p>	Lancaster Farmland Trust and Agricultural Preservation Coordinator, NRCS, SCCD, Farm Bureau, Snyder County Comprehensive Plan	Ag land use area that fits farmland preservation criteria	2022-2023 – explore incentive opportunities	<p>Operator acceptance, additional resources for plan development incentivize BMP installation as a farmland preservation goal.</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>Lack of funds to preserve land. Landowner willingness decreases due to the reality of the limited funds, if they don't rank at the "top" of the list, over years they quit applying.</p>	Priority recommendations, easement revision recommendations, supplemental BMP funding research	Ag Land Preservation Board 1 SCPD staff				<p>4-5 farms per year enrolled if funding is met</p> <p>Conservation District</p> <p>Conservation District</p> <p>Conservation District</p>	<p>Assume \$250,000 per farm → \$5,000,000</p> <p>\$130,000 per year</p> <p>\$75,000 per year</p> <p>\$780,000 per year</p>	<p>NFWF, GG. Increased Conservation District budget, PDA, NRCS</p> <p>DEP</p> <p>DEP</p> <p>PDA/SCC/NRCS/DEP</p>

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1.4*	<p>Establish funding/staff support to assist the Agricultural community (day to day support)</p> <p>864 farms exist in Snyder County</p>	<p>Approximately 200 have their plans in Snyder County, goal is to complete 400 by 2025.</p> <p>Support local farms with financial assistance from institutions</p> <p>Work with private ag consultants to document plan reporting.</p> <p>In order to communicate effectively with the farming community one on one farmer outreach must be conducted.</p> <p>Work to document Act 38 and preserved farms conservation and nutrient management plans.</p>	<p>SCPD, SCCD, Contracted planners, Snyder County Farm Bureau, Act 38 operators, organic farmers, preserved farms, integrators, Ag Credit Unions</p>	<p>Countywide Ag Land</p>	<p>2022-2025</p>	<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>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 preserved farm programs to require PracticeKeeper reporting.</p>	<p>Field verification, troubleshooting</p> <p>50 farm visits per year</p>	<p>SCCD, USDA NRCS, Private Consultants</p> <p>Chesapeake Bay Technician</p>	<p>Conservation Plan Inventory</p> <p>1 FTE Chesapeake Bay Technician</p>	<p>Chesapeake Conservancy (NRCS grant)</p> <p>Chesapeake Bay Inspection Program</p>	<p>6 – additional Ag Planners to provide technical assistance and ag planning</p> <p>3 – FTE Design, Permit construction Services</p> <p>3 – FTE Design, Permit construction Services</p> <p>1 – FTE Clean Water Coordinator for Conservation District</p> <p>1 – administrative assistant</p>	<p>District/NRCS/Private Sector Farm Visits</p> <p>Private Sector/SCCD</p> <p>Private Sector/SCCD</p> <p>Conservation District</p> <p>Conservation District</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>DEP/NRCS/SCC/PDA</p> <p>DEP/NRCS/SCC/PDA</p> <p>DEP/NRCS/SCC/PDA</p> <p>DEP</p> <p>DEP</p>

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1.5A	Susquehanna University Partnership - Implementation	Develop undergraduate and graduate students to support staff with implementation. Work with University students and staff to support 319 WIP implementation.	Susquehanna University – Professors: Matt Wilson	319 Priority Watershed Riparian properties Preserved farms Priority Corridor Watersheds - Susquehecka, North Selinsgrove Creek, West Branch Mahantango, Northwest Branch Mahantango	2022-2025	Continued undergraduate/graduate engagement as students graduate through program, implementation funding 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	Susquehanna University students	N/A	N/A	5 – Student Internships to Support CAP Implementation	Susquehanna University or Other Students who live locally and attend other colleges	\$50,000	TBD
1.5B	Quantify Land/BMPs Managed by Susquehanna University	Work with Susquehanna University to ensure that water quality improvements that they manage are captured in PK/FieldDoc	Susquehanna University (SU)	SU Owned Lands in Snyder County	2022	Getting maximum credits for experimental BMPs	Institutional knowledge	1 County staff person, HRG (CAP coordinator)	N/A	N/A	5 – Student Internships to Support CAP Implementation	Susquehanna University or Other Students who live locally and attend other colleges	\$50,000	TBD

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1.6A	Develop a Snyder County Water quality communication plan, leveraging existing documents and covering topics including Comprehensive Plan, Greenways Plan, Act 167, Middle Creek 319 etc.	Develop messages and audience; execute plan and distribute messaging through staff and partners. Utilize the Snyder County website as a source of consistent communication, website development is underway.	Board of Commissioners staff, PA DEP Northcentral Office, Penn State Extension (Master Gardeners), PA Rural Water Association, Trout Unlimited, Penns Creek Watershed Association, Watershed Association, USDA-NRCS, DCNR, Susquehanna University, SCCD	Countywide	2022 – develop local content, timing, identify responsible staff	Simplifying the resources that are available					Website development and continued maintenance 1 – FTE Marketing and Outreach Coordinator 1 – FTE Clean Water Coordinator for Planning Commission	District/ Planning Commission Planning Commission Planning Commission	\$30,000 per year \$130,000 per year \$130,000 per year	Administrative budget tag-along to project-related grant award NFWF DEP

