

COUNTY AND PHASE 3 WORKGROUP RECOMMENDATIONS

I. Phase 3 WIP Workgroup Recommendations for Priority Initiatives for Nutrient Reductions

In the development of the priority initiatives described in Section 2, State Actions, the Sector Workgroups provided recommendations which have either been included, modified or not included in the Phase 3 WIP. These recommendations are summarized below by workgroup.

A. Agriculture

The Agriculture Workgroup made several recommendations for programmatic, regulatory or legislative changes that are addressed in [Section 2, State Support, Coordination and Oversight](#). The workgroup also recommended the following:

1. Discourage imposition of legal mandates on stakeholders and landowners

The processes to reach consensus on ideas and recommendations that balance relative interests and concerns and accomplish the multitude of objectives that Pennsylvania intends to accomplish through the Phase 3 WIP can be very frustrating, especially for local stakeholders who may be expected to collectively make local decisions on performance of land use activities in furtherance of the Phase 3 WIP goals. Given the challenge likely to arise from and frustration in local decision making, the tendency may be to advocate for a politically and financially expedient “solution” to accomplish objectives through proliferation of local ordinances that legally mandate landowners to perform, or prohibit landowners from performing, land uses in furtherance of water quality objectives. The Workgroup recommends local governments avoid attempting to reach water quality goals through the imposition of land use ordinances. These measures are likely to reduce local support and result in inconsistent criteria.

2. Financial and Tax Incentives for Landowner Participation in Changing or Preserving Land Use

Potential facets of program activity under the Phase 3 WIP, such as enhanced development of stream buffers, will likely have the practical effect of imposing more permanent restrictions or requirements on private landowners. Many landowners have been traditionally frustrated with governmental actions that impose significant restrictions in land use options without adequate compensation, while continuing to require the landowner to pay taxes on the areas of land so restricted. The Workgroup believes that programs and activities that exclusively or predominantly restrict land use options for water quality improvement must include features that provide financial and tax incentives to those landowners who voluntarily participate. We recommend that

participating landowners be given adequate compensation for those portions of their lands that become restricted in use as a result of implementation of a BMP practice performed pursuant to Phase 3 WIP, and that such portions be fully excluded from property and related taxes for the life of that BMP practice.

3. Confidentiality in reporting practices

Resolution of this issue is a critical component to WIP-3. Due credit in the Bay Model for BMPs actually performed will not occur unless those activities are “properly reported” and “verified.” Current protocols for “proper” reporting and verification” of BMPs seriously inhibit the ability or willingness of landowners performing them to voluntarily report those practices. Accepted and feasible protocols for self-reporting by farmers employing BMPs or their agricultural consultants that qualify for pollution reduction credit in the Model will provide greater accuracy in evaluating Pennsylvania’s progress toward its overall attainment of TMDL goals, and will more clearly identify areas of emphasis and priority in future activities and programs.

Current provisions of law would, however, deem any information provided through self-reporting or other similar reporting means as “public information” and subject to access by any individual who requests. The scope of access to information provided under the state’s “right-to-know” laws have a hugely chilling effect on farmers’ willingness to report, especially considering the authority provided in statute for citizens to initiate legal actions to enforce claimed violations of environmental laws.

Protocols for reporting and verification of self-reported information not financed by government sources are needed and must provide effective protections in confidentiality of source and content of individual farm information reported in order to attain due credit in the Model for employment of those practices. Administration of those protocols is not simple or inexpensive. Most agencies are not legally provided similar ability to protect from public access the source and content of information. The Workgroup recommends revisions to state laws governing public access to information that would extend confidentiality and full exclusion from public access for any farm specific information reported by the agricultural industry and for any information reported in the course of any data reporting and collection initiatives established by the Commonwealth related to the performance of nutrient and sediment reduction activities.

4. Increased technical assistance in design and implementation of agriculture BMPs

To achieve the degree of progress in implementation of agricultural practices necessary to meet the TMDL, the current technical assistance workforce and support tools will need to be extensively expanded. The agricultural industry relies on the expertise from both private and public sector entities to obtain the necessary technical and programmatic support they need to implement and maintain BMPs that effectively reduce nutrient and sediment loadings from farms.

5. Advance Soil Health Initiatives

Recommendations offered earlier for conservation activities related to “soil health” were specific measures recognized for pollution reduction crediting in the Chesapeake Bay Model. These measures do not include all the effective soil health initiatives that may be implemented on individual farms. Farmers who have engaged in more advanced soil health initiatives tailored specifically for land and soil conditions on their farms have had impressive results in minimizing stormwater and nutrient runoff throughout the entirety of the farm’s land area. These initiatives have provided corresponding benefits to the farmer in improvement of soil quality and retention of nutrients that would otherwise need to be replaced through farm inputs. There is a high potential for programs supporting advanced soil health management to greatly improve water quality and provide widespread economic benefits to farmers who participate in these programs.

6. Innovative Regulatory incentives for attainment of priority agricultural BMP implementation initiatives

One regulatory approach that has been employed to encourage area-wide implementation of priority environmental practices is to provide a temporary exemption for regulated parties from meeting new state regulatory obligations if they demonstrate identified priority practices are being performed. to encourage area-wide implementation of priority environmental practices is to provide a temporary exemption for regulated parties from meeting new state regulatory obligations if they demonstrate identified priority practices are being performed.

7. Reevaluation of existing funding sources and their uses

The total estimated costs for attainment of benchmarks of agricultural BMPs recommended in this preliminary report (at present value) is over \$326.9 million – a highly challenging figure for the agricultural sector to finance under current sources and criteria for expenditures of available funds. Yet compared with environmental effects of improvement and pollution control measures that other sectors are able to implement, agricultural environmental improvement measures still provide a much better environmental return in nutrient pollution reduction. And recent study and evaluation by Penn State’s Center for Nutrient of Solutions of conservation measures performed in several Pennsylvania watersheds empirically confirm that the basic agricultural conservation practices historically believed to improve water quality are very effective in reducing nutrient pollution. Given the relative costs and benefits of agricultural practices versus other measures to achieve TMDL goals, the Workgroup believes and recommends an extensive and comprehensive reevaluation of existing environmental funding sources and criteria for project funding, for the purpose of redirecting significant sums and uses of funding under existing point source and nonpoint source programs to uses consistent with agricultural environmental improvement measures identified and supported in Pennsylvania’s Phase 3 WIP.

8. Enhanced Nutrient Management Planning for Biosolids

Municipal biosolids (sewage sludge) may be land applied onto Pennsylvania's agricultural lands, including those agricultural lands in the Chesapeake Bay Watershed. While providing nutrient benefits to those farms that utilize biosolids, the increased presence of biosolids is adding to the nutrient management challenge that already exists on Pennsylvania's lands. Current regulatory standards require generators of biosolids to perform nitrogen-based nutrient management planning and implementation when land applying biosolids on agricultural land. The Phase 3 WIP Agriculture Workgroup recommended required management planning and implementation for biosolids be expanded to also include management of phosphorus consistent with the nutrient management planning standards established for animal manure.

9. Expanded Coordination of joint MS4 and nonpoint source Nutrient Pollution Reduction Actions and Offsetting

Greater collaboration between NPDES Stormwater Construction permit applicant use of BMPs identified as MS4 priorities, such as impervious surface restoration, storm sewer disconnection, and other retrofitting activities to address increases in stormwater, and the associated nutrients and sediment that result from that increase in stormwater is needed.

10. Coordinated Stream Restoration Measures

The Workgroup believes that increased forested and grassed buffer efforts may also provide substantial opportunity for enhanced nutrient reduction benefit when coordinated with localized stream, floodway, and floodplain restoration. The Workgroup recommends increased effort be made to evaluate the feasibility of state and local programs for assessing and implementing where appropriate coordinated stream, floodway, and floodplain restoration projects to compliment local forested and grassed buffer development, with engagement of necessary technical personnel in performance of that evaluation.

