

## Phase 3 Watershed Implementation Plan (WIP) Progress and Milestones Template

**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		Annual Progress to Date (2020 + 2021) <small>*add new 2021 progress above the existing 2020 progress. Date each entry.</small>	Reason for Change to Action Item (2022-2023 milestone period)
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<b>Stormwater Action Team</b>												
<b>Priority Initiative 1: Update Act 167 Integrated Water Resources County Plan</b>												
1.1	Prioritize Act 167 planning in the County (develop new Act 167 plan that includes updated plan information and modeling for every County watershed. A new plan will provide updated ordinances to support regional runoff and flood management)		County Planning, Municipal., Lancaster County Clean Water Consortium	Countywide	When funding is available	Act 167 work is not currently funded adequately in the general budget at the state level. This could be remedied by funding that line item or dedicating other grant funds. Because the funding went away, we do not have the necessary data*.			Lead org. (Consulting engineer/ planner) to assist LCPC	\$3 million for Lancaster County	2021: County Planning Commission should take lead on this effort. It is important for financial and technical resources to be allocated to the County to update Blue Prints. Alternative is to petition DEP to allow CAP to count toward update and Action Teams as implementation resource.  2020: There is consensus that both an Act 167 plan update is appropriate; and an update should incorporate data, considerations, etc. that reflects water quality information and modeling to better ensure stormwater management and flood mitigation planning and project implementation balances both water quantity and quality. Actions to move this initiative forward are limited by financial considerations.	Changed action description from yellow to red and noted next steps in timeline is directly tied to funding as the absence of dedicated funding results in significant barriers to moving forward.
1.2	Have 167 plan that has pollutants/modeling parameters consistent with CAST (dependent on 1.1)		County planning, Municipalities	Countywide	FY2020-2021	Modeling is not consistent with the CAST model and more accurate baselines are required.  New legislation at the state level to provide consistency between Act 167 and CAST model	Local consultants				2021: See Action 1.1  2020: See progress to date on Action 1.1.	

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1.3	Update model ordinance(s) for countywide and/or watershed goals		County Planning, Municipalities, Solicitors, Community Stakeholders	Countywide	FY2022-2023	<p>Develop a robust model municipal stormwater ordinance(s) for Lancaster County that explicitly defines water quality goals, implementation requirements, buffer extents, and supports other initiatives in the County WIP, including green infrastructure, conservation overlays, riparian corridor standards, and restricting development and construction within floodplains and advocate for municipal adoption.</p> <p>Time constraints, no funding, and municipal adoption</p>	Local agencies, local consultants				<p>2021: Intent is to develop model ordinance options under Stormwater Action Team and Lancaster Conservancy partnership. Tie county-wide stormwater ordinance model to Act 167 and/or new MS4 permit requirements.</p> <p>2020: There is consensus an Act 167 plan update is appropriate, and a subsequent update to the model ordinance is necessary. The engineer's group has convened several times to move this action forward, but there is also consensus to wait until the next MS4 permit draft (2023-2028 cycle) is issued first.</p>	Updated timeline to coincide with the probable model SWMP update as part of the next MS4 cycle.
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1.4	Establish greater regionalization of runoff and flood management	<p><u>Stormwater Performance Stds – Runoff Reduction (10,972 total acres treated/ 6,205 new acres treated)</u></p> <p><u>Stormwater Performance Stds – Treatment (462 total acres treated/158 new acres treated)</u></p>	County Planning, Municipalities	Countywide	On-going	<p>Updated Act 167 and model ordinance(s) would establish basis for watershed-wide implementation of practices to cost-effectively achieve pollutant reduction goals.</p> <p><b>Localized plans (with conditions outlined in watershed permits or local SWMOs) that usurp Act 167 plans be a more efficient approach*</b></p> <p><u>BMP reconciliation during 2022-2023 will be critical</u></p>	Local agencies, local consultants	Flexibility in regional management of water quality under Act 167	Funding for development of <b>more advanced</b> GIS tools: \$180,000 total to do; <b>and funding for Act 167 Plan and subsequent elements (see Action 1.1)</b>	<b>Capital Cost of new BMPs: ~\$208 million (current assumption is ~60% of BMPs</b>	<p>2021: Follow delisting strategy to work on priority watersheds. Identify opportunities for regional projects/permits/joint construction to comply with MS4 requirements and met CAP goals.</p> <p>2020: Implementation of projects that provide regional and extended community benefits have become more prevalent across the county. Mechanisms to better track or plan for more targeted project locations would be ideal (see Actions 1.1 and 1.2).</p>	<p>Resource limitations restrict focus to de-listing strategy priority locations. Updated action from green to yellow and timeline to reflect activities have and are occurring, albeit minimal to overall desired progress. The status quo is inhibiting factor.</p> <p>Updated performance targets to align known progress with new acres still needed to achieve final targets</p>
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						to align accounting with on the ground conditions			simply need reported		
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### Priority Initiative 2: Update MS4 Performance Criteria, Oversight, and Implementation