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1.6B*	Agricultural Communication Strategy	<p>One on one farm outreach is the best way to communicate with farmers. Work to develop a plan to complete one on one farm visits.</p> <p>Work to develop a communication plan to engage integrators to work with their producers.</p> <p>Partner with pesticide meetings, young farmers and other ag meetings to provide information.</p> <p>Utilize Farm Bureau Newsletter for announcements</p>	<p>SCCD, County Farm Bureau, Integrators, Ag Land Preservation, PSU Extension, NRCS, 4R Alliance, Young Farmers, Pesticide Meetings</p>	Countywide	2022-2025	<p>Funding to support the technical assistance required to complete one on one farm outreach.</p> <p>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.</p>					<p>6 – additional Ag Planners to provide technical assistance and ag planning</p> <p>1 – FTE Marketing and Outreach Coordinator</p> <p>1 – FTE Clean Water Coordinator for Conservation District</p>	<p>District/NRCS/Private Sector Farm Visits</p> <p>Planning Commission</p> <p>Conservation District</p>	<p>\$780,000 per year</p> <p>\$130,000 per year</p> <p>\$130,000 per year</p> <p>See 1.6A for website costs.</p> <p>Costs for meeting attendance and administration would be covered through other funding requests.</p>	<p>DEP/NRCS/SCC/PDA</p> <p>NFWF</p> <p>DEP</p>

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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)	Lead - Chesapeake Conservancy Stakeholder peer review – Susquehanna University, 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 to compliant farm operations	Precision Conservation Tools General methodology outline BMP field backcheck	Chesapeake Conservancy QAPP Varies by BMP	N/A	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	Chesapeake Conservancy Susquehanna University Student or local student attending nearby university etc. District/NRCS/Private Sector Farm Visits	\$46,000 (2022 only) \$50,000 \$780,000 per year	EPA/DEP TBD PDA/SCC/NRCS/DEP

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2.2*	Identify future ag/urban project opportunities using remote sensing	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 – Susquehanna University, USGS, Farm Bureau, PDA,	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 verify	Chesapeake Conservancy DEP/SRBC Varies by BMP	N/A 	N/A 	5 – Student Internships to Support CAP Implementation	Susquehanna University Student or local student attending nearby university etc.	\$50,000	TBD
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, Central Keystone Council of Governments	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, there is no existing system in place.	Reporting platform	FieldDoc	N/A	N/A	Training 5 – Student Internships to Support CAP Implementation 1 – municipal planner	DEP Susquehanna University Student or local student attending nearby university etc. Planning Commission, CKCOG, Seda-COG Municipality, etc.	N/A \$50,000 per year \$130,000 per year	DEP TBD DEP

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2.4*	Implement a documentation program for commercial and homeowner nutrient applications in developed lands Support current legislation for a fertilizer bill.	Support fertilizer legislation – where legislation requires reporting, be the data clearinghouse Legislation will support the implementation of Urban Nutrient Management – 2,000 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	TBD based on fertilizer legislation if passed	TBD based on fertilizer legislation if passed	1 – FTE Clean Water Coordinator for Planning Commission	Planning Commission	\$130,000 per year Urban Nutrient Management \$10 per acre → \$20,000	DEP DEP/PDA/DCNR/NFWF/CBF/Chesapeake Conservancy
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 Snyder County Work with PDA/DEP to improve manure transport reporting	DEP, SCCD, NRCS, PDA, NRCS, Snyder 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. Current response rates are low and miss a large demographic of Juniata County farmers. Manure brokers are not required to report data annually. Data is not inclusive.					5 – Summer interns for reporting and verification	Local University Student or local student attending nearby university etc.	\$50,000 – paid internships See 3.5 for funding needs to improve cover crop reporting for Capital RC&D	DEP/PDA/SCC

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2.6*	Standardized Reporting for Dairy Precision Feeding	Counties would like to utilize the dairy precision feeding BMP. However, current reporting guidelines do not allow for clear reporting standards on feed reduction amounts, how to report, and who is qualified to report.	Chesapeake Bay Program, Penn State Extension, Dairy co-ops	Countywide	2022	It is recommended that milk urea nitrogen (MUN) be an acceptable standard for reporting dairy precision feeding. Guidelines need to be posted on acceptable MUN rates and work with dairy integrators to receive MUN data to report to DEP.	N/A	N/A	N/A	N/A	Reporting protocol	Chesapeake Bay Program, Penn State Extension, Dairy co-ops	N/A	N/A
Priority Initiative 3: Achieve New Pollutant Reductions														
3.1	Implement Snyder County Riparian Buffer Program from recently awarded Growing Greener Grant	Implement 10 acres of Riparian Forest Buffers Implement other Agriculture BMPs as needed such as Stream Fencing, Animal Crossings and Watering Facilities	SCCD	Snyder County ag land	2021-2022	Having enough in-house technical assistance capacity to see projects from concept through construction	Design, construction oversight	SCCD, Consultants	Received \$120,000 to be implemented by December of 2021	Growing Greener Grant	1 – FTE Clean Water Coordinator for Conservation District	Conservation District	\$130,000 per year	DEP