11. Increased and Extensive Focus in Legacy Sediment Programs

Projects for removal of legacy sediment and local stream restoration in areas neighboring a removed dam have been shown to provide nutrient and sediment reductions at significantly lower costs with much lower impact in acreage in land affected, relative to more traditional land conservation practices. The Workgroup strongly recommends aggressive pursuit in Pennsylvania of legacy sediment reduction and restoration projects as an integral component of Pennsylvania's Phase 3 WIP, similar to the approach taken in [Lancaster County's Countywide Action Plan](#). The Workgroup also recommends a much stronger support and backing by Pennsylvania in attaining due recognition of legacy sediment improvement projects as creditable BMP activities in the Chesapeake Bay Model.

B. Forestry

To reach the nutrient reduction goals established in the Forestry priority initiatives, the state, partners, and farmers will have to overcome some challenges.

1. **Awareness.** The power of trees and forests to reduce pollution is not always obvious. Education and outreach efforts will help to communicate the economic, environmental, human health, and water quality benefits of planting trees and conserving forests.
2. **Commitment and Leadership.** State and local leaders have invested tremendous time and energy in developing a watershed restoration plan. It will be critical to support the planning effort with resources needed for implementation.
3. **Staff & Training.** State and partner organizations lack the staff to support full implementation of the Forestry BMPs. Innovation and partnerships will be keys to success.
4. **Cultural.** Trees and natural areas are often viewed as “messy,” or vacant lands that have little or no value. Adding trees to farms and communities will require shifts in how we view our landscapes. For example, riparian forests could be planted with trees and shrubs that provide food or other products for personal use or minimal economic return.
5. **Timing.** Current funding options take several years to get trees in the ground. Identifying more-efficient means for funding can speed-up implementation and better meet landowner needs.
6. **Finances.** Planting meadows and riparian buffers can be expensive and time consuming for individual property owners. Streamlining funding will be critical for success.
7. **Tracking.** Communicating progress, success, and lessons-learned is critical to implementing the plan. Efforts are underway to improve communications and provide web-based tools for planning, tracking and, analyzing BMP use.
8. **Scale.** To reach these goals, agency staff and partners will have to assist—and monitor—thousands of individual property owners, farmers, and municipal organizations.

To reach these goals, the state, local partners, and farmers will need additional support. The Phase 3 WIP Forestry Workgroup offers the following recommendations for how to provide that support:

1. **Technical Assistance for riparian buffers, tree canopy, and lawn to trees and meadows** will need to significantly increase. To meet WIP goals by 2025, dozens of foresters and natural resource professionals are needed to support partner NGOs, agencies, and Conservation Districts.
2. **Financial Assistance for BMP Design and Implementation.** Significant funding is needed to support the implementation of Forestry BMPs.
 - a) It will cost over \$60 million/year to fund recommended forestry BMPs through 2025.
 - b) Easy access to this funding is needed to encourage BMP implementation.

C. Stormwater

To facilitate implementation of the priority initiatives identified to achieve nutrient reductions, the Phase 3 WIP Workgroup identified the following challenges and barriers and recommendations to address them:

1. **Education**: The general public has limited understanding of the impacts of urban development on water quality. Stormwater practices, such as rain gardens and wet stormwater ponds, can be viewed as “messy” and “unkept.” Partnerships with local environmental groups and educational support from DEP will help raise awareness and support for stormwater programs.
2. **Technical Materials and Training**. DEP should expand online resources for MS4s. DEP should also provide listening sessions, training and train-the-trainer events across the state to improve program understanding, and to better understand the constraints encountered by MS4s. Some of that work could be done by the proposed DEP “outreach” staff.
3. **Timing**. MS4 permits have been around a long time but have been implemented more slowly in many communities. The 2018 MS4 permit was more aggressively delivered, but improvements will take time. Training should be provided to permittees by DEP on the future permit requirements statewide for 2023, with emphasis on changes relative to the 2018 permit.
4. **Finances**. DEP can expect to continue to struggle with limited staff resources, as will local governments. Local governments should however press for cost savings through collaborative efforts, and should develop reliable sources of revenue such as from stormwater fee systems.
5. **Tracking**. The BMPs proposed in MS4 Pollutant Reduction Plans must in many cases have their planning refined, then they need to be designed and constructed. MS4s need to an effective way to plan and track that work to ensure that the BMPs are operational within 5 years after permit issuance.
6. **Scale**. The issuance of permits to separate municipalities is a major obstacle to compliance with the MS4 permit in Pennsylvania. It is difficult and expensive for small municipalities to maintain sufficient staff expertise, and difficult and expensive to locate, install and maintain BMPs within those same municipalities. The Workgroup recommends that DEP require a regional MS4 permit.
7. **Resources**. To reach these goals, the state, local partners, and local governments will need additional support including:
 - a. **Compliance (Permitting, Compliance Assurance, Inspection, Enforcement)**. Compliance by Pennsylvania municipalities is improving but still has a long way to go, and will require additional DEP staff to do the work.
 - b. **Technical Assistance for BMP Planning Revisions**. DEP should provide an additional three staff persons for in-the-field “Outreach” assistance statewide.
 - c. **Financial Management for MS4s**: MS4s need to support both Minimum Control Measure and PRP costs. Publicly-owned sites for BMP installation will be used up. Implementing the most cost-effective projects on priority locations will likely require working with private, state and federal landowners to acquire access

(generally easements), and jurisdictions will increasingly need to knock on doors and account for related costs.

- d. If the MS4 regulated area is not expanded to cover the entire developed area DEP should provide the staff to validate Chapter 102 BMP operability in the non-regulated area.

D. Wastewater

The Phase 3 WIP Wastewater Workgroup developed four priority initiatives for consideration. Those recommendations that will result in direct nutrient reductions are incorporated into the priority initiatives for nutrient reduction as part of Section 4, State Actions. These initiatives or recommendations may be explored further if feasible:

1. Operation and Maintenance Reimbursement Program
2. Non-Significant (Non-Sig) Sewage Nutrient Reduction
3. Regional Nutrient Trading Program

1. Operation and Maintenance Reimbursement Program

Maryland recently developed a Wastewater Treatment Facility Operation and Maintenance reimbursement program. Facilities that achieve better than ENR concentrations for nutrients in their discharge are reimbursed for the additional operation and maintenance costs it took to treat below ENR limits. The Phase 3 WIP Wastewater Workgroup recommends that the plant optimization program be coupled with an operation and maintenance reimbursement program.

Unfortunately, cost to optimize facilities have not been developed as part of this effort. Costs are plant specific and require an evaluation of each plant's operational and design data which was beyond the scope of this analysis. These costs should be developed in concert with the optimization program.

2. Non-Significant (Non-Sig) Sewage Nutrient Reduction

Although the non-significant sewage category includes all sewage facilities with flows less 0.400 mgd, it is not practical to assume all sizes of facilities can realistically achieve nutrient reductions even if the facility is designed to achieve nutrient reduction. Operation staff time on site and operation staff expertise are additional factors that affect the ability of a facility to perform. Smaller facilities do not always have full time staff with the capabilities to operate a nutrient reduction facility. A facility must perform effective process control and system monitoring to consistently achieve nutrient reduction.

Prior to any upgrade or major capital improvement that includes the biological treatment component, non-significant sewage facilities will be required to perform a nutrient reduction alternative evaluation. The evaluation should compare the costs and ability to implement a nutrient reduction project to achieve BNR reduction levels. The evaluation will be submitted to DEP for review and consideration prior to moving forward with a project. Requiring Non-significant facilities sewage to upgrade to achieve BNR

standards is not feasible, given that over half of these facilities actual flow falls under the 0.075 mgd cutoff and costs for upgrading these types of facilities vary greatly. Additionally, these facilities will be included in the proposed optimization program where feasible.

3. Regional Nutrient Trading Program

The Phase 3 WIP Wastewater Workgroup recommends that DEP develop a Nutrient Trading program to better facilitate trading between sectors, regionally and potentially with other states. Sectors that fall short of the load reduction goals could be offset through reductions in the wastewater sector. These wastewater sector reductions should be funded through a dedicated fund to offset costs of facility optimization or capital improvements.

