

**Pennsylvania Phase 3 Chesapeake Bay Watershed Implementation Plan (WIP)
Public Comment Response Document for the Draft Phase 3 WIP**

TABLE OF COMMENTATORS

ID #	Name and Address	Affiliation
1	Maryanne Tobin 5880 Henry Ave Philadelphia, PA 19128	1952
2	R John Dawes 9697 Loop Rd. Alexandria, PA 16611	Foundation for PA Watersheds
3	Scott Rebert 2301 North Cameron Street Harrisburg, PA 17110-9408	
4	Ronald Furlan 1903 Limestone Drive Hummelstown, PA 17036	
5	David Lamereaux 135 Ash Street Archbald, PA 18403	
6	Jessica Trimble 400 North Street Harrisburg, PA 17120	PA DCED Center for Local Government Services
7	Jamie Yiengst 1800 S 5th Ave Lebanon, PA 17042	South Lebanon Township
8	Keith Henn Suite 200 661 Andersen Drive Pittsburgh, PA 15220	Private Citizen
9	Keith Salador PO Box 8459 Harrisburg, PA 17105	Citizens Advisory Council
10	Kristopher Troup 655 E. Ridge Road Palmyra, PA 17078	North Londonderry Township
11	Cheri Grumbine 725 Kimmerlings Road Lebanon, PA 17046	North Lebanon Township
12	Eric Rosenbaum 20 Glenbrook Drive Shillington, PA 19607	PA4R Nutrient Stewardship Alliance
13	Jeremy Rowland 1080 Camp Hill Road Fort Washington, PA 19034	Coalition for Affordable Bay Solutions (CABS)

ID #	Name and Address	Affiliation
14	Joe Pizarchik 3000 Berry Lane Harrisburg, PA 17112	Former Director, OSMRE, Dept of the Interior
15	Mary Gattis 27 South Cedar Street Lititz, PA 17543	Mary Gattis LLC
16	Robin Getz Room 220 400 S 8th Street Lebanon, PA 17042	Director of Public Works-City of Lebanon
17	Jennifer Reed-Harry 2215 Forest Hills Drive, Suite 39 Harrisburg, PA 17112	PennAg Industries Association
18	Kevin Sunday 417 Walnut St Harrisburg, PA 17055	Pennsylvania Chamber of Business and Industry
19	Brian Gallagher 800 Waterfront Dr. Pittsburgh, PA 15222	Western Pennsylvania Conservancy
20	Sarah Diebel 1510 Gilbert Street Norfolk, VA 23511	U.S. Department of Defense ("DoD") Chesapeake Bay Program Coordinator
21	Lisa Schaefer PO Box 60769 Harrisburg, PA 17106	County Commissioners Association of Pennsylvania
22	Charles Hegberg 256 Frederick Street Hanover, PA 17331	reGENESIS Consulting Services & Infinite Solutions
23	Alice Baker 1429 Walnut Street Philadelphia, PA 19102	PennFuture
24	Felicia Dell 28 East Market St., Suite 301 York, PA 17401	York County Planning Commission
25	Julie Cheyney 400 S. Eighth Street Lebanon, PA 17042	Lebanon County Clean Water Alliance (LCCWA)
26	Davitt Woodwell Suite 201 810 River Avenue Pittsburgh, PA 15212	Pennsylvania Environmental Council
27	Rick Meinke 267 Buckwheat Rd Fawn Grove, PA 17321	

ID #	Name and Address	Affiliation
28	Joshua Billings 48 West Third Street Williamsport, PA 17701	Lycoming County Planning & Community Development
29	Taylor Nezat 610 N. Third St. Harrisburg, PA 17101	Pennsylvania Choose Clean Water Coalition [part of PennFuture]
30	Ronald Ramsey Building #1, Suite 200 2101 North Front Street Harrisburg, PA 17110	The Nature Conservancy, Pennsylvania Chapter
31	Grant Gulibon P.O. Box 8736 510 S. 31st St. Camp Hill, PA 17001-8736	Pennsylvania Farm Bureau
32	HL Campbell Ste 220 1426 North Third Street Harrisburg, PA 17102	PA Chesapeake Bay Foundation
33	Michael Sachs 33 Terminal Way, Suite W445A Pittsburgh, PA 15219	Resource Environmental Solutions, LLC (RES)
34	Jessica Blackburn Suite 101 C 612 Hull Street Richmond, VA 23224	Chesapeake Executive Council, CAC
35	Allyson Gibson 1383 Arcadia Rd Lancaster, PA 17601	Lancaster Clean Water Partners
36	Renee Reber 309 3rd Street New Cumberland, PA 17070	American Rivers [for Pennsylvania Stormwater Workgroup for Clean Water]
37	James Wheeler 4855 Woodland Drive Enola, PA 17025	Pa. State Assoc. of Township Supervisors
38	Katlyn Schmitt Suite #820 6930 Carroll Ave. Takoma Park, MD 20912	Waterkeepers Chesapeake
39	Jenna Mitchell Suite 302 37 E. Orange Street Lancaster, PA 17602	Alliance for the Chesapeake Bay
40	Patrick Thompson 71 Old Mill Bottom Road North Annapolis, MD 21409	EnergyWorks Group

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General Comments

Meeting Pennsylvania’s nutrient targets

1. COMMENT

10. Kristopher Troup, North Londonderry Township -

The draft plan states, “Pennsylvania commits to have practices and controls in place by 2025 necessary to achieve the final Phase 3 WIP phosphorus and nitrogen targets,” however, the actions outlined in the plan only account for two-thirds of the nitrogen reduction needed by 2025. The plan’s accounting for the additional required nitrogen reductions is nebulous at best. (10)

RESPONSE

DEP disagrees that Pennsylvania will have a shortfall in meeting the nutrient reduction planning targets. Pennsylvania will continue to work to ensure that sufficient practices are in place by 2025 so that Pennsylvania meets its phosphorus and nitrogen goals.

Pennsylvania, in conjunction with the Partnership, will utilize an adaptive management approach to achieve our shared desired outcome. The two-year milestones and six month progress reporting described in Section 7 of the final Phase 3 WIP will allow Pennsylvania to assess implementation progress and adjust programs and priorities to ensure sufficient practices are in place by 2025 to achieve the nutrient reduction planning targets.

Moreover, Pennsylvania expects to achieve additional reductions through the countywide planning process described in Section 3, Countywide Actions. The Phase 3 WIP is a flexible document that will be updated every two years as DEP and its sister agencies continue to work with county planning teams to implement the Countywide Action Plans (CAPs). Adaptive management of the CAPs will enable Pennsylvania to overcome challenges and barriers in achieving the targeted pollutant reductions. The four remaining Tier 2 counties will be next to complete their CAPs. The seven Tier 1 and Tier 2 counties collectively account for roughly 54% of Pennsylvania’s nitrogen goal and 42% of Pennsylvania’s phosphorus goal. With Adams County’s CAP completed, 30 of the remaining 35 Tier 3 and 4 counties will complete their CAPs following the priority counties in Tier 2. These final CAPs will target the remaining 46% of Pennsylvania’s nitrogen goal and 58% of Pennsylvania’s phosphorus goal. For nine counties whose impact to the Chesapeake Bay is relatively minimal, complete CAPs will likely not be needed and planning goals can be addressed by continuing existing state initiatives described in Section 2, State Actions. In the future, additional practices identified in the CAPs will be added to the Phase 3 WIP to create additional reasonable assurance that Pennsylvania will meet its goals.

At present, Pennsylvania does not receive full credit for many currently implemented practices, particularly practices implemented through permit programs and practices implemented without public assistance from grants or cost-share awards. These are described in more detail in Section 4, Federal Actions, under the subsection describing additional coordination efforts needed. Improved data collection around these practices

will be addressed during implementation of the Phase 3 WIP at both the state and local level through the additional documenting, tracking, and verification efforts described in Section 6 of the Phase 3 WIP. DEP is currently evaluating and quantifying additional practices which Pennsylvania has previously implemented and will implement in the future to assure Pennsylvania will achieve its nutrient reduction planning targets. Pennsylvania will continue to work to receive full credit for implemented practices across the Chesapeake Bay watershed.

Collectively, these efforts will help ensure that Pennsylvania meets its nutrient reduction planning targets.

2. COMMENT

21. Lisa Schaefer, County Commissioners Association of Pennsylvania -

That said, we recognize that the pilot county plans, which were developed with intensive effort, do not appear to have met the goals that were laid out, and as of right now, the overall draft WIP gives the impression that Pennsylvania will not meet its targets. We are concerned that if EPA reacts by taking enforcement measures, that could translate into a corresponding effort by the state to enforce the countywide goals against counties. We would strongly oppose such an effort, and especially without funding or other resources. Not only would this undermine the relationships and efforts that have already been undertaken, any sense that this is another mandate on counties will chill any ability to move forward with the implementation of the pilot county plans and the creation of the remaining county plans going forward. County government and the commonwealth must develop and maintain the close working relationship necessary to cooperatively meet these challenges. (21)

RESPONSE

DEP does not believe that Pennsylvania will have a shortfall in meeting the nutrient reduction planning targets. Pennsylvania will continue to work to ensure that sufficient practices are in place by 2025 so that Pennsylvania meets its phosphorus and nitrogen goals.

Pennsylvania, in conjunction with the Partnership, will utilize an adaptive management approach to achieve our shared desired outcome. The two-year milestones and six month progress reporting described in Section 7 of the final Phase 3 WIP will allow Pennsylvania to assess implementation progress and adjust programs and priorities to ensure sufficient practices are in place by 2025 to achieve the nutrient reduction planning targets.

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3. COMMENT

23. Alice Baker, PennFuture -

2. The Draft WIP3 Fails to Provide Reasonable Assurance That Expected Load Reductions Will Be Achieved.

As articulated above, EPA must evaluate whether a TMDL provides reasonable assurance that controls will achieve expected load reductions. EPA has laid out its approach to ensuring that the reductions set forth in the Bay TMDL will be met. This includes each Bay jurisdiction’s development of phased WIPs and 2-year milestones for implementing practices to achieve load reductions, and EPA’s commitment to track and assess the jurisdictions’ progress and take appropriate federal actions if the jurisdictions

fail to develop sufficient WIPs, effectively implement their WIPs, or fulfill their 2-year milestones.¹

In June 2018, EPA provided the Bay jurisdictions with expectations to maintain accountability.² EPA communicated its heightened expectations for reasonable assurance and included state specific expectations for Pennsylvania “given that three of PA’s source sectors are under enhanced or back-stopped levels of federal oversight, PA is significantly off track in meeting its programmatic and numeric WIP and two-year milestone commitments, and PA is not on trajectory to meet its Phase III WIP planning targets by 2025.”³ It is clear that EPA expects Pennsylvania to provide a convincing, detailed, and realizable plan in its Phase 3 WIP. Although the Department’s draft WIP3 seeks to address many of the expectations EPA outlines, significant gaps remain in Pennsylvania’s proposed path forward. Pennsylvania must address these gaps in its final WIP3 since without these elements the WIP fails to provide reasonable assurance that expected load reductions will be achieved.

a. The Draft WIP3 Does Not Set Forth a Plan to Achieve the Required Nitrogen Reductions.

Pennsylvania’s draft WIP3 fails to actually plan for the necessary nitrogen reductions. In order to successfully meet the 2025 target reductions Pennsylvania will need to reduce 34.13 million pounds of nitrogen and 0.756 million pounds of phosphorus annually.⁴ Despite the various initiatives described and the length of the Department’s proposal, the draft WIP3 only professes to address about 66% of the necessary nitrogen reduction.⁵ Despite the draft WIP3’s assertion that “Pennsylvania commits to have practices and controls in place by 2025 necessary to achieve the final Phase 3 WIP phosphorus and nitrogen targets,”⁶ a document that does not even set forth a plan to address the required reductions provides no assurance that expected load reductions

¹ TMDL Section 7, at 7-5.

² EPA, Expectations for the Phase III Watershed Implementation Plans, *available at* <https://www.epa.gov/sites/production/files/2018-06/documents/epa-phase-iii-wip-expectations-6-19-18.pdf> [hereinafter EPA Expectations].

³ *Id.* at 10.

⁴ WIP3, at 22.

⁵ WIP3, at 41, Table 2.2 (totaling nitrogen reduction to the Bay at 22,371,000 million pounds), *and see* 60, Table 2.4 (totaling edge of tide nitrogen reduction to 22,566,820 million pounds, approximately 66% of 34.1 million pounds).

⁶ WIP3, at 11, 26, 88, and 142.

will be achieved.⁷ Pennsylvania's final WIP3 must address this significant shortcoming. (23)

RESPONSE

DEP disagrees that Pennsylvania will have a shortfall in meeting the nutrient reduction planning targets. Pennsylvania will continue to work to ensure that sufficient practices are in place by 2025 so that Pennsylvania meets its phosphorus and nitrogen goals.