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3.2	Finalize Middle Creek 319 Watershed Implementation Plan	Develop and start implementing the local WIP	Susquehanna University, SCCD, other partners to be identified in plan development	Lower Middle Creek and Susquehanna Watershed	WIP Development and submitted Fall 2021 Implementation Grant Application – 2022 – see plan when completed and approved Partial Implementation – 2023-2025	Funding, landowner interest in BMPs, implementation partner coordination.					Design, permit, construction oversight	Private sector, US FWS, volunteers, Conservation District, Susquehanna University	Estimated, final numbers will be submitted once plan is approved: \$500K per farm at \$1.5M per year → \$7.5M over 5 years	EPA 319 Funds, PADEP, NRCS, CBF, CREP, NFWF
3.3	Accelerated Implementation of Rapid Delisting Catchment Strategy through the Precision Conservation Partnership	Have identified four priority catchments. Have identified 3-10 parcels per priority catchment Susquehanna Creek is priority number 1 with 3 parcels already identified for outreach and willing to implement	Chesapeake Conservancy, SCCD and Precision Conservation Partnership Stakeholders	Headwaters of Susquehanna Creek, North Selinsgrove Creek, West - West branch Mahantango Creek, North – west branch Mahantango Creek Watersheds	2022-2025	Gaining landowner interest, design/permit/construction schedules, dedicated funding to support BMP implementation, Lack of technical assistance and engineering staff to support implementation.	Program management and GIS Landowner outreach	Chesapeake Conservancy Partnership stakeholders			3 – additional FTE municipal/ environmental planners	Chesapeake Conservancy, CBF, Etc.	\$390,000 per year \$100,000 dollars to complete rapid delisting program management per year → total cost \$500,000 Other funding identified in below initiatives	DEP/NRCS/ SCC/PDA/ DCNR/NFWF/ Growing Greener/ EPA EPA/DEP

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3.4*	Help farmers and operators to be in compliance with state and federal Conservation and Nutrient Management Plans	<p>Soil and Water Quality Conservation Plans (AG E&S) 20,000 new acres</p> <p>Nutrient Management (Manure Management) 13,000 new acres of Core N and 14,500 new acres of Core P</p> <p>Work with Act 38 operators (79), Preserved Farms (28), and certified organics to document plans already required</p> <p>Implementation Challenges (continued): 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>	4R Alliance, SCCD, Snyder County Farm Bureau, NRCS, Private Sector Agriculture Farm Visits, integrators (Bell and Evans, Country View, Pilgrims Pride, Empire Kosher, BJE Land O'Lakes, Dairy Farmers of America, Maryland and Virginia Milk Producers Cooperative, BJE Poultry, Chick to Chicken, Tyson, Purdue, Eggs for Vaccines, Smithfield Hatfield, Swift), Act 38 farmers	Countywide Ag Land	2022-2023	<p>Lack of DEP inspections.</p> <p>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, Recommendations to require programs to enter plans into PK.</p>	Educational support	CBF/4R Alliance	CBF grant	NFWF	6 – additional Ag Planners to work with farmers	District/NRCS/Private Sector Farm Visits	\$780,000 per year	DEP/NRCS/SCC/PDA
							50 farms visits per year	Chesapeake Bay Technician	1 FTE Chesapeake Bay Technician	Chesapeake Bay Inspection Program		Conservation Plans	\$15 per acre for a total cost of \$300,000	DEP/SCC/PDA/NRCS
												Core N and Core P	\$15 per acre for a total cost of \$217,500	DEP/SCC/PDA/NRCS

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3.5	Advanced Nutrient Management (4R) Practice Education and Implementation	<p>Transition manure management plans to nutrient management plans and incentivize implementation</p> <p>Increase existing 4R practice (N Placement by 2,530 acres and N Timing by 15,000 acres)</p> <p>Increase pre-sidedress nitrogen test (PSNT) or Chlorophyll testing additional participants</p>	4R Alliance, SCCD, Snyder County Farm Bureau, NRCS, Private Sector Agriculture Farm Visits, PA Game Commission	Countywide AG Land	2022-2023	<p>Landowner interest, BMP verification (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 are applied.</p>	<p>Educational support</p> <p>50 farms visits per year</p>	<p>CBF/4R Alliance</p> <p>Chesapeake Bay Technician</p>	<p>CBF grant</p> <p>1 FTE Chesapeake Bay Technician</p>	<p>NFWF</p> <p>Chesapeake Bay Inspection Program</p>	<p>6 – additional Ag Planners to work with farmers to meet 4R standards</p>	<p>District/NRCS/Private Sector Farm Visits</p>	<p>\$780,000 per year</p> <p>\$10 per acre of advanced nutrient management planning per type → total cost for all is \$175,300</p> <p>\$25,000 per year to increase PNST education and testing → \$125,000 total</p>	<p>DEP/NRCS/SCC/PDA</p> <p>DEP/PDA/SCC/NRCS/4R Alliance</p> <p>DEP/SCC/PDA/NRCS/4R Alliance</p>

Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Template – SNYDER COUNTY

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							Technical	Source	Financial	Source	Technical	Suggested Source	Financial	Suggested Source
3.6*	Implement Practice to improve soil health and sustainability (Tillage Management and Cover Crops)	<p>Determine feasibility of having a county/state cost share program to enhance adoption of the annual practice</p> <p>Implement tillage management and cover crops on an annual rate of 40,000 acres High Residue, 4,000 acres Conservation Tillage, 2,000 acres Low Residue, 4,000 acres of cover crops and 32,600 acres of cover crops with fall nutrients</p>	SCCD, Snyder County Farm Bureau, NRCS, Private Sector Agriculture Farm Visits, PA Game Commission	Countywide Ag Land	<p>2022 – investigation</p> <p>2023 – next steps</p>	<p>Capacity to manage the program, landowner interest</p> <p>Lack of technical assistance and farm planners to work with farmers to transition to High Residue Tillage</p> <p>Current verification methods do not accurately capture implemented amounts – work with Capital RC&D to improve Transect Survey Routes</p> <p>Farmers are harvesting cover crops for forage, need accurate efficiency crediting for commodity cover crops</p> <p>Existing Cover Crop Programs have strict plant by date that does not work with changing weather patterns and wetter years</p>	<p>Transect survey</p> <p>Landowner education</p> <p>50 farm visits per year</p>	<p>Capital RC&D</p> <p>1 SCCD staff person</p> <p>Chesapeake Bay Technician</p>			<p>6 – additional Ag Planners to transition farmers to high residue</p> <p>County Conservation District – staff to administer the program</p> <p>Capital RC&D staff to complete Transect Survey</p>	<p>District/NRCS/Private Sector Farm Visits</p> <p>Cover Crop Incentive Program</p> <p>Capital RC&D</p>	<p>\$780,000 per year</p> <p>\$90 per acre traditional per year → \$360K for a 5-year total of \$1.8M (incentive payment, administration , capital RC&D reporting) \$50 per acre fall nutrients per year → \$1.63M for 5-year total of \$8.15M</p> <p>\$50,000 for improvements to Capital RC&D Transect Survey</p>	<p>DEP/NRCS/SCC/PDA</p> <p>PDA, SCC, Growing Greener, PACD</p> <p>DEP</p>

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							Technical	Source	Financial	Source	Technical	Suggested Source	Financial	Suggested Source
3.7*	Implement more pasture management BMPs	<p>Prescribed grazing – 700 acres</p> <p>Forest buffers on fenced pasture corridor – 15 acres</p> <p>Grass buffers on fenced pasture corridor – 15 acres</p>	SCCD, NRCS, Private Ag Consultants, Chesapeake Bay Foundation, Chesapeake Conservancy	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 cancelling NRCS contracts.</p>	50 farm visits per year	Chesapeake Bay Technician			<p>6 – additional Ag Planners to provide technical assistance and ag planning</p> <p>3 – additional FTE environmental technician</p>	<p>District/NRCS/Private Sector Farm Visits</p> <p>Chesapeake Conservancy, CBF, Clearwater Conservancy, etc.</p>	<p>\$780,000 per year</p> <p>\$390,000 per year</p> <p>Prescribed grazing \$540 per acre → \$378,000 total</p> <p>FB Buffer W/ Exclusion \$10,500 per acre → \$157,500 total</p> <p>GB Buffer W/ Exclusion \$2,750 per acre → \$41,250 total</p>	<p>DEP/NRCS/SCC/PDA</p> <p>DEP/NRCS/SCC/PDA/DCNR/NFWF/Growing Greener/ EPA</p> <p>DEP/NRCS/SCC/PDA/DCNR/NFWF/Growing Greener/ EPA</p> <p>DEP/NRCS/SCC/PDA/DCNR/NFWF/Growing Greener/ EPA</p>

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							Technical	Source	Financial	Source	Technical	Suggested Source	Financial	Suggested Source
3.8*	Riparian buffer and re-forestation BMPs	<p>510 riparian forest buffer acres – new buffer; Need to recredit additional acres lost since 2010</p> <p>130 riparian grass buffer acres – new buffer; Need to recredit additional acres lost since 2010</p> <p>15 acres – Agriculture Tree Planting</p> <p>60 acres – urban forest buffer</p> <p>2 acres – urban tree canopy</p> <p>100 acres – urban forest planting</p>	CBF, Penns Creek Watershed Association, Chesapeake Conservancy, NRCS, SCCD, PA Game Commission, Susquehanna University	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>Must revise ordinances to not cut down buffers because of “messy” appearance.</p>	<p>Materials</p> <p>Mapping</p>	<p>SCCD (in-kind, annual tree sale efforts), CBF</p> <p>Chesapeake Conservancy</p>	<p>Budget available to be determined</p>	<p>CBF, NFWF, NFWS, NRCS - CREP</p>	<p>6 – additional Ag Planners to provide technical assistance and ag planning</p> <p>3 – additional FTE environmental technician</p>	<p>District/NRCS/Private Sector Farm Visits</p> <p>Chesapeake Conservancy, CBF, Clearwater Conservancy, etc.</p>	<p>\$780,000 per year</p> <p>\$390,000 per year</p> <p>Forest Buffer \$10,000 per acre → 2.2M</p> <p>Grass Buffer \$2,500 per acre → \$250,000</p> <p>Tree/Forest Planting \$10,000 per acre → \$1.16M</p>	<p>DEP/NRCS/SCC/PDA</p> <p>DEP/NRCS/SCC/PDA/DCNR</p> <p>DCNR, NFWF, PACD, TreeVitalize, DEP, Coldwater Heritage Partnership Implementation Grants, Landscape Scale Restoration (LSR) Grant Program – US Forest Service, Pennsylvania Habitat Stewardship Program, Alliance for the Bay, CBF, Chesapeake Conservancy</p>

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							Technical	Source	Financial	Source	Technical	Suggested Source	Financial	Suggested Source
3.9	Wetland restoration implementation on marginal production ag land	<p>22 acres of Wetland Restoration</p> <p>20 Acres of Wetland Enhancement and Rehabilitation</p> <p>Identify 1 large property owner from University of Vermont restorable wetland layer to help identify where wetland restoration is feasible</p>	Chesapeake Conservancy, SCCD, NRCS, MLC, PA Game Commission	Countywide	2022 – 2025	<p>Willing landowner; appropriate siting, design, and construction for successful restoration result</p> <p>Lack of technical assistance for landowner outreach and agriculture planning to identify potential site locations</p>	Landowner outreach	1 SCCD staff person			<p>3 – additional FTE environmental technician</p> <p>2 – stream biologist</p>	<p>Chesapeake Conservancy, CBF, Clearwater Conservancy, etc.</p> <p>SCCD/ Environmental Group</p>	<p>\$390,000 per year</p> <p>\$280,000</p> <p>Wetland Restoration \$30,000 per acre → \$1.26M</p>	<p>DEP/DCNR</p> <p>DEP/DCNR/PA FBC/USGS</p> <p>DEP/DCNR/ USDA Conservation Reserve Program (CRP) or NRCS Wetlands Reserve Program (WRP)</p>