II. Phase 3 WIP Workgroup Recommendations to Support Successful Implementation of the Phase 3 WIP

A. Local Area Goals Workgroup

The Local Area Goals Workgroup defined the scale for the local planning goals and the tiered approach for the development of the action plans to address these planning goals. In addition, they developed the supporting documents that will be used by the county planning teams to develop the Countywide Action Plans (CAPs.) These documents include:

- **Pennsylvania's Community Clean Water Planning Guide (background and planning resources)**
- **Pennsylvania's Community Clean Water Technical Toolbox (county specific data and technical resources)**
- **Phase 3 WIP Planning and Progress Template**
- **Phase 3 WIP Programmatic Recommendations Template**
- **Countywide Action Plan Narrative Template**

Below are the Workgroup's recommendations regarding the implementation of the planning process moving forward to complete the CAPs for the remaining 43 counties in the watershed.

Moving Forward: Local Area Goals Workgroup Recommendations

Pennsylvania's Community Clean Water Planning Guide and Technical Toolbox are just part of the equation. The Local Area Goals workgroup identified the need for continued engagement and support as more counties begin work on their Community Clean Water Action Plans. The workgroup made recommendations to the Phase 3 WIP Steering Committee regarding staff needs to provide ongoing support for county efforts and to provide technical assistance necessary during both plan development and implementation. The Committee accepted all of the workgroup's recommendations on March 8, 2019.

Recommended staff needs to support county clean water planning and implementation include:

- **Internal Coordinators** (Clean Water Regional Coordinators): Employees of DEP. Internal coordinators would serve as the point of contact and provide WIP coordinator for DEP and all other state agencies for external and technical coordinators. Internal coordinators would be responsible for:
 - managing external coordinators, facilitator and technical contract staff.
 - oversight and management of technical contracts.
 - facilitate state resources for local planning and implementation.
 - assisting with the permitting and grant process for external coordinators.
 - help in coordination with the verification process.
 - management and oversight of annual reporting and 2-year milestone tracking.
- **External Coordinators** (Community Clean Water Coordinators): DEP contractors reporting to the DEP Internal Coordinators. Serve as the point of contact to their assigned county(ies). Provide regular progress updates to Internal Coordinators. They would support county efforts to develop and implement Community Clean Water Action Plans by:
 - facilitating planning team efforts and coordinating regular meetings.
 - seeking financial resources to support county efforts (grants, partnerships, etc.).
 - helping counties with permitting of plan related projects.
 - developing and updating county plans and progress as needed.
 - submitting annual reports.
 - coordinating verification process within their designated county(ies).
- **Technical Coordinator** (Clean Water Technical Assistance Coordinator): A DEP contractor reporting to the DEP Internal Coordinator. The Technical Coordinator would:
 - be responsible for providing information and facilitation of planning tools through the planning and implementation process.
 - assist with reporting and tracking of milestones and annual progress.
 - assist in model runs for plan development and during annual milestone updates.
- **Facilitation Coordinator** (Clean Water Facilitation Coordinator): A DEP contractor reporting to the DEP Internal Coordinator. The Facilitation Coordinator would provide:
 - facilitation services.
 - organizational support.
 - process design work.
 - project synthesis and implementation expertise.
 - clear communication tools for Phase 3 WIP development and implementation of local engagement strategies.
 - expertise in synthesizing individual perspectives into a collective, implementable final product.
- **Outreach Contractor** (Clean Water Outreach Coordinator): A DEP contractor reporting to the DEP Chesapeake Bay Office, in coordination with WIP

Communications and Engagement Workgroup and DEP Communications Office.
The Outreach contractor would:

- Develop outreach materials and communication tools for public dissemination and education on Phase 3 WIP and local water quality

Schedule for Completion of Remaining Countywide Action Plans

Full implementation of the Phase 3 WIP will require significant staff and financial resources. Recognizing this, the Local Area Goals workgroup recommended a staged approach to help the remaining counties develop and implement their Community Clean Water Action Plans.

This staged approach takes an incremental approach to scaling of resources and coordination of planning efforts. The Staged Approach rolls out in two phases over 18 months. Phase 1 uses the additional time to focus efforts on the eight higher loading Tier 1 & 2 counties (54% of PA's nitrogen and 42% of PA's phosphorus loads). This approach allows for additional outreach to Tier 3 and 4 counties before their planning starts.

Staged Approach, Phase 1, would focus on planning and long-term implementation of Pennsylvania's Phase 3 WIP. It would include continuation of the pilot process in the four pilot counties as they transition into implementation of their Countywide Action Plans.

Phase 1 would also begin the planning process for the four remaining Tier 2 counties. Tier 2 counties would be given 6 to 8 months to build countywide coalitions and develop Countywide Action Plans. The Tier 2 counties would begin the implementation phase immediately after plan development.

Staged Approach, Phase 2, would focus on planning and long-term implementation of Phase 3 WIP for the remaining thirty five Tier 3 and 4 counties, and target the remaining 46% of PA's nitrogen and 58% of PA's phosphorus loads.

During Phase 2, supporting staff would be provided on a regionalized basis for Tier 3 and 4 counties. The regionalized planning efforts would group counties together, leveraging existing regional partnerships where feasible. Each county would still be required to submit an individual Countywide Action Plan and would be encouraged to work together with other counties during the planning effort.

Phase 2 would begin after the completion of the planning process for Phase 1 counties. All Tier 3 and 4 counties would be given 6 to 8 months for planning, and would immediately switch to the implementation phase once planning is complete.

Counties with Minimal Loadings

There are currently seven counties with less than 200,000 pounds of nitrogen per county: Wyoming, Elk, Indiana, Wayne, McKean, Jefferson, and Carbon. One staff

member would work with these counties to implement the Phase 3 WIP workgroup recommendations.

Resources for Phase 1 would need to be in place by July 2019 in order to complete Phase 1 by February 2020. Those resources include:

- 8 full time, permanent contracted external coordinator positions (1 external coordinator per county), \$800,000 (\$100,000 per external coordinator)
- 3 full time, permanent internal coordinator positions at DEP, \$300,000 (\$100,000 per internal coordinator)
- 2 full time, contracted technical coordinator positions (ex. SRBC), \$180,000 (\$90,000 per technical coordinator)
- 1 full time, contracted facilitation coordinator, \$100,000
- 1 full time, contracted outreach coordinator, \$100,000
- **Total: 15 coordinators, \$1,480,000**

Resources for Phase 2 would need to be in place by February 2020 in order to complete Phase 2 by January 2021. Those resource include:

- 13 full time, permanent contracted external coordinator positions (1 external coordinator per regionalized county planning effort), \$1,300,000 (\$100,000 per external coordinator)
- 7 full time, permanent internal coordinator positions at DEP, \$700,000 (\$100,000 per internal coordinator)
- 8 full time, contracted technical coordinator positions (ex. SRBC), \$720,000 (\$90,000 per technical coordinator)
- **Total: 28 coordinators, \$2,720,000**

Total resources needed for the Staged Approach would include:

- 21 full time, permanent contracted external coordinator positions (1 external coordinator per regionalized county planning effort), \$2,100,000 (\$100,000 per external coordinator)
- 10 full time internal coordinator positions at DEP, \$1,000,000 (\$100,000 per internal coordinator)
- 10 full time, contracted technical coordinator positions (ex. SRBC), \$900,000 (\$90,000 per technical coordinator)
- 1 full time, contracted facilitation coordinator, \$100,000
- 1 full time, contracted outreach coordinator, \$100,000
- **Total: 43 coordinators, \$4,200,000**

Staged Approach Pro's	Staged Approach Con's
<ul style="list-style-type: none"> ● all county planning complete in 18 months ● counties have more time to complete planning process (6-8 months) ● implementation begins sooner in higher loading counties ● counties get more one-on-one support ● Phase 1 counties have less competition for limited state and partner resources ● more time for outreach to Tier 3 and 4 counties ● more time to scale up funding and resources ● more time for coalition building ● recognizes unique variations in nutrient loads for individual counties 	<ul style="list-style-type: none"> ● longer timeframe of 18 months to full watershed implementation

NOTE: The staffing resources and costs outlined in this document are associated ONLY with completion of the planning process and staff support needed for implementation of those plans, and do NOT include the costs and resources needed to install Best Management Practices (BMPs).