2.1	<p style="background-color: #e6ffe6; margin: 0; padding: 2px;">Clarify and broadly publicize flexibility criteria allowing focus on watersheds rather than municipally regulated MS4-UAs (process for watershed-based permits established, understood, and implemented by permittees to allow for greater documentation, recording, verification, and reporting of BMP beyond those located in MS4-UAs)</p>		Lancaster County, municipalities	Countywide Priority Watersheds: Pequea Creek, Cocalico Creek, Chiques Creek, Others	CY2019-2021	<p>As presented to permittees over the last ten years, DEP and EPA requirements and programs complicate this process and serve as a disincentive. However, recent guidance distributed to municipalities outlines a different methodology. Consistent training and regulation is vital.</p> <p style="background-color: #e6ffe6; margin: 5px 0 0 20px;">Generalized process for regional general permits (e.g. watershed-based) would be ideal.*</p>	Technical expertise is present; DEP clarification memo/letter watershed groups		12 plans (1 per watershed) at \$50,000 = \$600,000 minimum needed to do the plans	<p>2021: Develop watershed permit in the Little Conestoga and implement Lititz Run WBP to demonstrate multi-municipal regional project. Take advantage of pre-application permit process with LCCD and DEP to discuss options for joint and/or regional watershed-based permits and plans.</p> <p>2020: The development and implementation of watershed-based permits and plans is slowly progressing forward (Lititz Run WBP, Chiques Creek Report Card, Pequea WIP) that prioritizes watershed health have been moving along. Financial limitations are the primary hurdle for further efforts across other watersheds.</p>	Significant progress has been made regarding this action, the implementation of a more generalized and standard process would be the next step.
2.2	<p style="background-color: #ffe6e6; margin: 0; padding: 2px;">Create goal line that is both definitive and does not stop at the end of a permit cycle (Establish quantifiable milestones that are consistent with CAST/Bay models, verifiable via consistent reporting templates that are consistent, accessible, and widely accepted)</p>		Lancaster County, municipalities, Lancaster County Clean Water Consortium	Countywide	CY2019-2023	<p>Milestones need to be consistent beyond those under current MS4 permits</p> <p>Action is required by DEP/EPA to make this process less complicated DEP/EPA must provide clear direction with regard to pollutant reduction calculation methodologies, verification protocols, and reporting requirements.</p>	Technical expertise is present		<p>\$20,000 per year is necessary to create and maintain a local report.</p> <p style="margin-top: 10px;">\$80,000 – \$100,000 per year is necessary to host a point person for stormwater for the county</p>	<p>2021: Formalize metrics based on CAP goals. Work to create consistent reporting and counting of BMPs in CAP.</p> <p>2020: While there is consensus this is an appropriate action to undertake, it is difficult to establish definitive and broad milestones due to changing technologies, changing requirements, and so on. This action may come to the forefront through the further development of watershed-based documents (see Action 2.1).</p>	Updated timeline to reflect actual progress

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2.3	<p style="background-color: yellow;">Seek creative solutions to focus on the problem (pollution), not the geography (MS4 and urban areas) – Prioritize projects that include multiple benefits</p>	<p><i>Bioretention and rain garden – 394 total acres treated/273 new acres treated</i></p> <p><i>Bioswales – 1,389 total acres treated</i></p> <p><i>Filter strip runoff – 10 total acres treated/10 new acres treated</i></p> <p><i>Urban buffers – 256 total acres/144 new acres</i></p> <p><i>Impervious surface reduction – 58 total acres treated/58 new acres treated</i></p> <p><i>Wet ponds and wetlands – 948 total acres treated/322 new acres treated</i></p> <p><i>Stormdrain cleanout – 29,610 lbs. of sediment removed</i></p> <p><i>Grey infrastructure – 23,772 acres</i></p> <p><i>Street sweeping – 155 acres treated</i></p> <p><i>Dry ponds – 396 total acres treated/396 new acres treated</i></p> <p><i>Infiltration practices – 693 total acres treated/120 new acres treated</i></p> <p><i>Extended dry basins – 7,253 total acres treated/386 new acres treated</i></p>	Lancaster County, Municipalities	Countywide, Priority watersheds: Pequea Creek Cocalico Creek Chiques Creek, etc.	FY2021	<p>Current DEP and EPA requirements make it more difficult for municipalities to focus on water quality rather than specific, inefficient program requirements.</p> <p>MS4 permits shifting from TSS to TN reductions. –this will take new dollars and expertise from the municipalities and engineers.</p> <p>Process established for meeting water quality goals outside of regulated geography and in a cost-efficient manner</p> <p>PennDOT/turnpike coordination and collaboration (including legislator support to help facilitate the process)</p> <p style="background-color: yellow;">BMP reconciliation during 2022-2023 will be critical to align accounting with on the ground conditions (existing local databases uncovered show approximately 5,000 uncaptured/ unreported BMPs)</p>	Technical expertise is present	Dollars for PRP projects are listed in the PRP report but need to be updated based on final, approved PRP’s	Currently, Lancaster County MS4s will collectively spend appx. \$1M to achieve a 100,000-lb N reduction in the current MS4 permit cycle. This funding could be leveraged against future permit cycle compliance if it could be spent on watershed-based solutions that includes projects outside of the traditional MS4 area.	<p>\$45,000 per watershed plan:</p> <p>- Dollars would be mostly for BMP’s that will be listed in other Priority Initiatives but can receive credit in stormwater work</p> <p style="background-color: yellow;">Capital Cost of New BMPs: ~\$69 million (current assumption is ~50%~60% of BMPs simply need reported)</p>	<p>2021: Identifying and implementing projects that provide multiple benefits and extended community benefits is not the issue with this action. Changes to programmatic/policy requirements, coordination amongst multiple stakeholders</p> <p>2020: Identifying and implementing projects that provide multiple benefits and extended community benefits is not the issue with this action. Changes to programmatic/policy requirements, coordination amongst multiple stakeholders, and so on inherently slows the overall process down. There are more opportunities (projects) than current funding streams.</p>	Updated performance targets to align known progress with new acres still needed to achieve final targets.
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		<p><i>Vegetated open channel – 442 total acres treated/432 new acres treated</i></p> <p><i>Filtering Practices - 137 total acres treated</i></p> <p><i>Permeable Pavement – 8.3 total acres treated/1 new acre treated</i></p>									
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### Priority Initiative 3: Create Programmatic Consistency