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							Technical	Source	Financial	Source	Technical	Suggested Source	Financial	Suggested Source
3.10	Stream Restoration (Urban and Agriculture)	<p>10,400 Linear feet (2 miles) Urban Stream Restoration</p> <p>4,600 Linear feet (<1 mile) Agriculture Stream Restoration</p>	CBF, Chesapeake Conservancy, TU National, NFWS, Penns Creek Watershed Association, PFBC Stream Restoration Team, MLC, NRCS, SCCD	Rapid delisting areas	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	GIS Design/GP-1 permit	Chesapeake Conservancy and partners Trout Unlimited, Municipalities			Design, permit, construction services 2 – Municipal Engineers 3 – FTE Design, Permit construction Services 2 – stream biologist	Private sector, USFWS, TU Municipalities, Planning Commission, CKCOG, Seda-COG Private Sector/SCCD SCCD/ Environmental Group	Assume \$900/LF - \$9.36M – Urban Assume \$400/LF - \$1.84M Agriculture \$280,000 per year \$420,000 \$280,000	Growing Greener, NFWF, DEP, DCNR, PAFBC, USGS DEP/NRCS/ SCC/PDA DEP/DCNR DEP/DCNR/PA FBC/USGS

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							Technical	Source	Financial	Source	Technical	Suggested Source	Financial	Suggested Source
3.11	Implement more barnyard runoff control/loafing lot management	32 acres of barnyard runoff controls (18 acres need reverification)	SCCD, Chesapeake Conservancy, NRCS, Snyder County Farm Bureau, Private Ag Consultants	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 resulting in cancelled NRCS contracts.					6 – additional Ag Planners to provide technical assistance and ag planning	District/NRCS/ Private Sector Farm Visits	\$780,000 per year	DEP/NRCS/ SCC/PDA
											3 – FTE Design, Permit construction Services	Private Sector/ SCCD	\$420,000 per year	DEP/NRCS/ SCC/PDA
											3 – FTE Design, Permit construction Services	Private Sector/ SCCD	\$315,000 per year	DEP/NRCS/ SCC/PDA
													Barnyard Runoff Control \$175K per project, assume 1 acre per project \$2.45M in total	DEP/NRCS/ SCC/PDA/ PennVEST

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							Technical	Source	Financial	Source	Technical	Suggested Source	Financial	Suggested Source
3.12	Animal Waste Storage Systems	15,000 Animal Units of Animal Waste Management Systems (3,000 new AUs of livestock & 12,000 new AUs of poultry)	SCCD, SCC, CEG Program County Farm Bureau, NRCS, Ag Land Preservation, Chesapeake Conservancy, Private Ag Consultants	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 – 5 farms a year	NRCS, SCCD, Private Ag Sector			6 – additional Ag Planners to provide technical assistance and ag planning 3 – FTE Design, Permit construction Services 3 – FTE Design, Permit construction Services	District/NRCS/Private Sector Farm Visits Private Sector/SCCD Private Sector/SCCD	\$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 \$26.25M in total	DEP/NRCS/SCC/PDA DEP/NRCS/SCC/PDA DEP/NRCS/SCC/PDA DEP/NRCS/SCC/PDA/PennVEST
3.13*	Export of Excess Manure out of Snyder County	Manure Transport of excess manure out of Snyder County – 14,500 Dry Tons Per Year	SCCD, PDA, SCC, Snyder County Farm Bureau, NRCS, Local manure brokers, Private Sector nutrient management planners	Countywide Ag Lands	2022 - 2025	Current reporting methods do not accurately capture the amount of manure leaving Snyder County. Manure brokers are not required to report data. Lack of Technical assistance to support agriculture planning and implementation.					6 – additional Ag Planners to provide technical assistance and ag planning Expansion of PracticeKeeper to require manure brokers' reporting	District/NRCS/Private Sector Farm Visits Manure Brokers/SCCD	\$780,000 per year \$100,000 per year	DEP/NRCS/SCC/PDA DEP/NRCS/SCC/PDA

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							Technical	Source	Financial	Source	Technical	Suggested Source	Financial	Suggested Source
3.14	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 Wet Ponds and Wetlands - 80 new acres treated	SCPC, SCCD, developing municipalities, Central Keystone Council of Governments, SEDA-COG	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	FieldDoc			5 – Summer interns for reporting and verification	Susquehanna University Student or local student attending nearby university etc.	\$50,000 – paid internships	NRCS/PDA/DEP
											2 – Municipal Engineers	Municipalities, Planning Commission, CKCOG, Seda-COG	\$280,000 per year	TBD
											1 – municipal planner	Planning Commission, CKCOG, Seda-COG, Municipality, etc.	\$130,000 per year	DEP
												Document existing projects through Mech Tech	Wet Ponds and Wetlands \$1,129 → \$90,320 \$25,000 to work with Mech Tech on previous reporting	DEP DEP