Challenges and Resource Needs

There are various challenges and resource needs to address in order to allow for both continuation of the pilot counties and the forward planning and implementation process for the remaining counties in the Chesapeake Bay Watershed. The challenges and resource needs identified by the Local Area Goals workgroup are defined below.

- **Engagement.** Engaging, educating and supporting county stakeholders with the WIP process has proven to be a challenge and consuming of staff resources needed to provide understanding and acceptance of the WIP process. It is anticipated that the implementation phase will require a continued level of staff resource support.
- **Staffing Resources.** Current staffing resources cannot provide the education, engagement and support to successfully complete planning and implementation in the remaining counties unless additional requested staffing resources are met.
- **Competing Priorities.** The WIP is a voluntary process:
 - Resources within each county are stretched
 - Countywide planning leaders struggle with how to begin implementation given current limitations
 - WIP is a competing priority and county stakeholders may give it a lower priority because it is voluntary

- Extensive state resources needed to assist with plan development and implementation in each county
- **Time.** Extensive time is needed for the planning process for each county:
 - Aggressive completion timeline for the remaining 39 counties; four pilot counties took 6-8 months to complete their plans.
 - New challenges exist with exploring a regionalized approach across Tier 3 and 4 counties
- **Training and Support.** The need for additional staffing support increases training, oversight and coordination of all staff resources
- **Implementation Support.** Pilot counties need to transition from planning to long term implementation, which may require continuation of the pilot process and will require continued, permanent resource support
 - Requires state-county partnership support throughout the planning process and implementation
 - May require a pilot implementation phase similar to the pilot planning process
 - There are currently no established process or guidelines for how the county begins the implementation phase
 - Partner support is necessary to help counties meet their challenges to implementation
- **Funding.** Significant funding is needed for additional staffing to support the planning and implementation process

B. Funding Workgroup

The Funding Workgroup’s mission statement is to “develop a comprehensive, fiscally-responsible and sustainable funding strategy to support full implementation of the Phase 3 WIP and local water quality.” To accomplish this, the workgroup compiled information on available funding sources. They also solicited input from several different individuals and groups involved in the financing of different strategies and programs that can facilitate the implementation of the same goals across Pennsylvania and the Chesapeake Bay watershed.

A summary of the results is below, along with the recommendations for legislative or administrative actions. These funding recommendations are broken down into three categories and summarized in Table A3.1, Funding Workgroup Phase 3 WIP Financing Ideas.

1. Funding Mechanisms Considered

Successful water quality protection and restoration financing strategies are rooted in local context and tend to knit together a mix of financing mechanisms that connect implementation needs with the most appropriate funding source. The Funding Workgroup considered a wide array of established and proven mechanisms in developing the list of potential financing options included in this document as well as some new and innovative approaches. Perhaps the most challenging part of this process was evaluating how these mechanisms can be constructed to either enable the

flow of new funds to this effort or to modify existing programs to facilitate redeployment of funding streams from private, philanthropic and public entities to Phase 3 WIP implementation in the Commonwealth.

In general, no one mechanism had inherent strengths or weaknesses; the utility of any given mechanism is dependent upon the context in which it will be used. As a result, the Funding Workgroup evaluated options and mechanisms by surveying what is already in place and what could be introduced. In that context, the financing mechanisms considered fall into the following broad categories:

- Cost Saving Approaches
- Revenue and Cash Flow Management
- Engagement of the Private Sector

2. Cost Saving Approaches

There are a number of ways to reduce the overall cost of water quality programs. These approaches guide, or force in command-and-control scenarios, the investment of resources in water quality protection and restoration practices rather than establish new revenue streams. **Planning processes and regulation** are routinely used to limit the water quality impacts that can occur in a given area or from a particular activity. The enforcement or enhancement of existing regulations, codes, and ordinances can shift costs to the private sector or be used to incentivize going above and beyond what is required. In addition, looking to **coordinate with other local priorities**, like capital improvement, parks and recreation, green infrastructure, transportation improvement and other types of existing plans may offer opportunities to achieve water quality goals within other existing projects. This “dig once” concept can reduce implementation costs by capitalizing on a construction activity already occurring. Identifying opportunities to **streamline resources**, like existing grant, cost-share, and technical assistance programming, is another way to create efficiencies that can reduce administrative costs for sponsoring agencies and make these resources more accessible to applicants. While these approaches do not generate dedicated funding that can be redeployed by the State or local government, they are an approach to shifting costs to regulated entities, thereby relieving some of the burden for the public sector to pay for BMP implementation.

3. Revenue and Cash Flow Management

These opportunities range from general funds and grants, to bonds and loan programs, to dedicated revenue streams like fee systems and taxes. While **general funds** offer a certain flexibility over other sources, and can be used for both capital and operations and maintenance needs, these funds are not applied to a specific purpose leaving water quality needs to compete with essential services like public safety and education. Grants can be used for planning, design, and installation of water quality projects and can prove particularly effective for pilot projects that demonstrate practices, engage the community, and build program momentum; however, **grant funding** can be just as competitive as general funds, offers a finite funding timeline, and cannot sustain water

quality projects and programs over time. **Bonds, loans and revolving funds** offer access to the resources needed for capital projects with large upfront costs for communities that are able to demonstrate strong fiscal capacity and the ability to repay over time. All of these approaches represent mechanism to deploy resources to water quality restoration activities. In contrast, taxes and fees are mechanisms for raising funds that can in turn be used to capitalize grant, loan and funding programs. **Taxes and fees** can create steady, dedicated streams of revenue for water quality programs. Taxes, such as an additional percentage added to a property tax in a particular district or the sales tax of a particular product, can be less administratively burdensome or more politically palatable than fees. Fee systems, like utilities, impact fees and other surcharges, can be structured to more directly connect the scale of the fee collected to those who have the greatest impact on water quality.

4. Engaging the Private Sector

Often broadly referred to as Public-Private Partnerships, or P3s, these mechanisms operate as contractual arrangements between a public agency (federal, state or local) and a private sector entity to deliver a service or facility benefitting the general public. Through the agreement, the skills and assets of each sector, as well as the risks and potential rewards, are shared by both the public and private entities. P3s have the advantage of leveraging public funds, but are voluntary. In the water quality arena, these agreements offer some combination of access to private land and/or financing, and they can be as simple as local cost-share or fee credit/rebate programs that encourage property owners to implement BMPs on private parcels, to large-scale, performance-based contracts between jurisdictions and private sector service providers that improve efficiencies and reduce costs, to impact investing that directly engages private capital looking for social benefits in addition to a return on investment.

5. Recommendations for a Financing Strategy for the Phase 3 WIP

The recommendations for a financing strategy for the Phase 3 WIP fall into three broad categories:

1. improved administrative steps that make existing programs work more cost effectively,
2. innovative approaches that streamline the process for farmers and other landowners that will make compliance easier and more achievable, and
3. new sources of revenue to help fill the funding gap.

All three categories are critical to achieve local water quality improvement and restoring the Chesapeake Bay.

a) Category 1

Increasing existing funding and making it easier to apply and get funding was the first area the team focused on, knowing that many landowners find it difficult to navigate existing grant programs. In surveying potential opportunities, the Funding Workgroup

looked for programs that could be better utilized. For example, doubling or tripling the popular REAP tax-credit program at the Department of Agriculture would provide another \$10 to \$20 million to farmers to install BMPs on their farms. Expanding Growing Greener funding, with a streamlined application process at the county level, will encourage on-farm improvements with less effort, less wait and less red tape. Making PENNVEST watershed funding, through grants and loans, easier to access and packaged to fit individual farmer needs and financial situations will lower the barrier for farmers applying for these existing funds. Providing technical assistance at the county level in a one-stop shop process for farmers will simplify the sometimes bewildering process of getting a project funded and installed on the ground.