Pennsylvania, in conjunction with the Partnership, will utilize an adaptive management approach to achieve our shared desired outcome. The two-year milestones and six month progress reporting described in Section 7 of the final Phase 3 WIP will allow Pennsylvania to assess implementation progress and adjust programs and priorities to ensure sufficient practices are in place by 2025 to achieve the nutrient reduction planning targets.

Moreover, Pennsylvania expects to achieve additional reductions through the countywide planning process described in Section 3, Countywide Actions. The Phase 3 WIP is a flexible document that will be updated every two years as DEP and its sister agencies continue to work with county planning teams to implement the Countywide Action Plans (CAPs). Adaptive management of the CAPs will enable Pennsylvania to overcome challenges and barriers in achieving the targeted pollutant reductions. The four remaining Tier 2 counties will be next to complete their CAPs. The seven Tier 1 and Tier 2 counties collectively account for roughly 54% of Pennsylvania's nitrogen goal and 42% of Pennsylvania's phosphorus goal. With Adams County's CAP completed, 30 of the remaining 35 Tier 3 and 4 counties will complete their CAPs following the priority counties in Tier 2. These final CAPs will target the remaining 46% of Pennsylvania's nitrogen goal and 58% of Pennsylvania's phosphorus goal. For nine counties whose impact to the Chesapeake Bay is relatively minimal, complete CAPs will likely not be needed and planning goals can be addressed by continuing existing state initiatives described in Section 2, State Actions. In the future, additional practices identified in the CAPs will be added to the Phase 3 WIP to create additional reasonable assurance that Pennsylvania will meet its goals.

At present, Pennsylvania does not receive full credit for many currently implemented practices, particularly practices implemented through permit programs and practices implemented without public assistance from grants or cost-share awards. These are described in more detail in Section 4, Federal Actions, under the subsection describing additional coordination efforts needed. Improved data collection around these practices

⁷ It should be noted that the WIP3 does articulate an approach to achieve the required phosphorus reductions by 2025 and notes, without further description, that "[w]hen the phosphorus goal is exceeded, the excess phosphorus can be converted into nitrogen reductions." WIP3, at 78. PennFuture questions the ability to convert excess phosphorus to nitrogen reductions. We assume the Department is referring to some sort of exchange of phosphorous reduction for nitrogen reduction based on the EPA's provided conversion factors, as referred to on page 11 of the draft WIP3 and not discussed thereafter. However, this proposed exchange of through which Pennsylvania would achieve an additional 155,664 pounds reduction of nitrogen will still not reach the necessary nitrogen reductions.

will be addressed during implementation of the Phase 3 WIP at both the state and local level through the additional documenting, tracking, and verification efforts described in Section 6 of the Phase 3 WIP. DEP is currently evaluating and quantifying additional practices which Pennsylvania has previously implemented and will implement in the future to assure Pennsylvania will achieve its nutrient reduction planning targets. Pennsylvania will continue to work to receive full credit for implemented practices across the Chesapeake Bay watershed.

Collectively, these efforts will help ensure that Pennsylvania meets its nutrient reduction planning targets.

4. COMMENT

24. Felicia Dell, York County Planning Commission -

SECTION 10. CONCLUSION

56. Pg. 141, 1st paragraph: It is our opinion that PA’s Phase 3 WIP does not offer “reasonable assurance.” As mentioned in prior comments, the integrated framework lacks sufficient municipal participation, which is the party responsible for land use in the state. Also, the state programmatic changes expressed in the CAPs, as necessary to achieve the pollutant targets, are, for the most part, not addressed in the Plan. Furthermore, many of the initiatives throughout the plan are listed as “will or may consider,” as opposed to being emphatic statements, and there is no specific timeline or persons/divisions listed as being responsible.

GENERAL COMMENTS

7. Overall, there seemed to be nothing contained in the Draft that would indicate that attainment of the 2025 goal is reasonably assured as the plan as written does not achieve the numeric goal. (24)

RESPONSE

DEP disagrees that Pennsylvania will have a shortfall in meeting the nutrient reduction planning targets. Pennsylvania will continue to work to ensure that sufficient practices are in place by 2025 so that Pennsylvania meets its phosphorus and nitrogen goals.

Pennsylvania, in conjunction with the Partnership, will utilize an adaptive management approach to achieve our shared desired outcome. The two-year milestones and six month progress reporting described in Section 7 of the final Phase 3 WIP will allow Pennsylvania to assess implementation progress and adjust programs and priorities to ensure sufficient practices are in place by 2025 to achieve the nutrient reduction planning targets.

Moreover, Pennsylvania expects to achieve additional reductions through the countywide planning process described in Section 3, Countywide Actions. The Phase 3 WIP is a flexible document that will be updated every two years as DEP and its sister agencies continue to work with county planning teams to implement the Countywide Action Plans (CAPs). Adaptive management of the CAPs will enable Pennsylvania to overcome challenges and barriers in achieving the targeted pollutant reductions. The four remaining Tier 2 counties will be next to complete their CAPs. The seven Tier 1 and Tier 2 counties collectively account for roughly 54% of Pennsylvania's nitrogen goal and 42% of Pennsylvania's phosphorus goal. With Adams County's CAP completed, 30 of the remaining 35 Tier 3 and 4 counties will complete their CAPs following the priority counties in Tier 2. These final CAPs will target the remaining 46% of Pennsylvania's nitrogen goal and 58% of Pennsylvania's phosphorus goal. For nine counties whose impact to the Chesapeake Bay is relatively minimal, complete CAPs will likely not be needed and planning goals can be addressed by continuing existing state initiatives described in Section 2, State Actions. In the future, additional practices identified in the CAPs will be added to the Phase 3 WIP to create additional reasonable assurance that Pennsylvania will meet its goals.

At present, Pennsylvania does not receive full credit for many currently implemented practices, particularly practices implemented through permit programs and practices implemented without public assistance from grants or cost-share awards. These are described in more detail in Section 4, Federal Actions, under the subsection describing additional coordination efforts needed. Improved data collection around these practices will be addressed during implementation of the Phase 3 WIP at both the state and local level through the additional documenting, tracking, and verification efforts described in Section 6 of the Phase 3 WIP. DEP is currently evaluating and quantifying additional practices which Pennsylvania has previously implemented and will implement in the future to assure Pennsylvania will achieve its nutrient reduction planning targets. Pennsylvania will continue to work to receive full credit for implemented practices across the Chesapeake Bay watershed.

Collectively, these efforts will help ensure that Pennsylvania meets its nutrient reduction planning targets.

5. COMMENT

25. Julie Cheyney, Lebanon County Clean Water Alliance (LCCWA) -

The overall timeline of events proposed in this Phase 3 WIP is not realistic. DEP expects counties to produce meaningful action plans in 6 to 8 months and then go immediately into full implementation by 2025. Pennsylvania has reduced 15.1 million pounds of nitrogen in the 34 years between 1985 and 2019, yet DEP expects the counties to reduce an additional 34.12 million pounds of nitrogen in the next six years. (25)

RESPONSE

The way the Phase 3 WIP is designed to build and accelerate current levels of effort through enhancing partnerships at all levels of government; including local, county,

state and federal agencies. Through the Countywide Action Plans, existing statewide initiatives and programs will be combined with other local programs and priorities to address local water quality issues to maximize the use of available resources at both the local and county level, as well as the state and federal level. This will also allow for the focusing and prioritization of resources to address local priorities as defined through the Countywide Action Plans. By addressing local water quality issues and priorities, the additional reductions needed to restore the Chesapeake Bay will also be achieved.

6. COMMENT

26. Davitt Woodwell, Pennsylvania Environmental Council -

Our comments on the Phase 3 WIP are, for the moment, focused on how the overall reductions of nitrogen, phosphorous, and sediment are portrayed in the Phase 3 WIP and how we believe those numbers should be interpreted.

One shortcoming that we find with the draft document is that there does not appear to be any summary statement of how Pennsylvania will achieve compliance with the reduction targets that have been mandated by U.S. Environmental Protection Agency (“EPA”). Instead, there are throughout the document a series of reduction numbers attributed to various practices and policies – but nowhere are these numbers tallied to reflect totals that will satisfy EPA, other Chesapeake Bay states, and a variety of interest groups that Pennsylvania has put together a plan that gets to the required targets. Indeed, there has already been pushback suggesting that the Phase 3 WIP falls well short of achieving the mandated reductions.

Therefore, instead of the general statement on page 1 that “Pennsylvania is committed to having all practices and controls in place by 2025 to achieve EPA’s target date and this plan provides reasonable assurance that Pennsylvania will meet its Chesapeake Bay TMDL commitments,” the Phase 3 WIP should include a table or other form of presentation that summarizes from where all needed reductions are expected to come, even if those numbers are only estimated. This will also make it much easier for those who support Pennsylvania’s efforts to speak in favor of the plan. (26)

RESPONSE

DEP does not believe that Pennsylvania will have a shortfall in meeting the nutrient reduction planning targets. Pennsylvania will continue to work to ensure that sufficient practices are in place by 2025 so that Pennsylvania meets its phosphorus and nitrogen goals. With that said, revisions to the final Phase 3 WIP were made to provide a clearer description as to how the reductions will be achieved in a more logical manner.

Pennsylvania, in conjunction with the Partnership, will utilize an adaptive management approach to achieve our shared desired outcome. The two-year milestones and six month progress reporting described in Section 7 of the final Phase 3 WIP will allow Pennsylvania to assess implementation progress and adjust programs and priorities to ensure sufficient practices are in place by 2025 to achieve the nutrient reduction planning targets.

Moreover, Pennsylvania expects to achieve additional reductions through the countywide planning process described in Section 3, Countywide Actions. The Phase 3 WIP is a flexible document that will be updated every two years as DEP and its sister agencies continue to work with county planning teams to implement the Countywide Action Plans (CAPs). Adaptive management of the CAPs will enable Pennsylvania to overcome challenges and barriers in achieving the targeted pollutant reductions. The four remaining Tier 2 counties will be next to complete their CAPs. The seven Tier 1 and Tier 2 counties collectively account for roughly 54% of Pennsylvania's nitrogen goal and 42% of Pennsylvania's phosphorus goal. With Adams County's CAP completed, 30 of the remaining 35 Tier 3 and 4 counties will complete their CAPs following the priority counties in Tier 2. These final CAPs will target the remaining 46% of Pennsylvania's nitrogen goal and 58% of Pennsylvania's phosphorus goal. For nine counties whose impact to the Chesapeake Bay is relatively minimal, complete CAPs will likely not be needed and planning goals can be addressed by continuing existing state initiatives described in Section 2, State Actions. In the future, additional practices identified in the CAPs will be added to the Phase 3 WIP to create additional reasonable assurance that Pennsylvania will meet its goals.

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Collectively, these efforts will help ensure that Pennsylvania meets its nutrient reduction planning targets.

7. COMMENT

29. Taylor Nezat, Pennsylvania Choose Clean Water Coalition [part of PennFuture] -

There is Little Assurance That Pennsylvania Will Achieve its Load Reductions

The EPA has previously communicated its heightened expectations for reasonable assurance that Pennsylvania will achieve its load reductions and has identified state specific expectations for Pennsylvania due to three source sectors that are under enhanced or at back-stopped levels of federal oversight. EPA expected Pennsylvania to provide a convincing, detailed, and realizable plan to implement in its Phase 3 WIP, but unfortunately, there are significant gaps in Pennsylvania's proposed path forward. (29)

RESPONSE

DEP disagrees that Pennsylvania will have a shortfall in meeting the nutrient reduction planning targets. Pennsylvania will continue to work to ensure that sufficient practices are in place by 2025 so that Pennsylvania meets its phosphorus and nitrogen goals.

Pennsylvania, in conjunction with the Partnership, will utilize an adaptive management approach to achieve our shared desired outcome. The two-year milestones and six month progress reporting described in Section 7 of the final Phase 3 WIP will allow Pennsylvania to assess implementation progress and adjust programs and priorities to ensure sufficient practices are in place by 2025 to achieve the nutrient reduction planning targets.

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8. COMMENT

30. Ronald Ramsey, The Nature Conservancy -

1. Of concern, we note that the nutrient reductions associated with the recommendations in the WIP3 do not achieve the 2025 goal for nitrogen. The plan acknowledges as much, suggesting that the shortfall will be addressed through completion of remaining Countywide Action Plans and as yet unquantified initiatives.
2. And disappointingly, the WIP3 also confirms that available funding is insufficient to support implementation of the measures proposed by the Agriculture, Storm Water, Forestry and Wastewater workgroups. If we hope to achieve our water quality goals, it is imperative that these deficits be addressed.
3. We encourage the Department of Environmental Protection and WIP3 Steering Committee to reconvene the workgroups to identify and evaluate options for ensuring success of the State's efforts to reach the additional reductions needed to achieve the 2025 nitrogen goal. In addition, we also look to the Department and Steering Committee to launch and advance an open and collaborative process to directly address the need for timely action to secure adequate and sustained funding in support of full implementation of the WIP3. The goal would be to obtain consensus from key Pennsylvania stakeholders and decision makers at all levels on an actionable strategy to provide the resources and capacity necessary to carry out the recommendations identified in the WIP3. We look forward to the opportunity to participate in both processes; should they be undertaken. (30)

RESPONSE

1. DEP disagrees that Pennsylvania will have a shortfall in meeting the nutrient reduction planning targets. Pennsylvania will continue to work to ensure that sufficient practices are in place by 2025 so that Pennsylvania meets its phosphorus and nitrogen goals.