3.1	<b>Align permit parameters to water quality goals</b>		Lancaster County, municipalities, DEP	Countywide		<p>If a municipality is asked to submit the same information for each plan (102, 537, etc.), they should not need to duplicate efforts like hiring engineers twice or reformulate the data each time.</p> <p>Various DEP and EPA strategies are presently not aligned and improvements are not accounted for across programs (102, 105, 537, NPDES, MS4, etc.)</p>	Technical expertise is present		Staff time at DEP	<p>2021: Consistent data across DEP, other state agencies and funding programs should align to “count” all projects that affect water quality.</p> <p>2020: The municipalities in the Lititz Run watershed are progressing with this action (but they are currently the only ones). There has been pushback from various departments at DEP regarding this effort. The draft Lititz Run WBP is anticipated to be submitted to DEP during the first quarter of 2021.</p>	
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3.2	<p><b>Create greater consistency and accountability for review, inspections, and documentation of operation and maintenance of permit sites</b></p>		Lancaster County, municipalities	Countywide	<p><b>Understanding full funding and human resource needs is still under development</b></p>	<p>County and municipalities should clarify and implement protocols to ensure consistent reporting for Bay TMDL compliance.</p> <p>Tied to long-term verification processes inventory efforts.</p> <p><b>Clarification of appropriate procedure to report verifications per the BMP Verification Plan is needed*</b></p>	<p>Technical expertise is present</p> <p>PennDOT Connect</p>		<p>Consistent inspection requires staff time from LCCD E&amp;S staff and DEP; documentation and reporting protocols for operation and maintenance.</p> <p>More funding for staff and staff training <b>(details under development)</b></p>	<p>2021: Human and capital resources are the main limitations for fully implemented programs. There are several efforts underway to use stormwater fees to fund inspection and maintenance activities (including for privately-owned BMPs).</p> <p>2020: There is strong consensus and support for this action. Human and capital resources are the main limitations for fully implemented programs. There are several efforts underway to use stormwater fees to fund inspection and maintenance</p>	<p>Updates reflect action is part of the bigger picture of capturing and reporting BMPs and long-term verification processes.</p>
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											activities (including for privately-owned BMPs).	
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### Priority Initiative 4: Project Funding

4.1	<p style="background-color: #f4cccc; padding: 2px;">Seek and acquire creative legislation and funding for implementation, operation, and maintenance of water quality projects (obtain sufficient funding for implementation and ongoing maintenance of all BMPs necessary to achieve Bay TMDL compliance)</p>	<p><i>Nutrient management planning – 10,577 acres</i></p>	Lancaster County, municipalities, private companies related to fertilizer legislation	Countywide	<p style="background-color: #fff2cc; padding: 2px;">Coordination with Ag Action Team</p>	<p>Current state legislation that complicates and/or prohibits various public-private initiatives should be addressed to facilitate P3 initiatives and allow for private and public funds to be used collaboratively.</p> <p>The goal for this BMP is taken from the state recommendation, which relies on a change in the fertilizer legislation. Without that legislative change, we can only strive to treat 100 acres.</p>	Technical expertise is present			<p style="background-color: #f4cccc; padding: 2px;"><b>Funding and legislation to support larger goal*</b></p>	<p>2021: Funding mechanism would remove many barriers</p> <p>2020: This may always be a limiting factor.</p>	Updated action to denote this consideration affects the ag sector as well.
4.2	<p style="background-color: #d9ead3; padding: 2px;">Employ market-driven solutions for project funding (e.g. stormwater offset, credit trading, environmental impact bonds, etc.)</p>		Lancaster County, municipalities	Countywide	On-going	<p>Practices such as stormwater offsets and wetlands banking transfers need to be enabled and established by DEP. EIB, green-crowd funding, and other private investments programs must be permitted via legislative change.</p>	Technical expertise is present			Funding	<p>2021: Efforts continue</p> <p>2020: Efforts have been underway implementing strategies or components of market-driven solutions (developer implemented regional stormwater management projects, social impact bonds, mitigation banking, and so on). Legislative or programmatic support would be ideal to knocking down remaining barriers for desired actions related to P3 efforts.</p>	