Better reporting of what BMPs are actually installed on farms and other lands would help the state track what is really put on the ground, and better inform EPA of how we are meeting our Bay obligations. The Workgroup agrees with a recommendation of the Agriculture Workgroup to make a change in the state's Right to Know Law that would make it possible for farmers to share their BMP data with DEP to get credit for practices implemented without exposing them to unwanted public review.

b) Category 2

Second, creative approaches that don't require new funding were identified by the group. These include those that link participation in certain programs to compliance with existing regulations. For example, incentivizing landowners in the Clean and Green tax abatement program to comply with existing agricultural requirements for those enrolled in the Agricultural Use, or actively farmed, part of the program. This would not be a new requirement, just better enforcement of existing requirements. Similarly, landowners enrolled in the popular Farmland Preservation Program should meet basic agricultural compliance requirements. An exciting program piloted by Turkey Hill Farms requires their milk producers to meet agricultural requirements as part of their long-term contract, and then gives producers a modest bonus payment for meeting requirements. In return, Turkey Hill can proudly market its products as Bay friendly. Other integrators and retail companies are looking to adopt this approach, which lets the market incentivize compliance.

Encouraging state agencies and local government agencies to lead by example was identified by the group as another way to achieve results with less funding. Many agencies already provide technical assistance through staff as well as grant funding, but installing improvements on state, federal or locally owned property can speak volumes. Possibilities include state parks, local parks, college campuses, prison grounds, and more. An executive order could raise the profile of this work and encourage its widespread use.

Reviving funding for Act 167 stormwater planning and improvements, along with streamlined permitting and more vigorous compliance, can help address pollution from stormwater runoff at the county and municipal levels using existing authority. Incorporating BMPs in new development as-you-go can also save funding and

streamline projects. Similarly, using abandoned mine lands under existing federal funding authority in the Surface Mining Control and Reclamation Act (SMCRA) to apply excess Chesapeake Bay nutrients and restore mined watersheds can solve two problems at once. Legislation to support delivery of excess nutrients to these sites, as exists in other states, would be necessary. Pennsylvania currently gets about \$25 million a year in SMCRA funding, some of which could be used for water quality improvements.

Adopting a pay-for-success model, similar to what PennDOT has been using under its Private-Public Partnership program, would facilitate private sector or investor partners to pay for large projects or a series of similar projects up-front, and get repaid by government sources for the actual nutrient reductions achieved. The benefits of this approach include mobilizing private-sector capital, paying only for actual results, and the potential for cost savings through large-scale efficiencies. Public funds would still need to be tapped to pay for the projects.

c) Category 3

In the third category, the group identified new legislation that would be required to generate new funding for BMP implementation as well as the staffing needed to make it happen. These include removal of a sales tax exemption on bottled water, tea and similar beverages that, by one study estimate, could generate an additional \$353.9 million per year. Another approach used in several nearby states, including Maryland, is a water use fee applied to large nonresidential water users who take water for commercial use. A 2018 study by the Legislative Budget and Finance Committee notes this type of fee in Pennsylvania could generate “hundreds of millions” of dollars each year. Most legislative proposals to date would exclude agricultural water users.

Other revenue generating ideas identified by the group would yield more modest contributions, including a tax check-off for tree planting and buffer projects on motor license applications, an optional add-on fee to boat registrations and other outdoor recreational uses to help restore the Bay, and a Pennsylvania Clean Water license plate dedicated to the same.

These recommendations are summarized in Table A3.1 Funding Workgroup Phase 3 WIP Financing Ideas below.

Table A3.1 -- Funding Workgroup Phase 3 WIP Financing Ideas

Note: The suggestions below have been considered by the Phase 3 WIP Funding Workgroup, through discussions with other partners. The Funding Workgroup has not estimated the costs in detail for all of these ideas, but this could be done for ideas selected for further development. Please refer back to Section III for a description of the mechanisms considered in the development of this table.

Category 1: Revisions/Enhancements to Existing Programs					
Idea # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
1.1	The state, Pennsylvania farmers, and (potentially) federal partners (NRCS/FSA) need a system to share confidential reports about adoptions of BMPs.	DEP has approximately \$3.7 million in the EPA Bay Grant funding budgeted over the next 3-5 years to develop and implement such a system. NOTE: A significant cost reduction will result if the suggested changes in the Right to Know Law are implemented.	This existing funding includes 1 DEP position to coordinate and administer these efforts. It does not include any additional DEP staff costs for onsite verification.	To save a significant amount of time and resources, and to protect the privacy of the agricultural community, revisions to Pennsylvania's Right to Know Law are needed as the first step. Once passed, PDA can implement a simple annual reporting system for the agricultural community to report progress that can be easily tracked and verified.	Currently, many voluntary BMPs are implemented on farms in Pennsylvania, but are never reported through any existing programs. Pennsylvania is unable to count the pollution reductions generated by these practices toward meeting the Bay TMDL requirements. A better reporting system is needed to track and verify progress to enable farmers to report to the state the practices they have implemented.
1.2	Ensure that landowners enrolled in the Farmland Preservation Program follow existing rules and regulations requiring manure/nutrient management and erosion and sediment control plans and plan implementation.	PDA will need resources to ensure enrolled lands are compliant. Landowners who need to come into compliance should bear those costs, but should retain their FPP payments if they do.		Determine PDA resource needs for compliance checks.	There are 552,702 acres currently enrolled in the program.

Idea # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
1.3	Revise provisions related to the Agriculture Use acres in Clean and Green to incentivize landowners to comply with existing rules and regulations governing agricultural operations. Encourage additional participation in the Forest Management aspects of Clean and Green through additional education and outreach.	Adjusting this program could impact (increase or decrease) tax revenue to county governments.	<p>To determine compliance, DEP Agricultural Inspection Reports would be shared with County Tax Assessors for further coordination with the county conservation districts and/or DEP.</p> <p>DCNR service foresters currently provide private landowners with help on their stewardship plans and would need to evaluate what additional resources are needed to expand this work under Forest Reserve.</p>	To make these provisions more meaningful, amendments to the legislature for their consideration	Agriculture Use and Agriculture Reserve together have 4 million acres enrolled; Forest Reserve has 5 million.
1.4a	Require counties and/or municipalities to comply with Act 167 requirements by having an approved county stormwater management plans and all associated municipal ordinances in place before seeking state economic development grants and assistance.		Additional support staff for DEP would be needed to administer this program.	Determine those programs that support development or redevelopment activities and include Act 167 compliance as a threshold eligibility.	<p>Including Act 167 standards for all Commonwealth financial support will better focus resources.</p> <p>This is one of the consistent recommendations of the four pilot counties as something that was an essential component to ensure successful implementation of their Phase 3 WIP Countywide Action Plan.</p>

Idea # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
1.4b	Restore funding for Act 167 planning. This should include funding for new county and municipal plans where none currently exist, and funding for plan implementation (such as creation of ordinances) and plan updates, where necessary, to existing plans more than five years old. This impact will particularly be felt in non-MS4 areas, where county/municipal stormwater regulations may currently be non-existent. Funding should also be structured to incentivize MS4 counties/municipalities to update stormwater plans/ordinances in conjunction with their MS4 compliance activities. Act 167 planning and PRP planning should occur simultaneously where possible to ensure the greatest possible consistency and coordination within a region.	Stormwater planning and implementation of updated ordinances at the county and municipal levels will result in greater pollution reductions funded by the private sector, as new and re-development occurs that incorporates current BMPs.	Some staff costs will occur at the county/municipal level to oversee implementation of stormwater ordinances, but permit fees can be structured to partially or completely cover the cost of additional staff.	Budget approval from the state legislature would be necessary to restore funding for Act 167 planning.	DEP actively worked with and funded county Act 167 planning and implementation in the past, but funding was eliminated approximately 6-8 years ago."