Pennsylvania, in conjunction with the Partnership, will utilize an adaptive management approach to achieve our shared desired outcome. The two-year milestones and six month progress reporting described in Section 7 of the final Phase 3 WIP will allow Pennsylvania to assess implementation progress and adjust programs and priorities to ensure sufficient practices are in place by 2025 to achieve the nutrient reduction planning targets.

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pollutant reductions. The four remaining Tier 2 counties will be next to complete their CAPs. The seven Tier 1 and Tier 2 counties collectively account for roughly 54% of Pennsylvania's nitrogen goal and 42% of Pennsylvania's phosphorus goal. With Adams County's CAP completed, 30 of the remaining 35 Tier 3 and 4 counties will complete their CAPs following the priority counties in Tier 2. These final CAPs will target the remaining 46% of Pennsylvania's nitrogen goal and 58% of Pennsylvania's phosphorus goal. For nine counties whose impact to the Chesapeake Bay is relatively minimal, complete CAPs will likely not be needed and planning goals can be addressed by continuing existing state initiatives described in Section 2, State Actions. In the future, additional practices identified in the CAPs will be added to the Phase 3 WIP to create additional reasonable assurance that Pennsylvania will meet its goals.

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2. The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania's ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners, DEP and sister agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to working with the Nature Conservancy and other partners to ensure successful implementation of the Phase 3 WIP.

3. Agreed. The collaborative approach taken with the Phase 3 WIP Steering Committee and workgroups resulted in a plan that is realistic and implementable. To ensure the success of the plan moving forward, the final Phase 3 WIP includes provisions to continue the structure of this committee as a Phase 3 Implementation Action Team.

9. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

2. Complete the plan. Despite the success of the process, the draft WIP3 is ultimately deficient in one critical area: *it doesn't achieve Pennsylvania's total nitrogen reduction allocation*. When the entirety of the quantifiable recommendations (e.g., levels of pollution reduction practice implementation) are input into the Chesapeake Bay Watershed Model (CBWM), total phosphorus reductions will notably exceed the targeted load allocations. If implemented, achieving these reductions, particularly in high priority locations, will have significant impacts on local water quality. This is due to the general condition in which phosphorus is the limiting nutrient controlling eutrophication in freshwater ecosystems. However, those same practices result in the total nitrogen reductions that achieve approximately 67 percent of the reduction goal.¹³ The WIP3 is intended to establish the plan to implement 100 percent of the pollution reductions to meet the Bay TMDL by the end of 2025.

With the goal of closing the nitrogen shortfall in time for the submittal of the final WIP3 to EPA, the Commonwealth should *immediately* reconvene the Steering committee and, potentially, select workgroups to develop specific, measurable elements of the plan that result in 100 percent of the total nitrogen reductions being achieved.

Under such a scenario, not only is the WIP3 complete, but adaptive management can be maximized by reviewing and, if necessary, revising the overall plan as county level plans are developed. An additional benefit to such an approach is that the Commonwealth can consistently be undertaking an opportunities assessment for additional or more cost-effective implementation and adaptation.

[n.b. To contextualize subsequent comments, the following comment appears three places in this document.]

3. Specifics critical to WIP3 implementation should be more robust. Any plan, no matter how collaborative or detailed, is only as good as its implementation. Given the size, scale, and complexity of the issues influencing the ability of the Commonwealth to implement the WIP3, it's important to achieve specific and measurable priority near-term actions that form the platforms of success towards implementation. To that end, the plan should provide greater details pertaining to:

c. *Local initiatives.* For the first time the WIP3 has established an approach to localize implementation through tiered county-level planning. And although the four-county pilot planning process yielded many benefits, two critical concerns emerged:

i. Shortfalls in reductions. To date, draft county plans have not yielded 100 percent of their total nitrogen reduction targets. If not addressed through revisions, these gaps will need to be addressed by forthcoming county plans or additional endeavors required by the Commonwealth. This issue requires immediate remedy for if counties continue to develop draft plans that have a shortfall, the aggregate shortfall may become substantial. (32)

RESPONSE

DEP disagrees that Pennsylvania will have a shortfall in meeting the nutrient reduction planning targets. Pennsylvania will continue to work to ensure that sufficient practices are in place by 2025 so that Pennsylvania meets its phosphorus and nitrogen goals.

Pennsylvania, in conjunction with the Partnership, will utilize an adaptive management approach to achieve our shared desired outcome. The two-year milestones and six month progress reporting described in Section 7 of the final Phase 3 WIP will allow Pennsylvania to assess implementation progress and adjust programs and priorities to ensure sufficient practices are in place by 2025 to achieve the nutrient reduction planning targets.

Moreover, Pennsylvania expects to achieve additional reductions through the countywide planning process described in Section 3, Countywide Actions. The Phase 3 WIP is a flexible document that will be updated every two years as DEP and its sister agencies continue to work with county planning teams to implement the Countywide Action Plans (CAPs). Adaptive management of the CAPs will enable Pennsylvania to overcome challenges and barriers in achieving the targeted pollutant reductions. The four remaining Tier 2 counties will be next to complete their CAPs. The seven Tier 1 and Tier 2 counties collectively account for roughly 54% of Pennsylvania's nitrogen goal and 42% of Pennsylvania's phosphorus goal. With Adams County's CAP completed, 30 of the remaining 35 Tier 3 and 4 counties will complete their CAPs following the priority counties in Tier 2. These final CAPs will target the remaining 46% of Pennsylvania's nitrogen goal and 58% of Pennsylvania's phosphorus goal. For nine counties whose impact to the Chesapeake Bay is relatively minimal, complete CAPs will likely not be needed and planning goals can be addressed by continuing existing state initiatives described in Section 2, State Actions. In the future, additional practices identified in the CAPs will be added to the Phase 3 WIP to create additional reasonable assurance that Pennsylvania will meet its goals.

At present, Pennsylvania does not receive full credit for many currently implemented practices, particularly practices implemented through permit programs and practices implemented without public assistance from grants or cost-share awards. These are described in more detail in Section 4, Federal Actions, under the subsection describing

additional coordination efforts needed. Improved data collection around these practices will be addressed during implementation of the Phase 3 WIP at both the state and local level through the additional documenting, tracking, and verification efforts described in Section 6 of the Phase 3 WIP. DEP is currently evaluating and quantifying additional practices which Pennsylvania has previously implemented and will implement in the future to assure Pennsylvania will achieve its nutrient reduction planning targets. Pennsylvania will continue to work to receive full credit for implemented practices across the Chesapeake Bay watershed.

Collectively, these efforts will help ensure that Pennsylvania meets its nutrient reduction planning targets

10. COMMENT

34. Jessica Blackburn, Chesapeake Executive Council, CAC -

The PA Watershed Implementation Plan itself falls far short of the agreed upon pollution reduction goals. For example, the WIP approaches a 22.72 million pound total nitrogen load reduction, rather than the target reduction of 34.13 million pounds. We would argue that, in this context, the plan is incomplete. While recognizing that the efforts necessary are very significant, the opportunities to secure the necessary, and agreed upon, reductions, exist. We hope that Pennsylvania's final WIP is designed to meet the target reductions. (34)

RESPONSE

DEP disagrees that Pennsylvania will have a shortfall in meeting the nutrient reduction planning targets. Pennsylvania will continue to work to ensure that sufficient practices are in place by 2025 so that Pennsylvania meets its phosphorus and nitrogen goals.

Pennsylvania, in conjunction with the Partnership, will utilize an adaptive management approach to achieve our shared desired outcome. The two-year milestones and six month progress reporting described in Section 7 of the final Phase 3 WIP will allow Pennsylvania to assess implementation progress and adjust programs and priorities to ensure sufficient practices are in place by 2025 to achieve the nutrient reduction planning targets.

Moreover, Pennsylvania expects to achieve additional reductions through the countywide planning process described in Section 3, Countywide Actions. The Phase 3 WIP is a flexible document that will be updated every two years as DEP and its sister agencies continue to work with county planning teams to implement the Countywide Action Plans (CAPs). Adaptive management of the CAPs will enable Pennsylvania to overcome challenges and barriers in achieving the targeted pollutant reductions. The four remaining Tier 2 counties will be next to complete their CAPs. The seven Tier 1 and Tier 2 counties collectively account for roughly 54% of Pennsylvania's nitrogen goal and 42% of Pennsylvania's phosphorus goal. With Adams County's CAP completed, 30 of the remaining 35 Tier 3 and 4 counties will complete their CAPs following the priority counties in Tier 2. These final CAPs will target the remaining 46% of Pennsylvania's nitrogen goal and 58% of Pennsylvania's phosphorus goal. For nine counties whose

impact to the Chesapeake Bay is relatively minimal, complete CAPs will likely not be needed and planning goals can be addressed by continuing existing state initiatives described in Section 2, State Actions. In the future, additional practices identified in the CAPs will be added to the Phase 3 WIP to create additional reasonable assurance that Pennsylvania will meet its goals.

At present, Pennsylvania does not receive full credit for many currently implemented practices, particularly practices implemented through permit programs and practices implemented without public assistance from grants or cost-share awards. These are described in more detail in Section 4, Federal Actions, under the subsection describing additional coordination efforts needed. Improved data collection around these practices will be addressed during implementation of the Phase 3 WIP at both the state and local level through the additional documenting, tracking, and verification efforts described in Section 6 of the Phase 3 WIP. DEP is currently evaluating and quantifying additional practices which Pennsylvania has previously implemented and will implement in the future to assure Pennsylvania will achieve its nutrient reduction planning targets. Pennsylvania will continue to work to receive full credit for implemented practices across the Chesapeake Bay watershed.

Collectively, these efforts will help ensure that Pennsylvania meets its nutrient reduction planning targets

General Comments

Funding gap to meet targets

11. COMMENT

8. Keith Henn, Private Citizen -

Of course, the farmer cannot bear the cost of this monumental challenge. Moreover, the Commonwealth cannot easily do it alone. The solution is so close, in my view, only politics could cloud it (as it has). First, the federal government has and continues to provide funds. These are funds are not being wisely used. This needs to change swiftly to more efficiently use those allocated funds. Second, the **Nutrient Procurement Program** has been attempted to be funded but has not been executed due to political pestering and positioning. This needs to get done as this utilizes “other people money” in a creative way. **Nutrient Procurement Program** is based in part on public private partnerships (P3) that promotes getting the job done. It can be a simple and an effective means to solve this challenge. The seed funding of this program is critical. [Senate Bill 575](#) (Yaw-R-Lycoming) was just introduced May 31. Appropriating the funds needed to seed this program is critical and should be swiftly executed. This program sets aside 20 percent of the reductions (not the funding) to benefit small farmers in most need of financial assistance. This is a win-win. (8)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania’s ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners, DEP and sister agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to working with WaterKeepers Chesapeake and other partners to ensure successful implementation of the Phase 3 WIP.

12. COMMENT

9. Keith Salador, Citizens Advisory Council -

State Actions

The most important challenge facing Pennsylvania's WIP implementation is funding. As outlined in the WIP, a \$257 million per year funding gap must be filled for *all* stakeholders to have the resources they need to meet the Commonwealth's legal obligations. CAC is encouraged that the Funding Workgroup's membership included members from the General Assembly, the Governor's Office, and external stakeholders. That being said, it is important for all involved to continue the vigorous pursuit of the passage of appropriate, fair and predicable funding legislation and not lose the momentum that has been built through the development of the WIP.

CAC is concerned, however, that the draft WIP only contains vague concepts of funding solutions. We suggest that the final version of the WIP include more concrete ideas including the amount of funding to be generated by each initiative and how that will impact citizens and enterprises in this Commonwealth. CAC would be happy to help in any way we can to close the funding gap, including using CAC meetings to invite the public to learn about various funding efforts and the impact they will have on their day-to-day lives. Additionally, CAC suggests that the obstacles preventing implementation of public-private partnerships, as discussed on page 56, be further elaborated on with specific suggestions for overcoming those issues offered in the final WIP. (9)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania's ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners, DEP and sister agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to continuing to work with the CAC and other partners to ensure successful implementation of the Phase 3 WIP.