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4.3	Revise funding criteria to ensure alignment with adopted policy and planning goals		Lancaster County MPO/TIP, Smart Growth Funds, Lancaster County Ag Preserve Board, LGH Lighten Up Lancaster	Countywide	On-going	Increase funding for Green Infrastructure and water quality BMPs for preserved farms, transportation and bridge projects, and complete streets				Funding	2021: Water quality and regional projects have seen greater emphasis in local funding programs. Technical resources are needed to develop master list of projects in county to tie together limited resources.  2020: There is consensus this is needed, but limits to financial resources are real.	
4.4	Build water quality improvement measures into capital and maintenance projects	Dirt and Gravel Roads E&S – 224,245 total linear feet/181,151 new linear feet	Municipalities, Municipal Authorities, Lancaster County Conservation District Watershed team for Dirt and Gravel Roads program	Countywide	2025	Increase # of green infrastructure projects and water quality BMPs installed with municipal capital and maintenance projects				Capital Cost of new BMPs: ~\$2.88 million	2021: Continuing as originally envisioned.  2020: The Dirt & Gravel Road/Low-Volume Roads program is very popular (even amongst boroughs and urbanized areas). Several municipalities have been implementing true asset management programs that provides considerations for stormwater facilities and water quality improvements in other focus areas (e.g. transportation improvements).	Updated performance targets to align known progress with new acres still needed to achieve final targets

### Priority Initiative 5: Identify alternate sources of project identification

5.1	Identify projects from hazard mitigation planning initiatives		Municipalities, Lancaster County	Countywide	On-going	Regular review of hazard mitigation plans  Limited staffing to review materials		Dirt and Gravel Roads program and dollars			2021: Continuing as originally envisioned.  2020: This is becoming more normal in overall project development and implementation efforts. However, human and capital resource limitations slow efforts to fully implement and coordinate/prioritize opportunities.	
								DCNR buffer grants				
5.2	Identify projects from municipal capital improvement plans		Municipalities, Municipal	Countywide	On-going	Regular review of municipal capital improvement plans		Dirt and Gravel Roads program and dollars			2021: See Action 5.1  2020: See Action 5.1	

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			Authorities, Lancaster County			Limited staffing to review materials		DCNR buffer grants				
5.3	Identify projects from local, county, and state infrastructure improvement plans		Municipalities, Municipal Authorities, Lancaster County	Countywide	On-going	Regular review of local, county, and state infrastructure improvement plans		Dirt and Gravel Roads program and dollars			2021: See Action 5.1 2020: See Action 5.1	
						Limited staffing to review materials		DCNR buffer grants				
5.4	Identify projects from watershed plans		Municipalities, Conservation District, Watershed groups, Lancaster County	Countywide	On-going, with emphasis on delisting strategy priority locations	Regular review of watershed plans		Dirt and Gravel Roads program and dollars			2021: See Action 5.1 and watershed plans provided a starting point for the delisting strategy	Watershed plans provided a starting point for the delisting strategy
						Limited staffing to review materials		DCNR buffer grants			2020: See Action 5.1	

### Priority Initiative SR1: Stream Restoration

SR1.1	50 projects plus basic, cost effective monitoring (field inspections) of before and after water quality results that are shared (include sourcewater protection work)	In-stream restoration - Urban (35,180 total linear ft/35,179 new linear feet)	Municipalities, LCCD, WSI, watershed groups, DTU, USFWS, LandStudies, USACE, DEP, Lancaster County Clean Water Consortium, DEP, PAFBC, EPA	Contiguous projects in priority watersheds TBD  Specific sites TBD based on opportunity, permit cycles, and compliance needs  The intention is to address source water issues as well	2019 – 2025 (and beyond)	As site specific details become available, we will use the alternative BMP template for floodplain and stream restoration projects with legacy sediment.  Lack of funding available to achieve the projects at the pace we need  Long permit timelines  Presumed contiguous willing landowners when that may not be the case, especially in the short term	Practice Keeper as data hub for permits and projects  Data experts like the Academy of Natural Science, SRBC, WSI, Chesapeake Conservancy, PSU, and more	319 funding for Mill Creek, Conowingo, and Conewago  Growing Greener funding  Exelon funding	Outreach staff to make initial contact with landowners  Permit processors (Harrisburg-based work)  Excavators	Funding  Capital Cost of new BMPs: ~\$58 million  \$75,000 per acre of wetland restoration	2021: Projects have been implemented but data management has not caught up to be able to track implementation progress. CAP funding is providing another source of funding for implementation but funding remains the limiting factor.  2020: There is no shortage of opportunities and potential projects. Shortage of financial resources is the only limiting factor.	Updated performance targets to align known progress with new acres still needed to achieve final targets
		In-stream restoration – Non-urban (138,948 total linear ft/76,775 new linear feet)										
		Wetland restoration/creation in floodplain – 452 total acres/266 new acres										