Idea # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
1.4c	Avoid 3 rd party and DEP review of NPDES stormwater management and post-construction permits for those within municipalities with up to date ordinances consistent with Act 167.	There should be no additional costs to implement this recommendation.	This concept would allow understaffed DEP stormwater personnel to focus on plan implementation instead of plan review.		<p>This concept would eliminate duplicate review of permits by municipal engineers and DEP.</p> <p>Should result in a streamlined review process and shorten the NPDES permit review process.</p> <p>May prove an incentive to municipalities to adopt up to date ordinances that are in compliance with Act 167 requirements.</p>
1.5	<p>Expand the TreeVitalize urban tree and buffer programs.</p> <p>Coordinate with Department of Community Economic Development's community revitalization programs.</p> <p>Consider enhancing TreeVitalize Program technical guidance (See Notes).</p>	<p>DCNR estimates a continued and expanded program would cost \$3.7 million.</p> <p>These programs have 1:1 match requirements.</p>		<p>Budget Approval would be necessary to support expansion.</p> <p>Support the existing legislation for the Keystone Tree Fund.</p>	<p>DCNR should coordinate with the Department of Community Economic Development on this effort.</p> <p>Enhance Guidance to:</p> <ul style="list-style-type: none"> Educate grant recipients about the value of using trees to meet MS4 requirements and to mitigate localized stormwater problems. Provide information about the stormwater infiltration capacity of various tree species. Encourage grantees to select tree species with the greatest stormwater infiltration value, where such species are appropriate given site constraints and other factors.

Idea # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
1.6	<p>Pennsylvania State Agencies should put buffers and other practices in place on state-owned lands wherever feasible. Possibilities include roadways, parks, campuses, and prisons. Leading by example is a critical step. Taking action on public lands with public dollars demonstrates a commitment to water quality protection and restoration, serves as an outreach and education tool for engaging the public, and promotes these activities as the new normal.</p> <p>Thinking beyond just existing publicly held properties, the Commonwealth could also look at any state level construction or redevelopment activities (roads, public buildings, etc) for opportunities to incorporate additional water quality or quantity management benefits. Incorporating these feature at the time of construction is far less expensive than retrofitting.</p>	<p>There will be incremental costs for developing green protocols for implementing this on Commonwealth property, as well as for labor, plant materials and maintenance.</p>	<p>No new staff would be needed, but contract dollars would.</p>	<p>New or repurposed funds to pay or cost-share the best management practices and plans</p> <p>Use implementation of the PennDOT Connects Program</p> <p>Budget approvals would be needed to support efforts.</p> <p>An Executive Order to facilitate implementation is suggested.</p>	<p>A map of state parcels has already been completed. DCNR currently leases 6,000 acres of farmland on its state parks to farmers.</p> <p>Agencies should also include state affiliated agencies like the Fish and Boat Commission, Game Commission, state colleges and universities, etc.</p>

Idea # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
1.7	Revise the Growing Greener and other existing state funding sources project selection criteria to a first-come, first serve award process.	None, uses existing funding sources	Existing staff would use revised criteria to focus on high needs areas.	Agencies with Growing Greener funding agree to the change in prioritization. The current understanding is this adjustment is possible without legislative approval.	Including standards to focus funding to high needs areas will allow better utilization of resources
1.8	When requesting federal Abandoned Mine Drainage funds, DEP should prioritize projects that help the state meet its Phase 3 WIP goals.	DEP invests ~\$25 million in AMD statewide each year, but only a portion of that could help achieve Phase 3 WIP goals.		Look into potential synergies with biosolids or manure or large scale legacy sediment and dam removal projects to accelerate implementation and bring down costs. These by products can be used as a supply of nutrients for trees and a soil enhancement. DEP would start by developing an internal process to identify AMD projects that have Phase 3 WIP co-benefits.	There are an estimated 35,000 acres of AMD lands on state forestlands alone, more on private lands.

Category 2: Innovative Approaches

Idea # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
2.1	Pool agency funding targeted to Chesapeake Bay efforts into one fund and let an oversight group administer and manage the funds. The sponsoring agencies would still get recognition for having contributed toward the accomplishments achieved.	Based on recent reports to EPA in response to federal reporting requirements, PA averages about \$60 million per year in state funding for Chesapeake Bay Restoration efforts.	Options as to how this is implemented need to be explored as to whether staff support would be need. While each agency would likely need to provide a point person for coordination and review processes, Chesapeake Bay Trust and the National Fish and Wildlife Foundations offer good models for distribution of blended funds in a way that maintains the agencies' various missions. Likely no new personnel needed if farmed out to an existing entity in this way. If the state chose to operate the blended fund internally, I would likely require the realignment or reassignment of existing personnel.	An oversight group would need to be created with the ability to manage monies from multiple agencies, target resources with enough administrative resources available to them to implement and coordinate the effort.	Purpose of this funding and the focus of this oversight group must be on the implementation of the Phase 3 WIP. Efficiencies would be gained for both the applicants and the agencies responsible for these funding programs. Having applicants cobble together multiple grants from multiple places is overwhelming and having many agencies each managing their own administrative processes is wasted time, energy, and capacity.

Idea # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
2.2	Passage of a new Growing Greener 3 program and funding source that dedicates dollars to farmland preservation, agriculture practices, buffers and other practices, with some % dedicated to the Bay watershed. Change the name of the initiative to focus on the goal and uses of the monies.	Would be a new source of funding, estimates vary		Legislation to approve a new program and a new funding source targeted at compliance with the Bay issues.	
2.3	<p>PENNVEST use the state revolving loan program to support project sponsors meet Phase 3 WIP goals.</p> <p>PENNVEST can:</p> <ol style="list-style-type: none"> 1. Offer counties low-interest loans for capital improvements and practices 2. Coordinate loans with the Farmland Preservation program and Clean and Green to support BMP installation on lands in their programs. 3. Expand Riparian Buffer and TreeVitalize Program with low interest loans 	<p>Loans will be repaid with interest; grant level unknown.</p> <p>Loan funding is currently available.</p>	Existing staff could potentially handle incremental increase in loan volume. Partnering with other stakeholders could expand participants.	<p>Review the loan origination process to better accommodate loans to farmers.</p> <p>Look at the potential for sub level revolving loan programs seeded with funding from PENNVEST and administered through a more local entity, possibly through conservation districts, or counties with approved county-wide action plans.</p> <p>Administrative support is eligible from PENNVEST to implement construction projects.</p> <p>Identify existing private lenders willing to participate in link-deposit loan program where PENNVEST money is used to buy down the interest rate on loans to farmers through local lending institutions</p>	<p>Work with sub level entities to administer a revolving loan program.</p> <p>Streamlining would offer the benefit to PENNVEST of fewer loans/grants to manage, while also allowing the Counties to direct funding to the geographies, practices, and implementers that make the most sense given context. Less administration and more spending autonomy.</p>

Idea # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
2.4	<p>One-Stop-Shop facilitation for farmers and urban centers—streamline and expedite the process of matching farmers and other land owners to technical assistance available for water quality projects from all local state and federal sources. counties.</p> <p>Run a pilot of this concept through an RFP process to solicit proposals at the county or regional level. Proposals would describe how these services would be effectively provided to serve the needs of both agriculture and urban communities.</p> <p>PENNVEST could fund the creation of these one-stop-shop centers to help farmers, land owners and communities navigate possible sources of federal, state, and local cost-share and technical assistance programs.</p>	Pilot effort for Tier 1 and 2 counties would require about \$1.2M	RFP can be generated and administered with existing staff.	<p>Project may be funded using state revolving loan administrative funding targeted to nonpoint source pollution prevention.</p> <p>PENNVEST may pilot this concept through and RFP for the Tier 1 counties.</p>	Look at the Community Action Centers (https://www.centerforcommunityaction.org/) for child care, health and other social services as a model. These centers combine program assistance, tools into a package to meet the needs of individual families.