13. COMMENT

10. Kristopher Troup, North Londonderry Township -

The plan identifies a \$257 million dollar annual funding gap between the current funding level and the total funds needed for plan implementation. The funding options identified in the plan will do little to provide a sustainable funding stream necessary to close the funding gap, thus, putting the bulk of the additional funding on the backs of the Pennsylvania taxpayer.

The costs associated with WIP 3 implementation should be updated to reflect current dollar figures. Using cost estimates that are nearly a decade old provides an unrealistic picture of the actual estimated cost of implementation. (10)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania’s ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners, DEP and sister agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to working with local governments, such as North Londonderry Township and other partners, to ensure successful implementation of the Phase 3 WIP.

14. COMMENT

11. Cheri Grumbine, North Lebanon Township -

1. Table 5.2 Summary of Priority Initiative Costs estimates \$459,383,000 for Annual Costs. Then notes that these CAST estimates originate from documents and communications that are **at least 10 years old** and suggests there may be a 15% increase when accounting for inflation. More accurate costs must be used to reflect more truthful costs, as the 15% increase could be higher.

2. The plan identifies a \$257 million annual funding gap between the current funding level and the total funds needed. However, the total cost estimates use data that is at least 10 years old, so this funding gap figure is misleading and under-estimated.

3. The funding options in the plan will do little to provide a sustainable funding stream necessary to close the funding gap. The burden will again be placed on township (PA) property owners. Another “unfunded” mandate! (11)

RESPONSE

1. The Phase 3 WIP Funding Workgroup discussed this issue and elected to dismiss accounting for inflation in calculating **forward looking** costs because it would likely be something under 2% and therefore would have been inconsequential in the context of uncertainty.

However, relative to the comment regarding inflation – which raises a valid point – the estimates developed now **look backwards to** and are rooted in cost data from a decade or so ago. The Phase 3 WIP Funding Workgroup did not and cannot really account for the lack of more current cost data. At this point, the best we can do is acknowledge that the cost estimates may be understated. Any attempt to develop a multiplier to account for the change in costs over the elapsed time would require gross assumptions with questionable accuracy.

2. The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania’s ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners, DEP and sister agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to working with local governments, such as North Lebanon Township and other partners, to ensure successful implementation of the Phase 3 WIP.

15. COMMENT

16. Robin Getz, Director of Public Works-City of Lebanon -

1. The plan identifies a \$257 million dollar annual funding gap between the current funding level and the total funds needed for plan implementation. Any shift of this gap to local governments must be considered an unfunded mandate with little proof of creating a sustainable program. It was our understanding that prior to implementing an unfunded mandate a feasibility study would be required to make sure that the benefit exceeds the costs. I would be interested in seeing where this study appears. It would seem that there is a lot of reliance on local government cultivating a way to support this gap when their own local infrastructure (i.e. streets, utilities) is collapsing. (16)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania's ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners, DEP and sister agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to working with local governments, such as the City of Lebanon and other partners, to ensure successful implementation of the Phase 3 WIP.

16. COMMENT

19. Brian Gallagher, Western Pennsylvania Conservancy -

Clearly, the most serious challenge in meeting the nutrient reduction goals is available funding. The funding gap of \$257 million annually is substantial and sobering. WPC supports increasing the investment in clean water in Pennsylvania. It is the only way that we can achieve the TMDL targets in the remaining few years before the 2025 deadline. This will require swift and decisive action by our state to commit and deploy the human and financial resources that will mean the difference between success and failure. (19)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania's ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners, DEP and sister agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to working with organizations such as the Western Pennsylvania Conservancy to ensure successful implementation of the Phase 3 WIP.

17. COMMENT

23. Alice Baker, PennFuture -

3. Lack of a Dedicated and Targeted Funding Source Undermines Pennsylvania's Ability to Achieve Its Goals.⁸

Perhaps the biggest problem with the draft WIP3 is that without dedicated and stable funding sources, there is no ability for the Department's proposed plan to be implemented.

In fact, in EPA's 2018 evaluation of Pennsylvania's progress, EPA noted that it expected Pennsylvania "to identify a *dedicated and targeted* funding source" in its WIP3.⁹ The Phase 3 WIP Funding Workgroup estimated that "the current public investment in waterways cleanup in the areas upstream of the Chesapeake are approximately \$229 million per year. The total investment needed to achieve the 2025 goals is estimated to be \$485 million per year — an annual gap of \$257 million."¹⁰

The draft WIP3 provides a thorough breakdown of the funding needed in order to implement the proposed practices.¹¹ It also describes various legislative actions that would provide necessary financial support to implement Chesapeake Bay initiatives,¹² but includes no paths towards executing this legislation or assurances that it will be done. Thus, it remains unclear how the gap in funding will be closed without leadership and action by the Pennsylvania legislature.¹³ And without this funding there is no reasonable assurance that Pennsylvania will meet its goals. (23)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania's ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners, DEP and sister

⁸ The lack of demonstrated, secure funding to implement the practices required to meet the Bay TMDL goals accentuates the plan's inability to provide reasonable assurance. However, it is such a significant shortcoming and essential element of the draft WIP3 that we place it in its own section in this comment letter.

⁹ EPA, Evaluation of Pennsylvania's 2016-2017 and 2018-2019 Milestones, July 27, 2018, available at

http://files.dep.state.pa.us/Water/ChesapeakeBayOffice/TrackProgress/EPA_Final_Evaluation_of_Pennsylvania_2016-2017_and_2018-2019_Milestones.pdf (emphasis added).

¹⁰ WIP3, at 4.

¹¹ See *Id.* at 97-112.

¹² See *Id.* at 51.

¹³ Furthermore, as described above, the draft WIP3, as currently written, does not set forth a plan to successfully achieve required reductions.

agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to working with organizations such as PennFuture to ensure successful implementation of the Phase 3 WIP.

18. COMMENT

24. Felicia Dell, York County Planning Commission -

SECTION 2. STATE ACTIONS

21. Pgs. 37-38, 2. Forestry: Most of the grant programs listed note that funds are running out and/or that there is no certainty of future funding. If these programs are discontinued, how will the state make-up this gap in funding for the implementation of BMPs?
32. Pg. 58, 3. Expansion of Existing Funding Programs...: This section notes recommendations of the Funding Workgroup, but there is no mention of any follow through by any applicable Department or Commission.

GENERAL COMMENTS

3. A potential alternative strategy for DEP to consider in its effort to meet the Nitrogen (N) reduction goal by 2025 relates to using existing financial resources to hire a private contractor to implement BMPs, on a cost/lb. of reduction basis to meet the N goal. Using the existing financial resources currently outlined on pages 9 and 111 of the Draft WIP (\$ 229,101,429), DEP could pay \$6.74 for each pound of N reduced ($\$229,101,429 / 34,000,000 \text{ lbs. of N} = \$6.74 / \text{lb. of N}$) to meet its N goal. The York County Clean Water Toolbox, provided by DEP, states that the cost/lb. of N reduction ranges from \$0.00 to \$5.67 for the 14 most efficient agricultural BMPs in York County. This appears to be the most efficient solution to reaching the WIP 3 goals, but is not included in the Draft WIP 3. If private contractors say that it would cost much more than \$6.74 to reduce a pound of N, such that this scenario would not be plausible, then it would also not be plausible for York County to reduce a

pound of N at the cost estimated in the Toolbox. As such, the financial gap estimated on pages 9 and 111 would need revised. (24)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania's ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners, DEP and sister agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to continuing to work with local governments, such as the York County Planning Commission and other partners, to ensure successful implementation of the Phase 3 WIP.

19. COMMENT

25. Julie Cheyney, Lebanon County Clean Water Alliance (LCCWA) -

The plan identifies a \$257 million dollar annual funding gap between the current funding level and the total funds needed for plan implementation. The funding options identified in the plan will do little to provide a sustainable funding stream necessary to close the funding gap, thus, putting the bulk of the additional funding on the backs of the Pennsylvania tax payer. (25)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania's ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners, DEP and sister agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to working with organizations such as the Lebanon County

Clean Water Alliance and other partners to ensure successful implementation of the Phase 3 WIP.

20. COMMENT

26. Davitt Woodwell, Pennsylvania Environmental Council -

As to how the reductions in Pennsylvania should be interpreted, we draw attention especially to page 5 of the Phase 3 WIP where, in the Executive Summary, DEP sets forth a summary of the funding needed to implement the recommended practices to achieve the required reductions. Based on the numbers presented in Section 5, “Existing and Needed Resources,” PEC believes that DEP should work immediately with all necessary partners to secure the additional almost \$257 million of funding per year.

While this may seem like an easy statement to make when one is not responsible for those funds, we want also to make the statement that, based on the information presented, DEP should prioritize efforts to secure funding by focusing on the priority initiatives identified in that same section. This would be the fastest way to reduce significant amounts of nitrogen and phosphorous from entering the Susquehanna River and its tributaries while using the management practices with the greatest return on investment.

We anticipate that a reaction from some advocates to this last comment may be that an initial focus on 45% nitrogen and 75% phosphorous reductions is not enough, and that the Commonwealth is bound by edicts that it goes all in for 100% reductions by 2025. We would respond to those concerns by agreeing that Pennsylvania has a long way to go to achieve the 2025 reduction goals to which it is obligated, and that we also agree that serious commitments must be made, and serious actions taken, to move the Commonwealth to compliance.

However, we would also say that continuing Pennsylvania’s significant work on nutrient reduction should not be seen as an “all or nothing” proposition and that a focus on those initial four priority initiatives lays a strong foundation for our collective effort moving forward with improving the health of the Susquehanna River, its tributaries, and the Chesapeake Bay.

Again, PEC wants to commend DEP and the other departments for investing fully in the development of the Draft Phase 3 WIP, and thank all of those who have given so much of their time and resources to develop a robust and implementable (with the right support) plan that serves not only the goals of the Chesapeake Bay, but with proper implementation of many of the suggested actions, all of Pennsylvania. (26)

RESPONSE

The Department agrees. DEP and its sister agencies believe the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. DEP and its sister agencies appreciate the support of, and look forward to working with, the Pennsylvania Environmental Council to ensure successful implementation of the Phase 3 WIP.

21. COMMENT

29. Taylor Nezat, Pennsylvania Choose Clean Water Coalition [part of PennFuture] -

Identifying the Need for Increased Funding and New Legislation

The Phase 3 WIP Funding Workgroup identifies numerous legislative actions that are critical in helping Pennsylvania achieve its TMDL required reductions. However, without strong legislative leadership and support, it is unlikely that Pennsylvania will be able to implement the practices identified in the draft WIP and will therefore continue to be out of compliance with its TMDL requirements.

A major shortcoming with the draft WIP is the limited amount of funding to implement the identified practices. The Phase 3 WIP Funding Workgroup estimated that Pennsylvania will need an additional investment of \$257 million annually to implement the draft WIP. Furthermore, even if Pennsylvania were to pass legislation that would provide \$257 million annually, the draft WIP is estimated to fall short of nitrogen compliance.

Raising the necessary funds to implement the Phase 3 WIP must be a top priority for the legislature. Pennsylvania, unlike Maryland and Virginia, has no dedicated source of annual funding to ensure the protection of water quality of its rivers, streams and tributaries. Due to a lack of adequate funding, among other things, results in over 19,000 miles of streams and rivers in Pennsylvania that are considered to have impaired water quality under the Clean Water Act. Legislative authority for a dedicated stormwater utility fee should be considered. (29)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania’s ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners, DEP and sister agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to working with organizations, such as the Choose Clean Water Coalition and other partners, to ensure successful implementation of the Phase 3 WIP.

22. COMMENT

34. Jessica Blackburn, Chesapeake Executive Council, CAC -

Pennsylvania’s draft WIP highlights the severe resource shortfalls that exist with respect to implementation. Pennsylvania documents an annual funding gap of \$256,775,167. That number is the gap to get to a nitrogen reduction that falls 33% short of the target. There is no estimate of the funding gap (or gap in other resources) necessary to meet the reduction targets. This discrepancy indicates a failure to provide reasonable assurance that the goals of the TMDL can be met.

While progress is being made at a very small, incremental pace to improve funding resources, there is currently no legislative or policy discussion that would specifically deliver resources of the appropriate magnitude to address the stated funding gap. We urge the Governor and the Legislature of the Commonwealth of Pennsylvania to put the necessary resources in place. (34)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania’s ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners, DEP and sister agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to continue to work the Chesapeake Executive Council Citizen Advisory Council and other partners to ensure successful implementation of the Phase 3 WIP.

23. COMMENT

37. James Wheeler, Pa. State Assoc. of Township Supervisors -

We write to share our comments on Pennsylvania's Draft Phase 3 Chesapeake Bay Watershed Implementation Plan which was recently released by Pennsylvania's Department of Environmental Protection.