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3.15	Conservation Landscaping/Turf to Meadow Conversion	Promote new program and enable one large tract landowners' participation 80 new acres of Conservation Landscaping	SCPC, DCNR, Clear Water Conservancy, Chesapeake Conservancy, Penns Creek Watershed Association, MLC	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	Alliance for the Bay (in-kind)			1 – FTE Municipal Planner 3 – additional FTE environmental technician	Planning Commission Chesapeake Conservancy, CBF, Clearwater Conservancy, etc.	\$130,000 per year \$130,000 per year \$2,500 per acre meadow → \$200,000 budget for all	DEP/DCNR DEP/DCNR/SCC/PDA/NRCS DCNR
3.16*	Continue dirt and gravel road program	22 miles overall restored through past projects Continue to implement the program annually	SCCD, Trout Unlimited	Countywide	2025	Continue D&G Road program funding. Expand Dirt and Gravel Road Program to include farm lanes.	Education, technical assistance, project oversight 1 – technical staff administering the program	SCCD, Center for Dirt & Gravel Road Studies, SCC	\$1.8 Million since 1998	State Conservation Commission	1 – FTE Clean Water Coordinator for Conservation District	Conservation District	\$130,000 per year Dirt and Gravel Roads \$40 per foot → TBD	DEP/PDA/ SCC SCC
3.17*	Work with PennDOT and local municipalities to reduce frequency of mowing and grading 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, SCPC, 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	Planning Commission Conservation District	\$130,000 per year \$130,000 per year	DEP DEP/PDA/ SCC

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3.18*	Work with PA Game Commission to establish BMPs and conservation easements within Game Lands. Require farmland lessees to implement CNMPs and Ag E&S plans	Approximately 2,900 acres of state Game Lands are managed in Snyder County.	PA Game Commission, SCCD, MLC	PA Game Lands 188, 194, 212	2025	Coordination with Game Commission often challenging, requiring leases to implement plans when not currently required by lease contract.					1 – FTE Clean Water Coordinator for Conservation District	Conservation District	\$130,000 per year	DEP/PDA/ SCC
3.19*	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	2022-2025	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	HRG (CAP coordinator)			1 – FTE Conservation District Grant Manager	Conservation District	\$130,000	TBD
											1 – FTE Planning Commission Grant Manager	Planning Commission	\$130,000	TBD
											2 – staff accountants	Planning Commission & Conservation District	\$140,000 per year	TBD

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							Technical	Source	Financial	Source	Technical	Suggested Source	Financial	Suggested Source
Priority Initiative 4: Research, Education, and Training														
4.1*	<p>Incorporate existing water quality monitoring data into Chesapeake Data Explorer/ Chesapeake Monitoring Cooperative database</p> <p>&</p> <p>Initiate additional water quality monitoring sites that promote long-term trend evaluation at key locations in Snyder County</p>	<p>Location identification, financial and volunteer budget analysis, and initial landowner communication by end of 2021</p> <p>CAST-21 acknowledgment of our data</p> <p>Map existing monitoring locations</p> <p>Expand monitoring based on Corridors of Opportunity/rapid delisting area monitoring gaps</p>	<p>ALLARM, Susquehanna University, watershed associations, TU, USGS, SCCD, NRCS</p>	Countywide	2022	<p>Land access, expanded volunteer need, equipment/materials budget, Consistent data collection, QAQC continuation</p> <p>Data precision, QAQC, opportunity to educate landowners about local stream health and what they can do about it</p> <p>Ensure USGS/DEP/SU continue monitoring in Turtle Creek.</p>	QAQC	Susquehanna University /ALLARM			<p>Volunteers for Water quality monitoring</p> <p>New monitoring equipment</p> <p>3 – additional FTE environmental technician</p> <p>2 – stream biologist</p>	<p>Local environmental groups</p> <p>Conservation District</p> <p>Chesapeake Conservancy, CBF, Clearwater Conservancy, etc.</p> <p>SCCD/ Environmental Group</p>	<p>N/A</p> <p>\$10,000</p> <p>\$130,000 per year</p> <p>\$280,000 per year</p>	<p>Incorporate existing water quality monitoring data into Chesapeake Data Explorer/ Chesapeake Monitoring Cooperative database</p> <p>DEP/NRCS/ DCNR/PDA</p> <p>DEP/DCNR/PA FBC/USGS</p>

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4.2A	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. Enhance the capacity of local watershed associations for short-term success and long-term sustainability.	Penns Creek Watershed Association, MLC, Trout Unlimited, National Trout Unlimited	Countywide	Ongoing	Continued coordination among a lot of active groups, keep project leads list active so that watershed approach to grant applications can be developed well in advance of submittal deadlines.	Social media shares	County – department to be determined			1 – FTE Clean Water Coordinator for Planning Commission	Planning Commission	\$130,000 per year	DEP
							Project development support				CAP Coordinator (HRG)			
												\$5000 per organization to produce promotional materials (hats, shirts, stickers) for members → \$15,000 total per year	To be included in project-related grant applications	
4.2B	Explore options to establish a Snyder County Watershed and Conservation Association	Look to establish a new countywide watershed association with 501(c)3 status to support implementation of projects. Potential to merge Penns Creek Watershed Association into the new organization.	SCCD, Penns Creek Watershed Association, TU, other watershed or conservation organizations	Countywide	2023	Lack of participation in watershed organizations is challenging. Establishing a 501(c)3 takes time. Political will to develop the group. Funding to support the group					1 – FTE Clean Water Coordinator for Planning Commission	Planning Commission	\$130,000 per year	DEP
											1 – FTE Clean Water Coordinator for Conservation District			
												\$10,000 to establish Snyder County Watershed and Conservation Association	DEP	

Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Template

Each county-based local area will use this template to identify:

1. Inputs – These are both existing and needed resources, public and private, to implement the identified priority initiative. These include both technical and financial resources, such as personnel, supplies, equipment and funding.
2. Process – what is each partner able to do where and by when. These are the action items listed under each priority initiative.
3. Outputs and outcomes – both short and long-term. These are the priority initiatives identified by each county. The performance targets are the intermediate indicators that will measure progress.
4. Implementation challenges – any potential issues or roadblocks to implementation that could impede outputs and outcomes.