Idea # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
2.5	Promote Integrator incentives and industry pressure for compliance, following the Alliance for the Chesapeake Bay and Turkey Hill model, and the Environmental Defense Fund efforts to have buyers require compliance by farmers.	Small cost for outreach, education and coordination at the state level.		More support for similar efforts, NFWF is funding some of this through grants.	<p>Utilize funding incentives to support entities the promote farm compliance.</p> <p>The strength of these models is that the marketplace is driving the actions taken and a heavy state engagement is not necessary. Promotion of these models is the most appropriate role for the state.</p> <p>There could be opportunities to establish purchasing preferences for vendors/suppliers that employ these types of approaches.</p>
2.6	Address the economic development aspect of abandoned mine land reclamation and other environmental restoration efforts. Incentivize through Department of Community and Economic Development a new business or grow an existing business of hauling and transporting manure, other byproducts or legacy sediment to reclamation sites as an application for soil amendment, buffer maintenance, stream restoration, etc. (See Note)		Minimal, as the concept is to add the requirement into permits or at other existing control points. Abandoned Mine Land funding currently has a pilot program that may be available to develop one or more of these areas.	<p>Provide incentives for hauling manure.</p> <p>Include a permit condition in the reclamation work to require the use of nutrients from these sources.</p> <p>The Department of Community and Economic Development would offer subsidies and other support to manure haulers for this purpose.</p> <p>PADEP would require use of manure from areas that have a surplus for this purpose.</p>	<p>An alternative is to use the byproducts from other alternative manure treatment technologies such as biochar, digesters or composting and Legacy Sediment restoration and dam removal sites.</p> <p>Other state Manure Hauling Programs could serve as a model for this effort.</p>

Line # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
2.7	DEP should consider offsets as an option for Municipal Separate Storm Sewer Systems (MS4s) for project implementation on offsite locations.	This will significantly decrease the cost per pound for nutrient reductions. This will also reduce the cost for compliance for MS4 communities.		Formal guidance as to how this can be implemented is needed.	This will encourage cooperation across sectors and promote a more regionalized approach to addressing stormwater.

Category 3: New Funding

Line # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
3.1	The state must find a significant new dedicated funding source to support clean water initiatives. Potential sources of funding for this program are listed below. A combination of these options may be required to provide the level of funding needed.	This would be a new source of funding, where estimates would vary.	Depending on the final source of funding and the method of collecting and administering the program, estimates for personnel to manage the program will vary.	Legislation would need to be reintroduced for this purpose in 2019	

Line # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
3.1a	Restore PA – A proposed plan to Restore Critical Pennsylvania Infrastructure	Proposed bond initiative to include some funding for conservation among other infrastructure improvements, totaling \$4.5 billion. The conservation components are listed in the notes.	No estimate of the personnel resources needed to implement this initiative have been provided.		Initiative to restore PA infrastructure including investments in critical flood control infrastructure, green infrastructure and stormwater management for MS4 communities.
3.1b	PA Farm Bill – A proposal to provide support for and continued investments in the commonwealth's agriculture industry.	The conservation measures include: <ul style="list-style-type: none"> • \$3 million for REAP to increase the lifetime cap and increase availability. • \$500,000 for AgriLink • \$2.5 million for conservation grants for practice implementation. 	1 staff person for the State Conservation Commission is proposed.		Among other things, the proposal will provide funding for technical assistance and to incentivize the installation of best management practices.

Line # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
3.1c	A water use fee applied to large nonresidential entities that take water for commercial use.	\$0.0020/gallon fee would bring in about \$353.9 million a year.			<p>A 2018 study* by the Legislative Budget and Finance Committee estimated that modest fees on each gallon of water withdrawn over 10,000 gallons per day could generate hundreds of millions of dollars state-wide. Many different combinations of minimum/maximum fees and exemptions could be explored. If the revenue were directed back to the watershed where it was generated, 67% would go to the Chesapeake watershed.</p> <p>*http://lbfc.legis.state.pa.us/Resources/Documents/Reports/623.pdf</p>
3.1d	Removal of the sales tax exemption for bottled water, tea and similar beverage purchases.				
3.1e	PennDOT could create a new license check-off program — e.g. the Keystone Tree Fund — to support buffer and urban tree plantings.	Estimates vary, likely to be less than \$100K/year.		Support existing legislation for this purpose.	Consideration to establishment and O&M costs should be given. Just getting the trees in the ground won't be sufficient if there isn't funding to ensure survival/thriving.

Line # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
3.1f	The state could create a “Clean Water PA” license plate, enabling car-buyers to show their support for environmental protection and contribute to the cause.			<p>Need to evaluate the potential funding this would create. Works well in Maryland, since they only have 2 specialty plates, while Pennsylvania already has 5. Also, would need to account for collecting and administering the funds collected. There is also a saturation point where money collected diminished.</p> <p>Experts would need to study this option to determine whether or not it is worthwhile. A similar program in neighboring Maryland is successful.</p>	A Pennsylvania version that represents a healthy local stream with charismatic elements depicted. A forested stream with trout jumping, a whitetail deer buck drinking, and Bald Eagle flying over, with a beautiful sun on the horizon. This hits three demographics. (bird watchers, hunters and fishermen) The plate is also an outreach, messaging tool.
3.1g	Begin a dialogue with outdoor recreation users such as hunters, fishermen, boaters, and other conservation communities on the feasibility of adding a fee for the enhancement of the resources they are utilizing. These funds would then be dedicated to programs/projects identified in local countywide action plans.	Recent survey showed voters are willing to pay an additional \$50 or more in fees for water initiatives.			

Line # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
3.1h	The state could incorporate a regional level, watershed-wide, or statewide impervious surface fee to fund stormwater management. The fee could be modeled after studying various successful municipal and regional stormwater fees in PA and elsewhere.			Legislation would be required.	<p>The individual impact would be mitigated by spreading the costs.</p> <p>Perhaps this could be done as a Local Watershed Service District. Consider administrative costs, but could possibly go to pooled funding pot. Municipalities may not like the perceived loss of autonomy, but perhaps that could be addressed by: (a) giving the municipalities the option to opt out if they have their own fee system in place, and (b) this could be used to support the implementation of the countywide action plans or the municipalities Pollutant Reduction Plans.</p>

Line # <i>(no priority order)</i>	Program Concept	Estimated Cost/Results	Personnel	First/Next Steps	Notes
3.2	Expand the REAP Program, which is already popular with farmers. The funding criteria could be revised to target and prioritize projects that help the state meet its Phase 3 WIP goals.	<p>\$10M to \$20M</p> <p>Evaluate the lifetime individual \$150,000 cap to see if this should be increased.</p> <p>The additional funding for this program can not result in a decrease in funding to other agencies and county programs that rely on tax income.</p>	Two to four staff would be needed.	<p>Support the sponsorship of the Governor's PA Farm Bill proposal. Ask the legislature to expand REAP, possibly additional staff and marketing budget.</p> <p>PDA should also reach out to private investors to expand program.</p>	<p>The criteria for REAP should be continually evaluated to ensure the program is investing in the most cost-effective best management practices.</p> <p>Before expanding this program, the impact on other agencies and counties that would normally receive this tax income needs to be evaluated. The amount of funding to these entities cannot be decreased as a result of an increase in funding to REAP.</p>
3.3	Conservation investors dedicate a portion of their investment to best management practices, must see some return on the investment in a form of a Pay for Performance Program. The investor gets a return on investment once certain requirements are met.	<p>Outside sources of funds exist, but some payback mechanism will be needed</p> <p>Private investment up-front, paid back from public funds when reductions are achieved.</p>	Need to identify an entity to structure and manage transactions.	<p>Talk to outside investors, look at other states for examples.</p> <p>Legislation may be needed to address possible procurement limitations at the municipal level. In addition, this may also be needed if the state is going to become a purchasing agent for reductions.</p>	<p>The PennDOT Pay for Performance model may be applicable.</p> <p>Other examples include Maryland-based Ecosystem Investment Partners (EIP), Colorado's Peaks to People water-user-financed watershed protection and the Conservation Stewardship Program, Maryland Clean Water Commerce Act.</p>

III. Programmatic Recommendations of the Four Pilot Counties

Throughout the pilot planning process, the four pilot counties recognized a list of challenges/barriers that would hinder the success of their Countywide Action Plans. (CAPs) These challenges and barriers focus on various existing programs, policies and regulation. Recommendations from the pilot counties also suggest the creation of new programs, policies and regulations. The four pilot counties have identified the success of their plan as an if/then statement. This entails: IF the identified challenge/barrier (can/cannot) be overcome, THEN the county (is/is not) able to achieve a quantified goal. The pilot counties have established a list of challenges/barrier beyond their local authoritative power. These recommendations are above the county's authoritative power and are outlined as Programmatic Recommendations and summarized in the Programmatic Recommendations Template.