Our member townships represent nearly fifty percent of the state's population, and more than 95% of the state's land area, with similar coverage in the Pennsylvania portion of the Chesapeake Bay watershed. It is therefore important that we share their concerns with this unfunded mandate, especially if all the (generally small) municipalities in the 75% of the land area in this watershed that are not currently required to obtain federal stormwater permits would be designated by either EP A or DEP to begin obtaining such stormwater permits.

Many of the municipalities currently required to obtain these federal stormwater permits are reporting the need to spend millions of dollars each year for compliance efforts, which is a level of unfunded mandates that could seriously erode the economic conditions of any smaller municipalities that would be newly-forced into getting permits.

Funding Issues

As the draft plan itself clearly notes on page 51, current spending is not enough. In fact, Pennsylvania will have to spend an additional \$256 million each year in order to meet its 2025 pollution reduction goals, which is more than double the current annual spending of \$229 million on this effort.

And yet, even with the additional spending requested that would bring annual spending in Pennsylvania for compliance with the Chesapeake Bay pollution reduction effort to nearly a half a billion dollars annually, the state will only be able to meet half of the nitrogen reduction goal and 75% the phosphorus reduction goal.

How much more money will be needed to achieve the goals set by EP A in 2010 with no input from local governments?

We question the affordability of this level of spending, and suggest that the 2025 pollution reduction goals that were agreed to in the settlement between EP A and the Raymond Proffitt Foundation which lead to the "Chesapeake Bay Clean Water Blueprint" (another agreement finalized without input from local governments), may have incorporated completion deadlines that were too unrealistic.

It should have been expected that a problem more than 200 years in the making might need more than fifteen years to reverse. We therefore suggest that the timeframe for completion of this unfunded mandate should be revised, and based on a timeline that recognizes realistic, affordable public spending levels.

It should be noted that Chesapeake Executive Council, (comprised of the governors of Maryland, Pennsylvania and Virginia; the administrator of the U.S. Environmental Protection Agency; the mayor of the District of Columbia; and the chair of the Chesapeake Bay Commission) is charged with establishing the policy direction for the restoration and protection of the Bay and its living resources, and therefore would be the ideal locus for any action needed to improve the workability of the Bay's restoration efforts such as in this case arguing for an extension of the time frame for compliance and additional federal funding support. (37)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania's ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners, DEP and sister agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to working with organizations such as the Pennsylvania State Association of Township Supervisors and other partners to ensure successful implementation of the Phase 3 WIP.

24. COMMENT

38. Katlyn Schmitt, Waterkeepers Chesapeake -

1. A Lack of Accountability Measures and Dedicated Funding

The U.S. Environmental Protection Agency (EPA) has previously communicated its heightened expectations for reasonable assurance that Pennsylvania will achieve its load reductions and has identified state specific expectations for Pennsylvania due to three source sectors that are under-enhanced or at back-stopped levels of federal oversight. EPA expected Pennsylvania to provide a convincing, detailed, and realizable plan to implement in its Phase 3 WIP, but unfortunately, there are significant gaps in Pennsylvania's proposed path forward. The plan lacks a number of accountability measures necessary for achieving the proposed reductions and lacks a clear path for funding to implement the practices outlined. The plan should be amended to ensure

accountability for achieving the proposed reductions, provide enough funding, and implement necessary legislation to achieve the goals of the Chesapeake Bay TMDL. Without the necessary accountability and funding mechanisms in place, Pennsylvania will be unable to achieve enough reductions for compliance with the TMDL.

While we appreciate the bottom-up approach taken by the agency through a pilot county-by-county process, the proposed approach does not provide any oversight or accountability. As described in the draft WIP, none of the plans from the four counties in the pilot program reach the nitrogen goal set forth. In fact, each of the pilot plans indicate that more funding and resources are needed to implement their local plans. If we see similar results in the remaining 39 counties across the Pennsylvania portion of the Bay watershed, Pennsylvania will ultimately fall well short of achieving the required nitrogen reductions for our 2025 goals. It is even more troubling that the remaining 39 counties in the Bay watershed have not completed development of their County Action Plans. Completion of these plans and dedicated, full funding to support implementation should be a high priority and is integral to the success of the WIP and Chesapeake Bay TMDL.

It is also important to note that bottom up engagement may increase local awareness and sense of commitment but it does not, by itself, provide assurance of plan success. Few participants fully understand the uncertainties of Best Management Practices (BMPs) and tools provided by planning facilitators.

Another major shortcoming with the draft WIP is the limited amount of funding to implement the identified water quality BMPs. Pennsylvania, unlike Maryland and Virginia, has no dedicated source of annual funding to ensure the protection of water quality of its rivers, streams and tributaries. The Phase 3 WIP Funding Workgroup estimated that Pennsylvania will need an additional investment of \$257 million annually to implement the draft WIP. Even if Pennsylvania were to pass legislation that would provide \$257 million annually, the draft WIP is estimated to fall short for nitrogen compliance. A lack of adequate funding, among other things, results in over 19,000 miles of streams and rivers in Pennsylvania that are considered to have impaired water quality under the Clean Water Act. Legislative authority for a dedicated stormwater utility fee should be considered and raising the necessary funds to implement the Phase 3 WIP must be a top priority for the legislature. (38)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania's ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners, DEP and sister agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to working with organizations such as Waterkeepers Chesapeake other partners to ensure successful implementation of the Phase 3 WIP.

General Comments

Overall plan content

25. COMMENT

1. Maryanne Tobin, 1952 -

We, as a state, damned well better be doing all we can to protect our water and the Chesapeake Bay because our federal government and our president doesn't care how dirty or toxic either one is. Under his leadership, we'll be drinking and bathing in toxic sludge ASAP. So do whatever we can for our water, our air and our environment because only Trump and his 1% can afford to build a bubble to live in while the rest of the world goes to hell. (1)

RESPONSE

Thank you for your comments. The Phase III WIP outlines several initiatives to improve water quality.

26. COMMENT

2. R John Dawes, Foundation for PA Watersheds -

Given the magnitude of this problem of huge acreages of toxic pollution, it is unwise to leave mineland reclamation out of PA's Phase III WIP document. The funds are there for reclamation and PA should be credited with the reductions in sediment and the opportunity for N processing this practice produces. (2)

RESPONSE

DEP agrees that mine reclamation projects should receive credit. A section regarding the impact of mining activities and the water quality improvement benefits resulting from abandoned mine reclamation has been added to the final Phase 3 WIP.

27. COMMENT

3. Scott Rebert, unknown affiliation -

I'm always appalled at the amount of trash, mainly plastics, that flow down the Susq river into the Chesapeake Bay. Is there any way PA can limit that amount of trash? Perhaps installing some type of trash collection netting across the river or at least in some sections between islands or at dam facilities. Since plastics predominantly float on the surface, I feel that this might be an option.

Otherwise, maybe a smaller netting system on the tributaries to the river. I fish along the yellow breeches a lot and I'm always picking up plastic trash along the banks. (3)

RESPONSE

Thank you for your concern about litter in Pennsylvania and especially for your efforts to keep the Commonwealth litter-free. Installing trash-collection devices on waterways may have unintended effects on the hydrology, aquatic life, recreational uses, and navigational uses of Pennsylvania's rivers and streams. Pennsylvania has many laws and programs to penalize those who litter and clean up litter. For example, Pennsylvania's Solid Waste Management Act, which provides authority for some DEP

anti-littering regulations, makes it illegal for anyone to dispose of municipal or residual solid waste anywhere in the Commonwealth, except at approved and permitted facilities. DCNR regulations also provide for fines for illegal dumping in State Parks and State Forests. PennDOT regulations authorize fines for littering from vehicles and on state highways. PennDOT also administers the Adopt-A-Highway program to promote litter cleanups and stewardship of Pennsylvania's roads.

28. COMMENT

9. Keith Salador, Citizens Advisory Council -

General Comments

CAC applauds DEP and its sister agencies for the strategy employed to develop this draft WIP. As the WIP states, there was an unprecedented effort to involve stakeholders from all levels and all sectors. These stakeholders can see their direct input reflected in the WIP which will, in turn, make implementation an easier task. CAC encourages DEP to employ this type of collaborative framework more often in all programs to build consensus on sound, practical environmental policies.

Additionally, while the Chesapeake Bay TMDL is a federal mandate, the focus on the WIP's impact on local water quality is of utmost importance. The environmental, public health and welfare, and economic gains Pennsylvania will realize from improving local water quality will be significant and should be a priority for the General Assembly and the Governor's Office regardless of federal requirements.

CAC is happy to lend its support and help in any way we can to help with the implementation of the WIP. (9)

RESPONSE

Thank you for the CAC's ongoing support of DEP and its sister agencies' efforts to improve local water quality and restore the Chesapeake Bay. We look forward to continuing to work with the CAC in the future as we move forward with the implementation of the Phase 3 WIP.

29. COMMENT

8. Keith Henn, Private Citizen -

I am both a Citizen of the Commonwealth and a professional with higher level education and professional experience. My comments are derived from this perspective. I have reviewed the Phase 3 Chesapeake Bay Watershed Implementation Plan (WIP). I have three (3) simple and straightforward comments:

I applaud the WIP that has been prepared, but my view of this process is that it has taken more than 8 years (prep for and submittal of 2011 Phase 1 2019 Phase 3 draft) and lots of “red tape” to get to this point. Over this time, lots of taxpayer’s money have been (mis)spent with little progress to date to show for it. The current plan lays out the need and the options to address this challenge. My single most important comment is *let’s get to work and implement it*. This continues to be a “political football” that has bounced around resulting in no action. It is time to get it done. Please move this forward – swiftly.

There is not one single solution, but several. It is easy to say it is complex, but even simpler to start working. The documentation is clear that (1) *Agriculture*, (2) *Forestry*, (3) *Storm water*, and (4) *Wastewater all are a cause of the problem. However, Agriculture clearly has the highest discharge and therefore the biggest impact that a solution may offer. Thus, the focus should be on the Ag sector.* There appears to be lots of debate on the solution(s) (e.g., stream buffers, point source reductions, nutrient management v. nutrient removal, etc.). The data is clear that impacts from the source - prohibiting a release entering the watershed – is likely to have a big impact over time. Addressing it at the source should be the focus (as well as addressing downstream treatment i.e., closer to the receptor). (8)

RESPONSE

This version of the Phase 3 WIP clearly recognizes that it is going to take a considerable amount of effort from all sectors, including agriculture, forestry, stormwater and wastewater for Pennsylvania to succeed. It is also recognized that the most effective solution to this problem is to address it at the source, at the local level. This is why DEP is focusing on local engagement, and the need for local prioritization efforts.

30. COMMENT

10. Kristopher Troup, North Londonderry Township -

In a recent article, “Saving the Bay, Fighting Climate Change: Two Sides of the Same Coin,” Chesapeake Bay Foundation President Will Baker stated, “Air emissions contribute 30% of all nitrogen to the Bay.” The draft Phase 3 WIP doesn’t appear to address air emissions. (10)

RESPONSE

The Chesapeake Bay Watershed Model, which generated the nitrogen and phosphorous load targets the Phase 3 WIP aims to achieve, accounts for atmospheric deposition of nitrogen as an input generated by the Chesapeake Bay Airshed Model. The Bay Airshed Model estimates nitrogen deposition rates as a function of emissions from industrial, mobile, and utility sources. As such, the Bay Watershed Model accounts for changes in atmospheric nitrogen deposition through changes in air emissions as modeled by the Bay Airshed Model.

Even though the nitrogen loads targeted by the Phase 3 WIP already account for air emissions, the Phase 3 WIP has been revised to include additional reductions that will be achieved through Pennsylvania’s strategy for expending funds from the Volkswagen

Air Emission Settlement. These additional reductions have been added to the final Phase 3 WIP in Section 2.V, Existing State and Federal Programs That Have Not Been Documented for Progress.

31. COMMENT

25. Julie Cheyney, Lebanon County Clean Water Alliance (LCCWA) -

A Chesapeake Bay Foundation article by Will Baker dated May 8, 2019 and titled "Saving the Bay, Fighting Climate Change: Two Sides of the Same Coin" indicates that air emissions contribute 30% of nitrogen pollution to the bay. The plan includes no provisions for reducing nitrogen from air emissions. (25)

RESPONSE

The Chesapeake Bay Watershed Model, which generated the nitrogen and phosphorous load targets the Phase 3 WIP aims to achieve, accounts for atmospheric deposition of nitrogen as an input generated by the Chesapeake Bay Airshed Model. The Bay Airshed Model estimates nitrogen deposition rates as a function of emissions from industrial, mobile, and utility sources. As such, the Bay Watershed Model accounts for changes in atmospheric nitrogen deposition through changes in air emissions as modeled by the Bay Airshed Model.

Even though the nitrogen loads targeted by the Phase 3 WIP already account for air emissions, the Phase 3 WIP has been revised to include additional reductions that will be achieved through Pennsylvania's strategy for expending funds from the Volkswagen Air Emission Settlement. These additional reductions have been added to the final Phase 3 WIP in Section 2.V, Existing State and Federal Programs That Have Not Been Documented for Progress.