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						<p>Develop an acceptable monitoring protocol that includes a publically viewable format</p> <p>Greater state/federal permit process speed (especially for commercial projects)</p> <p>Current MS4 set up limits municipal interest/availability to participate</p> <p>In general, current municipal ordinances do not make these projects an easy "yes" for a developer.</p>		Private funding	Technical assistants to install projects (contractors) and project managers	Add 20% on top of all costs for pre- and post-project work (finding willing land owners, identifying the best project locations, followed by monitoring, maintenance, etc)		
SR1.2	<p style="background-color: yellow;">Dam removal notification system so that appropriate restoration accompanies any removals (programmatic recommendation)</p>		County, PAFBC, Water Science Institute	All areas	2025	<p>A necessary comprehensive approach with connection between dam removal and restoration work; current situation allows a dam to be removed and the permittee to walk away, which results in much more sediment pollution</p>	County, PSU, watershed specialists, PAFBC	NFWF funding	Monitoring equipment and data analysis experts		<p>2021: Emphasize greater communication and coordination with state agencies prior to scheduled removal.</p> <p>2020: This became a specific issue in the Chiques Creek watershed and revealed an inherent gap in the overall coordination efforts that have been accomplished. Programmatic/policy changes are requested to address this issue.</p>	<p>Updated action from red to yellow to reflect progress with collaboration and improved communications regarding dam removals. Action expanded from select areas to all areas.</p>

### Priority Initiative LP1: Growth Management

LP1.1	<p style="background-color: yellow;">Direct growth to UGA's and VGA's (DGA's). Prioritize redevelopment and infill in DGAs. Build more compactly and efficiently</p>		Municipalities, Lancaster Co Planning Commission (LCPC), and developers.	Countywide (Focus: Designated Growth Areas)	LCPC Growth tracking - 2 year increments	<p>Municipal participation</p> <p>Increase % of new dwellings in UGAs to accommodate projected pop and increase % of new non-residential SF. Increase residential net density to target density for each UGA; 9.0+ DU/Ac, 6.5 DU/Ac or 5.5</p>	Municipalities (Regs & Impl.). LCPC staff for growth tracking			Grants and resources needed by municipalities	<p>2021: Coordinate with LCPC and county planning to coordinate model ordinances around UGAs and VGAs</p> <p>2020: There is consensus for this action. Economic and political realities limit observance from time to time.</p>	
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						DU/Ac depending on the UGA.						
LP1.2	Utilize low impact development (LID) practices	Conservation Landscaping – 125 total acres	Municipalities, LC Clean Water Consortium, Developers, and LCPC	Countywide (Focus: Designated Growth Areas)	2019-2025	Increase use of LID practices.  Municipal participation  Developer resistance	Staff of various partners			Capital Cost of new BMPs: ~\$26,000	2021: Baseline component of most stormwater projects (green infrastructure or GI-based elements included on a majority of applications)  2020: This is a fundamental component of implemented projects.	Identified and included new performance target for conservation landscaping
LP1.3	Limit large-lot suburban development in rural areas		Municipalities and LCPC	Countywide (Focus: Designated Growth Areas)	LCPC Growth tracking - 2 year increments	Reduce total acres developed per year in rural areas, and reduce % of new dwellings outside UGAs  Municipal participation  Developer resistance	LCPC staff for growth tracking				2021: More naturalized open spaces being observed with large-lot subdivisions, which may be the compromise.  2020: There is consensus for this action. Economic and political realities limit observance from time to time.	
LP1.4	Plan to fully serve Urban Growth Areas (UGAs) and align water and sewer service with UGA's	Septic connection of 3,008 total systems (to municipal service)/2,645 new systems	Municipalities, Municipal Authorities and LCPC (education & advocacy)	Countywide (Focus: Designated Growth Areas)	LCPC Growth tracking - 2 year increments	Increase % parcels in UGA with water and sewer service  Costs, Municipal participation, Authority participation	LCPC staff for growth tracking			Matching funds to municipalities for Act 537 plans (of approx. \$100,00 per muni)*  Capital Cost of new BMPs: ~\$38.2 million	2021: Financial resource limitations still exist.  2020: There is consensus for this action. Economic and political realities limit observance from time to time. Financial resource limitations hinder full realization of this action.	Updated performance targets to align known progress with new acres still needed to achieve final targets