Asterisk: Place an asterisk next to the action number(s) for action items that appear in both the County Planning and Progress Template and the Programmatic Recommendations Template.

For each Priority Initiative or Program Element: Use the fields, as defined below, to identify the inputs and the process that will be followed to achieve each priority initiative. This is the “who, what, where, when and how” of the plan:

Description = What. This may include programs that address prevention, education, or as specific as planned BMP installations that will address the Priority Initiative. A programmatic or policy effort will require some ability to quantify the anticipated benefits which will allow calculation of the associated nutrient reductions.

Performance Target = How. This is an extension of the Description above. The Performance Target details the unique BMPs that will result from implementation of the Priority Initiative and serves as a benchmark to track progress in addressing the Priority Initiative. Performance Targets may be spread across multiple Responsible Parties, Geographies, and Timelines based on the specifics of the Initiative.

Responsible Party(ies) = Who. This is/are the key partner(s) who will implement the action items through outreach, assistance or funding, and who will be responsible for delivering the identified programs or practices.

Geographic Location = Where. This field identifies the geographic range of the planned implementation. This could extend to the entire county or down to a small watershed, based on the scale of the Priority Initiative, range of the Responsible Party, or planned funding/resources. *NOTE: Resource limitations alone should not limit potential implementation as additional funding may become available in the future.*

Expected Timeline = When. Provide the expected completion date for the planned activity. This should be a reasonable expectation, based on knowledge and experience, that will aid in tracking progress toward addressing the Priority Initiative.

Resources Available: Technical & Funding = This field will note technical and financial resources secured/available to implement the program (Description). This is the total of the resources identified in the County Resources Inventory Template below allocated to the priority initiative as a whole; or, if available, to each action.

Resources Needed: Technical & Funding = This field will note technical and financial resources needed/outstanding to implement the program (Description). This is the total of the additional resources projected and identified as needed in the County Resources Inventory Template below allocated to the priority initiative as a whole; or, if possible, to each action.

Potential Implementation Challenges/Issues = This field will note challenges and issues that may delay program implementation (Description).