32. COMMENT

17. Jennifer Reed-Harry, PennAg Industries Association -

On behalf of the more than 600 business members affiliated with PennAg, an agriculture trade association in existence since 1878 whose mission focuses on working to create and maintain an effective, viable and competitive environment for Pennsylvania agribusiness to grow and prosper, we respectfully submit the following thoughts for consideration in the final development of the Phase 3 Watershed Implementation Plan (Phase 3 WIP) as the task of meeting the 2025 Bay Goals are ambitious and will require assistance from many sectors.

1. Several years ago, DEP followed a Regional Watershed approach to tackle impaired areas by focusing funding and technical assistance at targeted areas/watershed. Is DEP willing to considering restoring this approach and focusing on key areas to gain water quality improvement? This could reduce the number of inspections needed and would generate notable improvements.

As always, there are numerous components to what is needed to completely meet the 2025 Bay Goals however; it will take everyone working together towards an equitable solution to all aspects of the Commonwealth . PennAg members and staff have been involved in the Phase 3 WIP - Ag Workgroup discussions and support the actions of the workgroup and will continue to be engaged as we work together to secure a thriving and growing agriculture base in Pennsylvania. (17)

RESPONSE

EPA funding for Chesapeake Bay related activities requires 10% of all agricultural operations within the watershed to be inspected on an annual basis. However, DEP has and will continue to encourage the development of inspection strategies that focus inspection efforts in key areas in each county. DEP will continue to review and revise the inspection program to ensure that water quality improvements are being made in the most efficient and effective manner.

33. COMMENT

18. Kevin Sunday, Pennsylvania Chamber of Business and Industry -

I am writing on behalf of the Pennsylvania Chamber of Business and Industry (PA Chamber), the largest, broad-based business advocacy organization in the Commonwealth. Our more than 7,500 member companies are involved in all industrial categories and are of all sizes. On behalf of these businesses, we welcome the opportunity to respond to the Department's invitation for public comments concerning the development of Pennsylvania's Phase III Watershed Implementation Plan (WIP) to progress toward achievement of the nutrient and sediment reductions required under the Chesapeake Bay TMDL.

As the Department and its staff are aware, the PA Chamber has been actively and positively involved throughout the past 15 years or more in working with other stakeholders in helping to frame workable approaches to addressing the water quality challenges of the Chesapeake Bay. Representatives from the PA Chamber and individual Chamber members have served on a myriad of committees, subcommittees and stakeholder groups that have devoted hundreds of hours to seeking solutions for reducing nutrient loadings in a fair, equitable, cost-effective and implementable manner. We recognize that all sectors and stakeholders (industry, agriculture, communities, citizens and environmental groups alike) have a stake in the Bay, and, equally, all of those in the Bay watershed should have a strong interest in preserving the economic, as well as environmental, viability and well-being of this region. Likewise, all sectors who contribute to the loadings entering the Bay have a stake and a responsibility to address those contributions.

During the process of developing the Phase I WIP, the PA Chamber observed and underscored the importance of assuring that allocations of nutrient loadings be fair, reasonable and achievable. If the agencies or stakeholders lose sight of this loadstar, if efforts are made to shift burdens arbitrarily between sectors or among individual entities, the entire process is doomed to failure. Given the enormous efforts and investments that are needed to achieve nutrient and sediment reductions, public

support is essential. Such public support will never be forthcoming for allocations or implementation plans that are arbitrary, outlandishly expensive and unaffordable. Conversely, the goal in developing and implementing the WIP is to provide measures that are affordable, implementable, and assure that all contributing sectors do their fair share to reduce loadings in order to achieve the TMDL allocations.

6. All Significant New or Expanding Nutrient Contributors Should be on Equal Footing. Under the current TMDL program, industrial and municipal generators of nitrogen and phosphorous loadings are subject to cap loading limits, with new or expanded loadings precluded unless offset by countervailing reductions at the same source or the acquisition of credits representing equivalent reductions elsewhere. But it is not clear that the same rules apply to all major generators. For example, agricultural operations including CAFOs, are being sited and are expanding in various parts of the Bay watershed, but we do not see evidence that those operations (all of which should be subject to NPDES permitting requirements) are being required to obtain offsetting credits for their increased loadings. If our perception is correct, then we have a serious credibility and fairness gap in our approach to Bay TMDL obligations. All of us, whether businesses involved in agriculture or agribusiness, have a responsibility and when undertaking new enterprises or expansions, should be on equal footing in terms of requirements to plan for and mitigate the impacts associated with new or increased nutrient loadings.

We appreciate the opportunity to provide these comments, and for your attention and consideration of them. It is our sincere hope that our efforts, along with those of other stakeholders involved in the Pennsylvania WIP process, will lead to a Phase III plan that is viable, positive and effective as a path forward. (18)

RESPONSE

New or expanding agricultural operations must inherently offset nutrient loads through implementing their Nutrient Management Plan, which may include additional manure management BMPs, exporting manure to lands in need of nutrients (where the importer must also follow Nutrient Balance Sheets associated with the imported manure), or the acquisition of sufficient land for application.

34. COMMENT

19. Brian Gallagher, Western Pennsylvania Conservancy -

This letter is in response to the request for comments on Pennsylvania's Draft Phase 3 Chesapeake Bay Watershed Implementation Plan (WIP) published in the Pennsylvania Bulletin (49 Pa.B. 1855) on Saturday, April 13, 2019. We appreciate the opportunity to provide input to the Department of Environmental Protection on this important initiative.

The Western Pennsylvania Conservancy (WPC) is a member-supported organization that protects and restores exceptional places to provide our region with clean waters and healthy forests, wildlife and natural areas for the benefit of present and future generations. A private, nonprofit, conservation organization founded in 1932, WPC has helped to establish or expand 11 state parks, conserved more than 257,000 acres of natural lands, and protected and restored more than 3,000 miles of rivers and streams.

The Conservancy owns and operates Fallingwater, which symbolizes people living in harmony with nature. In addition, WPC enriches our region's cities and towns through 130 community gardens and other green spaces that are planted with the help of thousands of volunteers.

We commend the department on the thorough effort undertaken to develop this plan, as well as the partnership-based approach outlined in the overall strategy; especially the emphasis on county-level conservation. A successful effort must include strong local buy-in.

WPC is pleased to see the prominent inclusion of forested riparian buffers, tree canopy, forest and natural area conservation, stream and wetland conservation, and green infrastructure as conservation strategies that should be emphasized. These are necessary components of the holistic approach needed to reach the nutrient reduction targets.

WPC supports the overall goals of improving water quality in the Chesapeake Bay Watershed and is ready to continue our productive partnerships with the commonwealth in several areas that positively impact water quality. (19)

RESPONSE

Thank you for your support of the Phase 3 WIP. DEP and its sister agencies look forward to working with the Western Pennsylvania Conservancy and other organizations such as yours as the Phase 3 WIP is implemented to ensure its success.

35. COMMENT

23. Alice Baker, PennFuture -

PennFuture submits these comments to the Pennsylvania Department of Environmental Protection (PADEP or the Department) in response the notice of availability of Pennsylvania's Draft Phase 3 Chesapeake Bay Watershed Implementation Plan published in the Pennsylvania Bulletin on April 13, 2019.¹⁴

PennFuture is a public interest membership organization dedicated to leading the transition to a clean energy economy in Pennsylvania and beyond. PennFuture strives to protect our air, water and land, and to empower citizens to build sustainable

¹⁴ 49 Pa. Bull. 1855 (April 13, 2019).

communities for future generations. One focus of PennFuture’s work is to improve and protect water resources and water quality across Pennsylvania, including, in particular, the Susquehanna River Basin, through public outreach and education, advocacy, and litigation. In fact, PennFuture participated in defending the Environmental Protection Agency (EPA) as an intervenor in the American Farm Bureau Federation’s challenge to the Chesapeake Bay Total Maximum Daily Load (TMDL).¹⁵

In conclusion, the draft WIP3, while commendable for its reliance on a collaborative, “bottom up” input and execution strategy, has several significant flaws that, if not addressed, will prevent Pennsylvania from complying with EPA’s Chesapeake Bay TMDL. For example, this same bottom up approach fails to provide the necessary accountability and enforcement that is critical to implementation. Finally, Pennsylvania’s reliance on its legislature to pass funding and regulatory legislation is not only unrealistic but foolish. Without all of these measures, Pennsylvania will be unable to comply with the Clean Water Act. Pennsylvania’s final WIP3 must address these significant shortcomings.

The objectives of the Clean Water Act include restoring and maintaining the chemical, physical, and biological integrity of the Nation’s waters.¹⁶ The Clean Water Act sets water quality standards consisting of both (1) the designation of one or more uses (e.g., fishing, recreation, aquatic life) for each water body, and (2) the promulgation of the narrative or numeric water quality criteria necessary to protect these uses.¹⁷ Once water quality standards are in effect, states must identify the water bodies that are failing to attain such standards using traditional methods of pollution control under the Clean Water Act, i.e., impaired waters.¹⁸ Under Section 303(d)(1)(C) of the Clean Water Act, the states “shall establish ... the total maximum daily load” of pollutants for each impaired water, which “shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety”¹⁹ Federal regulations define a TMDL as “the sum of the individual [Waste Load Allocations (WLAs)] for point sources and [Load Allocations (LA)] for nonpoint sources and natural background.”²⁰

The Chesapeake Bay has been impaired for decades by excessive amounts of nitrogen, phosphorus, and sediment. After numerous Chesapeake Bay Agreements and various lawsuits failed to achieve appropriate improvements in water quality, EPA

¹⁵ *Am. Farm Bureau Fed’n v. EPA*, 984 F.Supp.2d 289 (M.D. Pa. 2013).

¹⁶ 33 U.S.C. § 1251(a).

¹⁷ *Id.* § 1313; 40 C.F.R. § 131.

¹⁸ 33 U.S.C. § 1313(d).

¹⁹ *Id.* § 1313(d)(1)(C).

²⁰ 40 C.F.R. § 130.2(i).

developed a restoration plan in the form of a TMDL.²¹ The Chesapeake Bay TMDL, which EPA issued in December 2010, “is the largest and most complex TMDL thus far.”²² It identifies the total amount of certain pollutants that the entire Chesapeake Bay watershed can contribute in order to restore water quality in the Bay to a level that will support protected water uses (such as fisheries and recreation). The TMDL contains waste load allocations for point sources and load allocations for non-point source sectors and allocates these loads across the affected portions of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia, and the District of Columbia. Importantly, these WLAs and LAs are not self-executing. To ensure the described reductions are achieved, the Bay TMDL establishes deadlines for the states to develop and implement plans within the watershed to come into compliance with the determined loadings. And, while WLA are incorporated into National Pollutant Discharge Elimination System (NPDES) permits,²³ non-point sources of pollutants are addressed through specific regulatory actions.

Each State’s proposal to accomplish these reductions must be articulated in their respective Watershed Implementation Plans (WIP) in order to provide “*reasonable assurance*” that the required reductions in pollution will be achieved.²⁴ EPA is responsible for evaluating whether those reasonable assurances are met.

Pennsylvania has recently completed a draft of its third WIP (“draft WIP3”) and made it available for public comment. PennFuture commends the Department for its efforts in creating and crafting this plan. As discussed in more detail below, we appreciate the Department’s commitment to a collaborative process in the development and implementation of Pennsylvania’s WIP, but note that the plan fails to provide reasonable assurance that Pennsylvania will achieve the proscribed reductions. Perhaps most significantly, in order to provide this assurance, Pennsylvania must provide sufficient funding and implement necessary legislative tools to accomplish the goals of the plan and the mandates of the Chesapeake TMDL. Without sufficient accountability and funding, Pennsylvania will be unable to comply with the Clean Water Act and could open itself up to federal enforcement actions and litigation.

1. PennFuture Commends the Department’s Collaborative Process.

²¹ EPA, Chesapeake Bay TMDL, December 29, 2010.

²² *Id.* See also *Am. Farm Bureau Fed’n v. EPA*, 984 F.Supp.2d 289, 303 (M.D. Pa. 2013).

²³ 40 C.F.R. § 122.44(d)(1)(vii)(B).

²⁴ EPA, Chesapeake TMDL, Section 7: Reasonable Assurance and Accountability Framework, December 29, 2010, available at https://www.epa.gov/sites/production/files/2014-12/documents/cbay_final_tmdl_section_7_final_0.pdf [hereinafter TMDL Section 7]. See also EPA Guidelines for Reviewing TMDLs under Existing Regulations issued in 1992 at 4, available at https://www.epa.gov/sites/production/files/2015-10/documents/2002_06_04_tmdl_guidance_final52002.pdf.