## Phase 3 Watershed Implementation Plan (WIP) Progress and Milestones Template

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							Technical	Financial	Technical	Financial		
<b>Stormwater Action Team</b>												
LP1.5	Plan for appropriate wastewater management in rural areas	Septic pumping of 10,000 systems	Municipalities, Municipal Authorities, PA DEP and LCPC	Countywide (Focus: Rural Areas)	2019-2025	Reduce number of failing on-lot disposal systems (OLDS)  Costs, Stricter regulations required from state, municipal participation				Funding for countywide system (details TBD)	2021: Efforts under consideration to collect data on total septic systems, annual pump outs, condition and immediate failures. Coordinate with Sewer Authorities for service areas and areas to upgrade.  2020: There is consensus for this action. Economic and political realities limit observance from time to time. Financial resource limitations hinder full realization of this action.	Matching a system similar to Chester County would be ideal to manage this action.
LP1.6	Adopt and/or Update Act 537 Plans		Municipalities, PA DEP, and LCPC	Countywide, with emphasis on priority areas determined by de-listing strategy	2019-2025	Increase number of municipalities that adopt or update their Act 537 Plans  Costs, Stricter regulations required from state, municipal participation				Matching funds to municipalities for Act 537 plans (approx. \$100,000 per muni)*	2021: Due to limited resources, needs will originate in priority areas  2020: Financial resource limitations hinder full realization of this action. This may be resolved through WBPs and fully integrated water resource plans as noted in previous initiatives.	The de-listing strategy provides a mechanism to target resources, focus, implementation activities, etc. with limited resources into manageable areas (catchments). Objective is to address a few catchments at a time and move on to a new group.
LP1.7	Utilize TDRs for Ag land, woodlots and other natural areas as a tool to promote greater density in UGAs/VGAs		Municipalities, LCPC (guidance)	Countywide	2019-2025	Increase # of muni using TDRs. Explore possibility of a pilot TDR ordinance between multiple municipalities  Logistical hurdles, municipal participation				Funding/grants to revise or draft ordinances	2021: Elements are being observed in select areas.  2020: This is a complicated subject, but interest in adopting this approach or elements of this approach is growing.	

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<b>Stormwater Action Team</b>							Technical	Financial	Technical	Financial		

### Priority Initiative LP2: Improve Planning and Design

LP2.1	<p style="background-color: yellow; margin: 0;">Improve Planning &amp; Design and Utilize Integrated Water Resource Planning and Management (IWRP &amp; IWRM)</p>		Municipalities, with LCPC	Countywide	2019-2025	<p>Increase number of Comprehensive watershed management, water/sewer infrastructure, rural wastewater management, stormwater management and green infrastructure plans</p> <p>Funding. Municipal participation</p>			<p>Grants and funding (\$50,000 - \$100,000 per plan/ordinance)</p>	<p>2021: Limitations hinder progress.</p> <p>2020: There is consensus for this action. Economic and political realities limit observance from time to time. Financial resource limitations hinder full realization of this action.</p>	
LP2.2	<p style="background-color: yellow; margin: 0;">Amend or adopt local ordinances that minimize stormwater runoff and regulate development that protects water resources (tied to Act 167 focus areas and goals)</p>		Municipalities, with LCPC	Countywide	2019-2025	<p>Increase number of ordinances municipalities adopt that minimize stormwater runoff and regulate development that protects water resources; including Zoning, SALDO, stormwater and floodplain management, well head protection ordinances, conservation zoning district and natural resource protection standards)</p> <p>Municipal part.</p>			<p>Funding/grants to revise or draft ordinances (\$50,000 - \$100,000 per plan/ordinance)</p>	<p>2021: Sub-committee of Stormwater Action Team to develop model ordinances with municipal officials.</p> <p>2020: There is consensus for this action. Economic and political realities limit observance from time to time.</p>	
LP2.3	<p style="background-color: yellow; margin: 0;">Revise Project Funding Criteria</p>		Municipalities, LCPC, Lancaster Co MPO (TTAC), DEP and DCNR	Countywide	2019-2025 (i.e. 2019-2022 MPO/TIP)	<p>Funding criteria should be revised to ensure alignment with adopted policy and planning goals.</p> <p>Current PennDOT, DEP, and DCNR regs do not require consistency.</p> <p>Consistency between Central office and districts.</p> <p>Coordination between MPO and municipalities</p>	<p>Various stakeholders. (i.e. PennDot Connects Program and County LRTP)</p>		<p>Need to leverage existing funding</p>	<p>2021: Progress has been made and several local, county, and state funding programs have shifted to include water quality goals part of funding criteria. Additional technical resources needed.</p> <p>2020: Programmatic and/or policy changes outside the control of local governments is necessary for this action to be fully realized.</p>	

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<b>Stormwater Action Team</b>							Technical	Financial	Technical	Financial		