GLOSSARY

- ACT 167 Plan.** The Pennsylvania Stormwater Management Act of 1978, or Act 167, required that each county must prepare and adopt a watershed stormwater management plan for each watershed located in the county as designated by DEP, in consultation with the municipalities located within each watershed.
- Ag E&S – Agricultural Erosion and Sedimentation Plan.** Agricultural Erosion and Sedimentation plans document best management practices on crop and pasture fields to mitigate erosion and protect soil health. Any landowner that disturbs the soil (including no tillage) more than 5,000 square feet ($\sim 1/10$ acre) must have a written Agricultural Erosion & Sediment Control Plan according to Pennsylvania State law, Chapter 102.
- ALLARM – Alliance for Aquatic Resource Monitoring.** ALLARM is a program of Dickinson College that enhances local action for the protection and restoration of waterways by empowering communities with scientific knowledge and tools.
- AMD – Acid Mine Drainage.** Outflow of acidic water from metal mines or coal mines.
- BMP – Best Management Practice.** Best management practices describe a type of water pollution control. Using agricultural BMPs can help to prevent or minimize the effects of nonpoint source pollution.
- BRIC – Building Resilient and Infrastructure and Communities.** The Building Resilient Infrastructure and Communities (BRIC) program is a new FEMA pre-disaster hazard mitigation program that replaces the existing Pre-Disaster Mitigation (PDM) program.
- CAST - Chesapeake Assessment Scenario Tool.** CAST is a web-based nitrogen, phosphorus and sediment load estimator tool that streamlines environmental planning.
- CBF – Chesapeake Bay Foundation.** The Chesapeake Bay Foundation is a non-profit organization devoted to the restoration and protection of the Chesapeake Bay in the United States.
- SCCD – Snyder County Conservation District.** The Snyder County Conservation District serves as the primary local source of assistance to all individuals and organizations who benefit from the county's natural resources that we collectively strive to sustain and improve.
- SCPC – Snyder County Planning Commission.** The Snyder County Planning Commission makes recommendations and decisions to maintain and enhance the high quality of life for all residents, in accordance with the Pennsylvania Municipalities Planning Code, and other laws and regulations of the Commonwealth of Pennsylvania and the County of Snyder.
- CHMP – County Hazard Mitigation Plan.** The Snyder County Hazard Mitigation Plan was developed for the purpose of providing a blueprint for reducing property damage and saving lives from the effects of future natural and human-caused disasters in Snyder County; Qualifying the County for pre-disaster and post-disaster grant funding; Complying with state and federal legislative requirements related to local hazard mitigation planning; Demonstrating a firm local commitment to hazard mitigation principles; and Improving community resiliency following a disaster event.
- CNMP – Comprehensive Nutrient Management Plan.** A Comprehensive Nutrient Management Plan is a whole farm, progressive document. It contains records of the current activities on a livestock operation, an evaluation of the existing environmental risks, and proposals to reduce the risk of negative impacts to the environment. The objective is to ensure both farm production and environmental goals (clean water, clean air, and healthy soils) are achieved on the farm.
- COO - Corridors of Opportunity.** Analysis completed comparing the County Comprehensive Plan goals to potential for co-benefits for local water quality. Since there are elevated nitrogen levels throughout Snyder County, the analysis helped focus the planning team on particular HUC12 watersheds for the most global benefit. Once the HUC12 watersheds are identified, the next step is to identify regulatory compliant (or in progress) farms, their neighbors, and preserved farms for targeted outreach and specific BMP installation options.
- CRS – Community Rating System.** Community Rating System is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum National Flood Insurance Plan requirements.
- DCNR – Department of Conservation and Natural Resources.** DCNR is responsible for maintaining and preserving state parks and forests; providing information on the state's natural resources; and working with communities to benefit local recreation and natural areas.
- DEP – Department of Environmental Protection.** The Department of Environmental Protection's mission is to protect Pennsylvania's air, land and water from pollution and to provide for the health and safety of its citizens through a cleaner environment.
- EPA – Environmental Protection Agency.** The Environmental Protection Agency is a United States federal government agency whose mission is to protect human and environmental health.
- FEMA – Federal Emergency Management Agency.** FEMA supports citizens and emergency personnel to build, sustain, and improve the nation's capability to prepare for, protect against, respond to, recover from, and mitigate all hazards.
- FieldDoc – FieldDoc** is a protected, online database that uses geographic information to generate baseline nutrient and sediment loading information and calculate load reductions for planned BMPs.
- GIS – Geographic Information System.** GIS is a computer system that analyzes and displays geographically referenced information.
- HUC12 – Watershed.** A local sub-watershed level delineation that captures tributary systems draining into the larger Chesapeake Bay watershed.
- MLC – Merrill Linn Conservancy.** Local non-profit conservation organization serving the Central Susquehanna Valley.
- MMP – Manure Management Plan.** Manure management plans document how a landowner plans to capture, store, treat, and utilize animal manures in an environmentally sustainable manner. Every landowner that has livestock or spreads manure on their property must have a written Manure Management Plan according to Pennsylvania State law, Chapter 91.
- MS4 – Municipal Separate Storm Sewer System.** A separate storm sewer system is a collection of structures, including retention basins, ditches, roadside inlets and underground pipes, designed to gather stormwater from built-up areas and discharge it, without treatment, into local streams and rivers.
- NFWF – National Fish and Wildlife Foundation.** NFWF works towards sustaining, restoring, and enhancing the nation's fish, wildlife, plants and habitats for current and future generations through innovative public and private partnerships, and by investing financial resources and intellectual capital into science-based programs designed to address conservation priorities and achieve measurable outcomes.
- NMP – Act 38 Nutrient Management Plan.** Nutrient management plans are required under Pennsylvania State law Act 38 which applies to operations with more than 2,000 pounds live animal weight per acre of pasture and crop fields.
- NRCS – Natural Resource Conservation Service.** NRCS's programs help farmers reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat, and reduce damages caused by floods and other natural disasters.
- PACD – Pennsylvania Association of Conservation Districts.** Provides support for Pennsylvania's conservation districts.
- PEMA – Pennsylvania Emergency Management Agency.** PEMA is tasked with the response to, preparedness for, recovery from, and the mitigation or prevention of disasters and other emergencies.
- PracticeKeeper.** PracticeKeeper is a protected, online database Used for reporting conservation plans, BMPs, E&S plans, nutrient management plans, watershed plans, complaints, DEP inspection reports and data exports to DEP.
- QAPP – Quality Assurance Project Plan.** A QA Project Plan documents the technical and quality aspects of a project, including project management, implementation and assessment. It specifies responsibilities, monitoring objectives, sampling design, sample collection methods, analytical methods, quality control, data management and data validation activities. It is required by EPA prior to any monitoring or data collection.
- QAQC – Quality Assurance Quality Control.** QA/QC is the combination of quality assurance, the process or set of processes used to measure and assure the quality of a product, and quality control, the process of ensuring products and services meet consumer expectations.

4R Nutrient Stewardship – Precision Conservation. Right fertilizer source at the Right rate, at the Right time and in the Right place for optimal crop management.

SRBC – Susquehanna River Basin Commission. SRBC’s mission is to enhance public welfare through comprehensive planning, water supply allocation, and management of the water resources of the Susquehanna River Basin.

SWM – Stormwater Management. Stormwater management is the effort to reduce runoff of rainwater or melted snow into streets, lawns and other sites and the improvement of water quality.

SWP – Source Water Protection. Source Water Protection is a planning process conducted by local water utilities, as well as regional or national government agencies, to protect drinking water sources from overuse and contamination.

USGS – United States Geological Survey. USGS provides science about the natural hazards that threaten lives and livelihoods; the water, energy, minerals, and other natural resources we rely on; the health of our ecosystems and environment; and the impacts of climate and land-use change.

WIP – Watershed Implementation Plan. Watershed Implementation Plans (WIPs) are the roadmap for how the Bay jurisdictions (including Pennsylvania), in partnership with federal and local governments, will achieve the Chesapeake Bay TMDL allocations.

WWTP – Wastewater Treatment Plant. Wastewater treatment plants process contaminants from wastewater or sewage and convert it into an effluent that can be returned to the water cycle with acceptable impact on the environment or reused for various purposes.