PennFuture acknowledges and appreciates the effort the Department has put into engaging with numerous stakeholders and the emphasis that will be placed on this “bottom up” approach in crafting and implementing county level plans. The Department notes that nearly 100 individuals from the public and private sectors served on the Phase 3 WIP Steering Committee and workgroups. PennFuture’s own President and CEO, Jacquelyn Bonomo, serves on the Forestry Workgroup. The Department’s Chesapeake Bay Program also put considerable effort into ensuring that meetings and agendas were posted on the Department’s webpage in advance and Steering Committee and workgroup meetings were open to the public.²⁵ The relationships built through the planning process will be critical to developing and implementing county level plans, a significant element of the proposed plan moving forward. Indeed, such a collaborative and inclusive approach will be necessary to implement a plan significantly reliant on voluntary mechanisms to reduce pollution. (23)

RESPONSE

Thank you for your support of the collaborative approach Pennsylvania has taken in developing the Phase 3 WIP. DEP and its sister agencies look forward to working with PennFuture and other partners to ensure successful implementation of the Phase 3 WIP.

The Phase 3 WIP is built on a holistic approach of technical and financial assistance with compliance and enforcement strategies where necessary and appropriate to accelerate Pennsylvania’s progress towards achieving restoration goals. More importantly, it recognizes the importance of beginning with locally defined priorities and initiatives, then building the tools and infrastructure needed to achieve these local goals.

36. COMMENT

24. Felicia Dell, York County Planning Commission -

It is an extremely challenging task for the partnership states to meet the Chesapeake Bay TMDL by 2025. The task is especially daunting for PA as we are in an enhanced backstop status in two sectors, Agriculture and Urban Stormwater.

The York County Planning Commission applauds DEP for undertaking a new approach in developing the Draft PA WIP. The approach of building plans from the ground up allows the entities that can get things done the opportunity to provide realistic projects and programs for implementation. They also offer a clear perspective on whether the implementation of the projects and programs will meet the TMDL goals.

With this new approach, it became more apparent than ever that the 2025 TMDL goals for PA will not be met. The Draft PA WIP outlines a process to maintain or enhance current efforts as well as engage in new efforts. Due to a lack of specificity of how the work will be funded or who will do the work, it does not appear to offer reasonable assurance that the goals will be met.

²⁵ Pennsylvania’s Draft Phase 3 Chesapeake Bay Watershed Implementation Plan at 9 [hereinafter WIP3].

Attached are review comments regarding the PA Draft Chesapeake Bay WIP, Phase III generated by the York County Planning Commission. The majority of the comments are focused on the content of the Draft PA WIP, with a few editing comments as well.

I hope you find these comments constructive as the Draft PA WIP is reviewed and revised for final submission to EPA. They are provided in the hope that they will help PA provide reasonable assurance that the goals will be met.

EXECUTIVE SUMMARY

1. Pg.1, 3rd paragraph: “*Spells out how the state government will work in partnership with local governments...to meet Pennsylvania’s goals by 2025.*” Recommend defining “local governments” because in PA, municipalities are the local governments with authority over land use, which has caused the pollutants impairing the Bay. Out of over 100 WIP 3 Workgroup members, only five represented the over 700 municipalities in charge of land use in PA’s Bay watershed. Other than an MS4 permit assigned to 350 of these municipalities, there is very little mention of municipalities in the draft WIP.

SECTION 1. INTRODUCTION

10. Pg. 19, Section C, number 2: It is not clear who the target audiences are for this effort. Numerous regulated entities are working under clearly stated compliance requirements. There are other audiences that may participate voluntarily. A general information Engagement Strategy that states what can be done will not be effective. An information strategy that is more pointed in its messages to specific audiences should be developed.

APPENDIX ONE

57. Pgs. 143-146: Understanding that the source of the pollutants impairing the Bay originate through land use and municipalities have authority over land use (the cause of the pollution), it is ironic that in over 100 participants in the workgroups, only five municipal representatives were included.

GENERAL COMMENTS

1. Overall, the Draft Phase 3 WIP contains very little information on what new actions are going to happen, who is going to do them, how will they be accomplished, and when will they do them (timeline). The Draft is very “heavy” on process, what is currently in place, and assignments to inanimate “responsible parties” (The Department, counties, CBO, partners, etc.). Very little, if any, specifics on how tasks/actions will be accomplished is included.
2. Draft Plan seems to be very dependent upon the implementation of the CAPs for success. In reality, the lead organizations for the CAPs have very little ability to implement them. Additionally, the State programmatic changes, funding, willing landowners, and more is necessary for implementation.
5. It seems apparent that, although taking credit for “intense bottom up” local engagement, little to no coordination with local decision makers, local regulatory agencies, and local policy makers occurred during development of the Draft WIP.
10. Federal, State, and municipal goals are the same... clean local waters. Integration at the municipal/watershed level, as called for in the State Water Plan, is the path to success. The York County CAP called for such effort, but was not included as an action in the Draft WIP.
11. The Draft WIP needs a careful and through proofreading. A few editing comments are noted above, but there are many more edits that need to be made. (24)

RESPONSE

Every effort was made to engage the appropriate decision makers at all levels of local, county, state and federal government who can make a difference in the successful implementation of Pennsylvania’s Phase 3 WIP. This engagement did not stop with the membership of the workgroups. As described in Appendix 2, there were other efforts to include these additional stakeholders, including two conferences and a webinar targeted to this audience.

In addition, the Community Clean Water Planning Guide provides guidance to the lead planning agencies on how to identify members for their respective planning teams to develop the Countywide Action Plans. It is critical that all interested parties are included, especially the local governments described in these comments. More enhancements to this guide on how to further engage these stakeholders were added to the final version of this document. Additional training for county leaders who will be asked to develop and implement these Countywide Action Plans is also being developed. A description of this training is included in the final Phase 3 WIP.

37. COMMENT

26. Davitt Woodwell, Pennsylvania Environmental Council -

As a participant on the Phase 3 WIP Steering Committee, Work Group Co-Chairs Group, and Local Area Goals Work Group, we want to first commend DEP and the Departments of Agriculture and Conservation and Natural Resources for convening and

conducting a robust and inclusive process to develop the Phase 3 WIP. PEC believes that the process has resulted in a plan that is well-thought-out and represents the input and concerns of the sectors that will bear the bulk of the responsibility for implementing practices that will lead to meaningful improvements in water quality in Pennsylvania waters within the Susquehanna River basin as well as in the Chesapeake Bay. (26)

RESPONSE

As a participant and Workgroup Co-chair, your input was invaluable. The amount of time and effort devoted by you and the other Workgroup Co-chairs and members ensured the final plan is realistic and implementable. Thank you for your time, help, and support in the implementation of the collaborative approach taken in the development of the Phase 3 WIP. DEP and its sister agencies look forward to working with the Pennsylvania Environmental Council and other organizations such as yours to ensure the success of its implementation.

38. COMMENT

29. Taylor Nezat, Pennsylvania Choose Clean Water Coalition [part of PennFuture] -

The undersigned members of the Choose Clean Water Coalition (CCWC) in Pennsylvania respectfully submit the following comments on the draft Phase 3 Chesapeake Bay Watershed Implementation Plan (WIP) published in the Pennsylvania Bulletin on April 13, 2019.²⁶ The purpose of the Phase 3 WIP is to provide a detailed plan that will ensure the programs, policies, funding, regulations, and incentives are in place to implement the necessary practices by 2025 that meet the goals of the Chesapeake Bay Total Maximum Daily Load (TMDL) and improve the health of local Pennsylvania streams.²⁷

The CCWC's mission is to serve as a strong, united, effective advocate for restoring the thousands of streams and rivers flowing to the Chesapeake Bay by coordinating policy and accountability for clean water at the federal, state, and local levels. Since 2010, the Choose Clean Water Coalition has harnessed the collective power of more than 230 groups to advocate for clean rivers and streams in all communities in the Chesapeake Bay region.

With the recent completion of the Pennsylvania draft Phase 3 WIP, the Pennsylvania members of the CCWC would like to commend the Department for its efforts in creating and crafting this plan. We appreciate the ongoing in-person and in-depth developments

²⁶ The Pennsylvania Department of Environmental Protection. 2019. Draft Pennsylvania Phase 3 Chesapeake Bay Watershed Implementation Plan. Available at: http://files.dep.state.pa.us/Water/ChesapeakeBayOffice/WIP/III/DraftPlan/PA_Phase_3_WIP_FinalDraft.pdf

²⁷ U.S. Environmental Protection Agency. 2018. U.S. Environmental Protection Agency's Expectations for the Phase III Watershed Implementation Plans. Available at: https://www.chesapeakebay.net/documents/EPA_Phase_III_WIP_Expectations.pdf

of the plan as well as the Department's commitment to a bottom-up collaborative approach to achieve our pollution reduction goals.

The plan, however, must ensure accountability for achieving the proposed reductions, and Pennsylvania must provide sufficient funding and implement necessary legislation to achieve the goals of the Chesapeake Bay TMDL.²⁸ Without the necessary accountability and funding mechanisms in place, Pennsylvania will be unable to achieve the necessary reductions to be in compliance with the TMDL.

We Commend the Collaborative Bottom-Up Approach

The Pennsylvania members of the CCWC acknowledge and appreciate the efforts that have gone into undertaking this collaborative process and is hopeful that this commitment to an inclusive process and output will continue. Successful implementation of the WIP will require significant coordination among stakeholders in federal, state, and local governments, as well as non-governmental and governmental agencies, regulated and unregulated communities, and citizens of Pennsylvania. The relationships built through this planning process will continue to be crucial in developing and implementing county-level plans throughout the remainder of the Pennsylvania portion of the Chesapeake Bay watershed.

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In conclusion, we applaud the Agency and all stakeholders involved in the development of the draft Phase 3 WIP. However, the plan has several significant shortcomings that, if not addressed, will prevent Pennsylvania from complying with the EPA's Chesapeake Bay TMDL. The bottom-up approach provides little assurance that Pennsylvania is on a pathway to meet its TMDL goals, while the stormwater sector fails to sufficiently reduce inputs from unregulated and regulated stormwater. Agricultural compliance and implementation of BMPs will provide the greatest pollution reduction measures flowing into local waterways, but compliance assurance, funding support, and verification will continue to be problematic. Finally, the reliance on the legislature to pass funding and regulatory legislation is unlikely at this moment, which will in turn limit Pennsylvania's ability to comply with the TMDL. (29)

RESPONSE

Thank you for the support of the collaborative approach taken in the development of the Phase 3 WIP. DEP and its sister agencies look forward to working with organizations such as Choose Clean Water Coalition to ensure successful implementation of the Phase 3 WIP.

²⁸ U.S. Environmental Protection Agency. 2017. U.S. Environmental Protection Agency's Expectations for Pennsylvania's Phase III WIP. Available at: [http://files.dep.state.pa.us/Water/ChesapeakeBayOffice/WIP/III/\(13\)%20Pennsylvania%20Phase%20III%20WIP%20Expectations%204_27_17.pdf](http://files.dep.state.pa.us/Water/ChesapeakeBayOffice/WIP/III/(13)%20Pennsylvania%20Phase%20III%20WIP%20Expectations%204_27_17.pdf)

39. COMMENT

30. Ronald Ramsey, The Nature Conservancy -

Thank you for the opportunity to offer comments on Pennsylvania's Draft Phase 3 Chesapeake Bay Watershed Implementation Plan (WIP3). The Pennsylvania Chapter of The Nature Conservancy (TNC-PA) applauds the efforts of the Departments of Environmental Protection, Agriculture, and Conservation and Natural Resources to engage the public, community leaders and key stakeholders in the process of developing the draft WIP3. Local support and collaboration are essential to the success of Pennsylvania's efforts to improve the health of our streams and rivers, and we appreciate the work of State agencies and the Pennsylvania Chesapeake Bay Watershed Implementation Steering Committee to secure broad public and community input into this important process.

The Nature Conservancy is a leading conservation organization working in 72 countries around the world to conserve the lands and waters on which all life depends. We have more than 60 years of experience partnering with private landowners, government, and the private sector to achieve conservation outcomes. In Pennsylvania, our work is focused on delivering science-based, on-the-ground solutions that protect water resources in the Commonwealth's three largest river basins and increase the resilience and connectedness of our forests in the face of a changing climate. We strive to find innovative, yet pragmatic solutions to conservation challenges that allow people and nature to thrive together.

General Comments:

TNC-PA is encouraged by the breadth and scope of the recommended strategies contained in the WIP3 and the action plans developed by the four pilot counties. We note with approval the emphasis on expanded use of riparian forest buffers, as evidenced by recommendations included in three of the workgroup plans. We also are pleased to observe the inclusion of stream and wetland restoration in the WIP3 and all four Countywide Action Plans. Restored wetlands filter nutrients and trap sediments leaving fields. Restored streams repair eroding stream banks, a significant contributor to downstream sediment loads. Both practices also offer a range of potential co-benefits, including wildlife habitat improvement and improved storm water attenuation.