LP2.4	<p style="background-color: yellow;">Water quality improvement measures should be built into capital and maintenance projects</p>		Municipalities, Municipal Authorities, LCPC, Lancaster MPO (TTAC)	Countywide	2019-2025 (i.e. 2019-2022 MPO/TIP)	<p>Increase # of green infrastructure projects installed with municipal capital and maintenance projects</p> <p>Municipal participation, funding</p>					<p>Need to leverage existing funding</p> <p>2021: Several instances where the development of parks is intersecting with water quality improvement projects.  <b>STORY LINKS &gt;</b>  <a href="https://www.lancasterpublicart.com/cullitonpark">https://www.lancasterpublicart.com/cullitonpark</a>   <a href="https://lancastersciencefactory.org/cullitonpark/">https://lancastersciencefactory.org/cullitonpark/</a>   <a href="https://pacleanwateracademy.remote-learner.net/mod/page/view.php?id=4342">https://pacleanwateracademy.remote-learner.net/mod/page/view.php?id=4342</a>   <a href="https://lancastercleanwaterpartners.com/2020/07/murry-ridge-park-green-infrastructure-improvements/">https://lancastercleanwaterpartners.com/2020/07/murry-ridge-park-green-infrastructure-improvements/</a></p> <p>2020: Programmatic and/or policy changes outside the control of local governments is necessary for this action to be fully realized.</p>	Updated action from red to yellow as approaches are observed more and more.
LP2.5	<p style="background-color: yellow;">Practice regional and place-based planning and analysis</p>		Municipalities, LCPC	Countywide	2019-2025	<p>Increase # of municipalities with regional comprehensive plans and natural resource and water resource plans</p> <p>Municipal participation, resistance to regionalization</p>					<p>2021: Underway, albeit minimal locations  <b>STORY LINK &gt;</b> <a href="#">Save the Bay Magazine - Spring 2020 - Chesapeake Bay Foundation (cbf.org) (p.7)</a></p> <p>2020: There is consensus for this action. Economic and political realities limit observance from time to time.</p>	

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<b>Stormwater Action Team</b>							Technical	Financial	Technical	Financial		

LP2.6	<b>Utilize official maps for regional stormwater management and protection of natural resources</b>		Municipalities, LCPC	Countywide	2019-2025	Increase number of municipalities participating in regional official maps  Municipal participation, lack of municipal familiarity with official maps under MPC	LCPC and municipal staffs				<b>Funds and ability to municipalities for utilizing official maps for regional SWM*</b>  2021: Political and regulatory restrictions limit use of official maps. Credit could be offered in MS4 permit for those municipalities that utilize official map with water quality elements.  2020: There is consensus for this action. Economic and political realities limit observance from time to time.	There is strong consensus for this action to proceed, but incentives and/or political hurdles need to be addressed
LP2.7	Utilize agricultural preservation process to promote greater implementation of agricultural BMPs		Lancaster County Agricultural Preserve Board, Lancaster Farmland Trust, Lancaster County Conservation District	Countywide (Focus: Rural Areas)	2-19-2025	Increase number of BMPs implemented on preserved farms  The purchase of development rights does not carry BMP obligations  Ag Action Team coordination and tie-in to Action LP3.5.  Multiple planning and programmatic tools will be necessary to expand pockets of success (zoning (limit # of homes or subdivisions that can exist on ag zones property), TDRs, easements, etc.), Passage of SB64 by the House would allow private land trusts access to state funding for easement acquisition for farm preservation.* With significant ag land use in Lancaster County, multiple tools and avenues for preservation will be necessary to improve BMP implementation rates.	APB and LFT staff				2021: Expanding considerations and exploring needed/ additional tools to increase ag preservation beyond simply promoting the need.  2020: Ag Action Team has taken the lead	Limited tools and avenues for preserving ag land is an observed bottleneck in increased BMP implementation. Expansion of tools and removal of several barriers will inherently lead to greater farmland preservation and BMP implementation rates.

Priority Initiative LP3: Natural Resources, Open Space and Parks

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LP3.1	Preserve natural and forested lands		Lancaster County Conservancy, Municipalities, LCPC, State	Countywide (Focus: Rural Areas)	2019-2025	Preserve natural lands and land with forest cover (2,000-3,000 acres).  Prioritize contiguous areas.  Funding, landowner participation	Current LCC staff  State agencies (Game Comm., State Parks, Forestry, DCNR)	Conservation Fund  State funding	Staff & maintenance  County funding	2021: Preservation is still a fundamental component of efforts, but retirement to open space is not the ideal metric  2020: There is strong consensus and realized actions associated with this initiative. Human and financial resources for outreach, long-term maintenance, etc. are the primary limiting hurdles still working through.	If a farmer chooses to retire land, it will be welcomed; but we will not request a farmer to retire land.
LP3.2	Conserve natural resources and services throughout Lancaster County's urban, suburban and rural areas		Municipalities, Lancaster County Conservancy, Lancaster County Parks, LCPC	Countywide		Funding, landowner participation  Increase acreage (or number) of areas being conserved for wise use & management to maintain ecological functions (wetlands, steep slopes, erodible soils, forest blocks < 100 acres.				2021: Human and financial resources for outreach, long-term maintenance, etc. are the primary limiting hurdles still working through. One example such as turf to meadow BMP could be employed in suburban and rural areas. Improvements in model ordinances might assist with this (see Action LP1.2)  2020: There is strong consensus and realized actions associated with this initiative. Human and financial resources for outreach, long-term maintenance, etc. are the primary limiting hurdles still working through.	