These recommendations are summarized below.

A. Establishment of an Integrated Planning Program

Pilot counties have identified that existing water permits, programs and resources are not in coordination, which creates a challenge while working through the planning process. The recommendation details the need for collaboration between local/state programs, as well as state water programs coordinating efforts internally. In expansion of local/state coordination the county recommendation is:

- Establish an integrated planning program at DEP within the Chesapeake Bay Office to spearhead implementation of the programmatic and permitting changes that are important to the success of the PA WIP and Countywide Action Plans
- A collaborative county level planner to help facilitate county planning and implementation efforts
- Continuation of state support during the planning and implementation process
 - Consistency with people who attend county planning efforts

In addition to the recommendations the county has identified potential challenges:

- Development of staff with knowledgeable integrated planning efforts
- Consistency of having the same person attend county meetings due to other obligations
- Convincing regulatory agencies of the need/benefit of having integrated planning and implementation programs
- Incorporate Governor's push for PA to be the #1 state for organic production can be integrated with water quality efforts
- Municipalities should not have to hire engineers twice to complete documentation for similar plans (102, 537, etc.)

B. Reporting and Tracking of Best Management Practices

The pilot counties have recognized that current reporting methods are not sufficient for tracking and reporting of Best Management Practices (BMPs). The counties'

recommendation is to create a standardized central database, that ALL agencies and consultants will have access to. The centralized database will serve as the reporting warehouse. The counties have identified potential challenges that come with the development of wide scale reporting:

- Confidentiality of reported data
 - May require changes to the Right to Know Act
 - Not all partners are ready to share data
- Training of staff on new data bases
 - Limited municipal resources to use an integrate system
- Coordination of all agencies and consultants to report into one system
 - DEP/DCNR/PDA/Private Consultants/Municipalities/etc.
- Approved method for capturing Best Management Practices

In addition to the challenges, the counties have provided recommendations on improvement:

- Must capture all plans
 - county conservation plans, restoration project permits, grant applications, etc.
- Capture non-manure nutrient management
 - Coordination of fertilizer companies/regulators/farmers
 - May require fertilizer companies to lower sales
- Capture Stormwater BMPs on less than an acre not required by Chapter 102
- Manure Transport
 - No system is currently in place
 - Changes to Act 49 to require tracking of manure transport
- Explore opening practice keeper
- Make sure all data systems are talking to one another
- Consistency in reporting buffers
- Ensure DEP MS4 program credits Urban Forest Expansion

C. MS4 and the 2023 Permit Cycle

The pilot counties have identified existing problems to the 2023 MS4 permitting cycle and have provided an extensive list of challenges and recommendations for further improvements. The counties have identified the following challenges:

- Multiple programs at state level are not coordinating efforts and plans
 - (State Water Plan, Act 167, MS4, etc.)
- Current MS4 calculations are expensive and do not provide clear direction for calculations of reductions
 - Could use the Bay model for calculations
- Flexibility of MS4 to allow Permittees to reduce required pollutant reductions across the entire jurisdiction
 - May require EPA buy in
 - Flexibility to work outside of the predefined UA
- DEP and EPA requirements and programs complicate the process and serve as a disincentive

- Challenge for municipalities to focus on water quality rather than specific inefficient program requirements
- A shift in focus of current MS4 permits from total sediment to total nitrogen presented by the Phase III WIP

In addition to the challenges, the counties have provided recommendations on improvement:

- Utilize the Bay Model to establish and assign MS4 baseloads, reduction and requirements
- Establishment of watershed or county wide permits to simplify and expedite the permitting process
- Provide flexibility to combine MS4/TMDL/WIP III requirements into one single plan
- Counties need to be involved when developing the next MS4 permittee cycle
- Can leverage cost effective funds with the expansion to watershed wide permitting

D. Changes to Act 167

The pilot counties are suggesting updating, changes, and enforcement of Pennsylvania's Act 167. The proposed changes would include updating Act 167 to include regionalized (county) runoff and flood management. In addition to updating Act 167, the pilot counties have recommended enforcement of Act 167 compliance. The counties have identified potential challenges with updating and enforcing act 167:

- Act 167 is not funded adequately in general budget
- Lack of flexibility in regional management of water quality under act 167

Additional recommendations for improving Act 167:

- Legislation that allows pollutant modeling parameters to be consistent with CAST
- Update model ordinances for countywide or watershed goals
- Allow for regionalization for cost effectiveness
- Enforcement of municipal Stormwater Ordinances consistent with County Stormwater Management Plan
- The addition of 2 DEP Act 167 enforcement staff

E. Creation of Incentivized Programs for Best Management Practices

The recommendation from the pilot counties is to establish positive and negative incentives that will promote improved water quality. Positive incentives are economic incentives that will intentionally influence the increase in Best Management Practices. Negative incentives are penalties that for all stakeholders to comply with State Laws. The counties have identified challenges with this approach:

- Political will to create and establish new incentive programs
- Funding for an economic incentive
- CREP is not working
- Landowner buy in to existing incentive programs, that do not pay for parts of implementation

In addition to the challenges, the counties have provided recommendations on improvement:

- Give municipalities in compliance with Act 167 credit/incentives toward MS4 permits
- Municipalities with land use authority should not have MS4 requirements
- New regulatory incentives for Cover Crops, Nutrient Management, Conservation Plans, Buffers, etc.
- Develop an incentive program to promote livestock access management to stream corridors.

F. Development of a Regulatory Model for Results Oriented Approach

The pilot counties are proposing an increase in water quality monitoring to promote a results-oriented approach. The recommended approach will allow for permitting compliance to be met through water quality monitoring. The increase in water quality data will provide more accurate information as to what still needs to be accomplished and where. The counties have identified challenges with this approach:

- Permit change that allows the use of water quality data to demonstrate permit compliance
- Change in philosophy
- EPA buy-in
- Delay in obtaining enough trend data

In addition to the challenges, the counties have provided recommendations on improvement:

- Look into allowing citizens data as accurate reporting data
- Use additional data to establish more accurate baselines and measure progress
- Greater display of results to obtain public buy in

G. Urban Nutrient Management

Pilot counties have identified the importance of Urban Nutrient Management to their counties nutrient reduction in the Developed Sector. The pilot counties have stood in support of the fertilizer legislation. The challenge identified by the counties is the legislator passing the Fertilizer Bill.

H. Stream Restoration Permitting Process

The Pilot Counties recommendation is to improve the current permitting process. The challenge with the existing permitting process for stream restoration is extensive. The other challenges and recommendations identified by the pilot counties include:

- Changes to MS4 that current limits municipal interest and participation
- Expedited permitting process to increase total number of projects
- Development of an acceptable monitoring protocol
- Central data system for stream restoration projects
- Streamlined permitting process will also incorporate wetland restoration

- Potential for adding wetland restoration to list of projects eligible for REAP
- Current Bay modeling credit is low in comparative to reported results

I. Clean Streams Law

The pilot counties are suggesting changes to the Clean Streams Law in Pennsylvania. The recommendation is in regards to stream access management and stream restoration as stated above. The recommendation is to:

- Adopt change to Pa Clean Stream Law to allow local ability to require fencing of livestock out of a stream or river
- Vision for stream access to be restricted by 2024

J. Adopt or Update Act 537

The pilot counties have provided a recommendation to increase the number of municipalities that adopt or update their Act 537 plans. One recommendation to achieve success is stricter regulations required from state regulators.

K. Appropriate Waste Management Systems in Rural Areas

The pilot counties have recommended reducing the number of failing on-lot disposal systems (OLDS). The recommendation is to require stricter regulations from state regulators.

L. Funding Opportunities

The pilot counties have identified that current state legislation complicates and/or prohibits various public-private initiatives from collaboratively sharing public funds.

M) Implementation and Next Steps

The pilot counties have identified an extensive list of technical resources and funding assistance they will need in order to obtain their planning goals. The state workgroups have additionally identified a detailed list of the technical resources and funding needed for implementation. The local area goals workgroup has identified the technical resources and funding necessary for planning and implementation of the remaining counties in the Chesapeake Bay Watershed.