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<b>Stormwater Action Team</b>							Technical	Financial	Technical	Financial		
LP3.3	Restore ecological connections and natural resource systems throughout Lancaster County's urban, suburban and rural areas		Municipalities, Lancaster County Parks, LCPC, Lancaster County Conservancy	Countywide	2019-2025	Increase number of ecological connections through restoration efforts.  Funding, landowner participation					2021: Some funding programs are giving priority to projects in close proximity to other projects, headwaters, and natural areas.  2020: There is strong consensus and realized actions associated with this initiative. Human and financial resources for outreach, long-term maintenance, etc. are the primary limiting hurdles still working through.	
LP3.4	Neighborhood and regional parks, greenways and trails (5 acres in county/regional parks and 10 acres in local/municipal parks)		Municipalities, Lancaster County Parks, LCPC, Lancaster County Conservancy	Countywide	Check progress towards goal in 2025	Increase number and acreage of neighborhood and regional parks, greenways and trails. Adopted County standard: 15 acres of parkland/1,000 residents.  Funding, County and municipal participation				Funding and grants	2021: Several municipalities are taking on this goal (Conewago Restoration Project, Ephrata Project CAP application)  2020: There is strong consensus and realized actions associated with this initiative. Human and financial resources for outreach, project implementation, long-term maintenance, etc. are the primary limiting hurdles.	
LP3.5	Utilize TDRs as a tool to preserve high quality ag land, woodlots and other natural areas		Municipalities, LCPC	Countywide	2019-2025	Increase # of muni using TDRs. Explore possibility of a pilot TDR ordinance between multiple municipalities  Logistical hurdles, municipal participation  <span style="background-color: yellow;">Tie-in to Action LP2.7</span>					2021: Lancaster has experienced an increase in residential and commercial development. TDRs (or similar) have not been historically needed to assist in the development process. TDRs are now present in Caernarvon, Manheim, Penn, Warwick, West Hempfield, and West Lampeter Townships.  2020: See LP 1.7	Action status upgraded from red to yellow due to additional municipalities implementing TDR programs. Tie-in to Action LP2.7 is a recognition that multiple tools and programmatic changes will help reduce barriers to broader implementation.



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Priority Initiative LP4: Tree Canopy												
LP4.1a	Conduct a tree canopy assessment (Conduct a new tree canopy assessment in 2020, to compare to 2010 baseline)		County, Municipalities, Lancaster County Conservancy, Chesapeake Bay Conservancy	Countywide	2020	Funding, staffing	DCNR	CBF K10 Campaign, DCNR	GIS technology and staff		2021: Baseline does not exist for the county, but efforts are underway in key areas to improve canopy.  2020: Activities are moving forward, but human and financial resource limitation hinder timely progress.	
LP4.1b	Set tree canopy targets, and implement tree canopy action plans at county and municipal level		LCPC, Municipalities, Lancaster County Conservancy, and Lancaster Clean Water Consortium.	Countywide	2019-2025	Increase number of municipalities setting targets  Funding, staffing  Possibly select 3 priority large watersheds for initial imp.	DCNR	CBF K10 Campaign, DCNR	GIS technology and staff		2021: See LP4.1a  2020: Activities are moving forward, but human and financial resource limitation hinder timely progress.	
LP4.1c	increase tree canopy cover	Tree planting of 10 total acres (urban tree canopy)  Urban forest planting – 27 total acres/23 new acres		Priority watersheds	2030	Increase % tree canopy cover in priority watersheds by 2030  Municipal buy-in	Tree Canopy Report  Releaf Report (DCNR)			Capital Cost of new BMPs: ~\$21,000	2021: See LP4.1a  2020: Definitive buy-in and projects implemented.	Updated performance targets to align known progress with new acres still needed to achieve final targets
LP4.2a	Create a model tree preservation ordinance or "Planning Guide"		LCPC, municipalities, developers	Countywide	2019-2025	Adopt a model tree preservation ordinance or "Planning Guide"	PA Land Trust Assoc. (PALTA). DCNR				2021: Ordinance sub-team being formed within Action Team  2020: No update at this time.	

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<b>Stormwater Action Team</b>												
LP4.2b	Adopt (or amend) tree preservation ordinances at municipal level		Municipalities, developers, LCPC	Countywide	2019-2025	Increase number of tree preservation ordinances adopted  Municipal capacity	PALTA				2021: See LP4.2a  2020: No update at this time.	
LP4.2c	Enforce existing landscape ordinances and existing or new tree preservation ordinances		Municipalities, developers	Countywide	2019-2025	Preserve existing landscaping and trees  Municipal Capacity, Developer/land owner cooperation			Municipal staffing		2021: See LP4.2a  2020: Conflicts between ordinance language and water quality goals have been encountered.	
LP4.3	Education and Outreach		Lancaster County Conservancy, Tree Tenders, LCPC, DCNR	Countywide	2019-2025	Conduct trainings					2021: Coordinate with City of Lancaster and Alliance for the Chesapeake Bay Green Infrastructure Coordinator  2020: Human and financial resource shortfalls limit capacity and ability to expand training efforts.	

### 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.

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<b>Stormwater Action Team</b>							Technical	Financial	Technical	Financial		

**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).