We welcome the WIP3's increased focus on enhanced nutrient management practices, agricultural compliance, and soil health. As a participant in the PA4R Alliance, we are encouraged by the reference to 4R nutrient stewardship as a tool to improve nutrient efficiency and keep nutrients on the fields and out of local waterways. (30)

RESPONSE

Thank you for your support. DEP believes the Phase 3 WIP is realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. DEP and its sister agencies look forward to working with the Nature Conservancy and other similar organizations to ensure the success of its implementation

40. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

The Chesapeake Bay Foundation (CBF), and its more than 275,000 members and e-subscribers, thanks the Department of Environmental Protection (DEP) for this opportunity to comment on Pennsylvania's draft Phase 3 Watershed Implementation Plan (WIP3), April 2019.

The Chesapeake Bay Foundation (CBF) is a 501(c)(3) non-profit organization, founded in 1967. The organization's mission --carried out from offices in Maryland, Virginia, Pennsylvania and the District of Columbia -- is to restore and protect the ecological health of the Chesapeake Bay, the nation's largest and one of its most vital estuaries. As such, we are very interested in matters that will impact the health of the Chesapeake Bay, the waters that feed into it, and the health of those who live and work within the Bay watershed.

We applaud the Commonwealth for undertaking such an unparalleled approach to developing the WIP3. The process was highly collaborative, stakeholder-based, while investing significant technical support to the workgroups throughout.

As a result, a wide array of improvements such as the tiered county approach, the localization of efforts through stakeholder-based planning, the quantification of existing and required financial and technical resources, and the integration of a communications and outreach strategy represent substantial improvements over any other previous plan or strategy developed by Pennsylvania since the initiation of the effort to "Save the Bay" with the first Chesapeake Bay Agreement in 1983.

The Commonwealth, Steering Committee, the supporting workgroups, and technical support teams from the Susquehanna River Basin Commission, U.S. Environmental Protection Agency (EPA) Chesapeake Bay Program, pilot county stakeholders, and others lent their time, talent, and expertise to an unprecedented degree to develop this draft WIP3.

Yet, despite such an effort, as we describe below, the draft levels of implementation from all the sectors does not achieve Pennsylvania's total nitrogen allocation by roughly 34 percent. It is imperative the Commonwealth correct this deficiency prior to the submittal of the final WIP3 to EPA in August. As noted in detail below, Pennsylvania has a duty and legal obligation to correct this deficiency.

Nonetheless, any plan is only as good as it's implemented. For this to occur, the same level of engagement will need to be maintained through the implementation phase and, in fact, be diversified and localized. It will also require the prioritization and synchronization of existing federal and state resources and the acquisition of new resources to implement the right practices, in the right places, while leveraging the right partners.

Our comments and recommendations below center not so much on the “what” (e.g., levels of implementation of one practice or another) but rather on the “how” (e.g., the programs, policies, funding, and other initiatives). And particular emphasis is placed on whether the WIP3 meets or exceeds EPA expectations.

BACKGROUND

History of the Bay-wide TMDL

As you know, the process of developing the Bay-wide Total Maximum Daily Load (TMDL) actually began over a decade ago with a series of federal judicial consent decrees and settlement agreements over impaired water listings for many watershed states. See *American Littoral Society v. EPA*, Case No. 96-489 (E.D. PA April 9, 1997); *American Canoe v. EPA*, 54 F. Supp. 2d 621 (E.D. Va. 1999). On June 28, 2000, the governors of Virginia, Maryland, and Pennsylvania, the chair of the Chesapeake Bay Commission, and the Mayor of the District of Columbia responded to the various decrees and agreements by signing, with the EPA Administrator, the *Chesapeake 2000 Agreement* which, among other obligations, committed to reduce nitrogen, phosphorus, and sediment sufficiently to remove the Bay and its tidal tributaries from the impaired waters lists by 2010.

In December 2003, the EPA, Pennsylvania, and the other Bay jurisdictions agreed to the nitrogen, phosphorus and sediment allocations that became the basis for “tributary strategies,” designed to remove the Bay and its tidal tributaries from the impaired waters lists by 2010. Pennsylvania completed their plan in 2004.²⁹ The failure to achieve the goal triggered the need to develop the Bay TMDL and its associated implementation-based efforts – a highly flexible and adaptive process in which Pennsylvania has been a full and cooperative participant.

It should also be noted that on May 10, 2010, EPA entered into a Settlement Agreement with CBF and its co-plaintiffs in the *Fowler, et al. v. EPA* litigation.³⁰ Several provisions

²⁹ Pennsylvania’s Chesapeake Bay Tributary Strategy. Prepared by the Pennsylvania Department of Environmental Protection. December 2004.

³⁰ *Fowler v. United States EPA*, 2009 U.S. Dist. LEXIS 132084, 2009 WL 8634683.

of that agreement require EPA to ensure that the Bay Watershed jurisdictions adhere to their two-year milestones and develop rigorous WIP's.³¹

Legal Accountability

Reasonable Assurance. To ensure the restoration of the Chesapeake Bay, EPA developed an “accountability framework” to enforce the commitments of the Chesapeake Bay TMDL. See Bay TMDL at 7-1. Section 303(d) of the Clean Water Act requires that a TMDL be “established at a level necessary to implement the applicable water quality standard.” 33 U.S.C. § 1313(d).³² Water quality standards can only be met if there is reasonable assurance that a TMDL’s load allocations will be achieved.³³ Specifically, for the Bay TMDL, EPA’s “reasonable assurance that nonpoint source load reductions will be achieved is based, in large part, on the new accountability framework.” Bay TMDL at 7-2. The need for reasonable assurance is also supported by Section 117(g)(1) of the Clean Water Act which directs the EPA Administrator to “ensure that management plans are developed, and implementation is begun...to achieve and maintain” the nutrient goals of the Chesapeake Bay Agreement. 33 U.S.C. § 1267(g)(1).

The Bay TMDL accountability framework includes WIPs, two-year milestones and EPA’s tracking and assessment of restoration progress. The primary purpose of the WIP3 is to establish a detailed, yet adaptable, numeric and programmatic plan to

³¹ Paragraph III.B.5 of the Settlement Agreement required final WIP3s by November 1, 2011. That date was adjusted by agreement to March 30, 2012.

Paragraph III.B.6 of the Agreement was modified to provide: Every two years, consistent with the two-year milestone process, EPA will review the progress made by the seven Bay Watershed Jurisdictions with regard to (1) their Watershed Implementation Plan commitments to address program gaps and make reasonable progress towards achieving the pollutant loading reductions identified in the Bay TMDL and (2) their two-year milestone commitments. The first biennial review will be completed in 2012. EPA will complete the 2012 and subsequent biennial reviews by June 30 of the appropriate year. EPA will make the reviews publicly available following their release to the Bay Watershed Jurisdictions. On a continuous basis, EPA will also review the timeliness and content of certain draft NPDES permits in the Bay Watershed as described in Section C. of this Agreement.

Paragraph III.B.7 provides: Consistent with its December 29, 2009 letter [to the Chesapeake Bay Program’s Principals’ Staff Committee], EPA will, as it deems necessary take appropriate action to ensure that the Bay Jurisdictions (1) develop and implement adequate Watershed Implementation Plans and two-year milestones related to nutrients and sediment, (2) demonstrate satisfactory progress toward achieving nutrient and sediment allocations established in the Bay TMDL in a manner consistent with the expectations expressed in EPA’s November 4, 2009 letter [to the Chesapeake Bay Program’s Principals’ Staff Committee], (3) achieve their two-year milestones, and (4) issue NPDES permits consistent with the Bay TMDL’s wasteload allocations.

³² See also 40 C.F.R. § 130.2(i) (defining a TMDL as “[t]he sum of the individual WLAs for point sources and LAs for nonpoint sources and natural background.”)

³³ See, *Am. Farm Bureau Fed’n v. EPA*, 792 F.3d 281, 300 (3rd Cir.2015)(upholding EPA’s interpretation that it “would not blindly accept states’ WIPs but would obtain reasonable assurance that “states’ proposals would actually” achieve water quality standards.)

achieve the cap loads established under the Bay TMDL by December 31, 2025. Further, under the accountability framework there is the potential use of federal contingency actions if jurisdictions fail to meet their commitments under the TMDL. Bay TMDL at 7-5. The potential federal actions, or “consequences,” are listed in the Bay TMDL and further discussed in a December 2009 letter from EPA.³⁴ Among these federal actions are EPA’s ability to expand NPDES permit coverage to unregulated sources; expand oversight of state-run NPDES permitting; require offsets for new or increased loadings; require additional pollution reductions from point sources; increase and target federal enforcement in the watershed; and promulgate federal water quality standards for local nutrient levels. *Id.*

All of these potential federal actions are based on authority held by EPA prior to the existence of the Bay TMDL. See, e.g., 40 C.F.R. § 122.26(a)(9)(i)(C)–(D) (describing EPA’s residual designation authority for un-permitted stormwater discharges); 33 U.S.C. § 1342(d) (describing EPA’s oversight role of all state-issued NPDES permits). Certain WIP- relevant programs are also subject to citizen suit enforcement. See, e.g., 33 U.S.C. § 1365 (Clean Water Act citizen suit provision).

Bay jurisdictions must develop Phase III WIPs that provide EPA with reasonable assurance that the Bay TMDL load reductions will be achieved. Absent this reasonable assurance—and absent continued, demonstrated progress towards meeting reduction targets—EPA can and should use the federal actions detailed in the accountability framework.

Commonwealth to act as Trustee under the Pennsylvania Constitution. Article I, Section 27 of the Pennsylvania Constitution provides the people of the Commonwealth, among other things, a fundamental right to pure water and to the preservation of natural, scenic, historic and esthetic values to the environment.³⁵ Further, this section of the Constitution creates a public trust with the natural resources as the corpus, the Commonwealth as the trustee and the people as the named beneficiaries.³⁶ This provision limits and directs how Pennsylvania government (agencies, general assembly, Governor, etc.) must act towards the corpus. For example, it cannot act contrary to the aforementioned rights of the citizens as well as must treat Pennsylvania’s public natural

³⁴ U.S. EPA, Letter from Region III Administrator Shawn Garvin to Secretary L. Preston Bryant, Virginia Dep’t of Natural Res. (Dec. 29, 2009), available at https://www.epa.gov/sites/production/files/2015-07/documents/bay_letter_1209.pdf.

³⁵ The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania’s public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people. Article I, Section 27 of the Pennsylvania Constitution.

³⁶ See, Art.I, Sec.27 of PA Constitution; *Pa. Env’tl. Def. Found. v. Cmwlth*, 161 A.3d 911 2017 Pa. LEXIS 1393 (Pa. 2017)

resources as the common property of the people, including generations to come.³⁷ Finally, Article I, Section 27 also places a duty on Pennsylvania government to act as a trustee to the natural resources. As a trustee, Pennsylvania must act towards the natural resources with prudence, loyalty and impartiality.³⁸

These Constitutional duties, similar to the federal duties, mentioned above, were in place prior to the existence of the Bay TMDL. It is essential that Pennsylvania agencies, General Assembly and leaders uphold the Constitution they were sworn to protect. The draft WIP3 is deficient in several ways and does not appear to aim for the pollution reduction target that the Chesapeake Bay Program says is necessary to restore the Bay. But more importantly, as described throughout the draft WIP3 what is “great for PA is good for the Bay.” These goals outlined above are not just to restore the Bay, but also to clean, improve and repair the nearly 20,000 miles of impaired streams in Pennsylvania’s bay watershed. Pennsylvania has a legal duty to improve these local waters, the people have a fundamental right to healthy local waters and future generations have a right of common ownership to these public resources.

Conclusion. While Pennsylvania has made significant progress in some areas, more work by state and federal agencies, the regulated community, and the general citizenry is necessary to achieve the requirements set forth in the Clean Water Act and the duties and rights outlined in the Pennsylvania Constitution. The current draft WIP3 represents an integral obligation in that process, as a substantial portion of the remaining pollution reductions will be implemented at the local level. To assure continued success, a modified approach is needed that provides “reasonable assurance” that necessary pollution reductions from *all* sources will be achieved by a date certain.

CBF looks forward to DEP incorporating the following recommendations into the final WIP3 as we believe these recommendations will more fully form a comprehensive strategy to accomplish the actions on the ground necessary for achieving the Bay TMDL. Our recommendations center on achieving, at a minimum, EPA’s expectations for the WIP3.³⁹

PRINCIPLE REACTIONS

The following summarizes CBF’s major reactions to the WIP3:

1. The “Game Plan for Success” was an unparalleled collaborative and constructive process. In short, CBF highly commends DEP’s Chesapeake Bay

³⁷ *Id.* See also, *Center for Coalfield Justice v. DEP & Consol*, EHB No. 2014-072-B, Aug. 15, 2017.

³⁸ *Id.*

³⁹ U.S. Environmental Protection Agency’s Expectations for the Phase III Watershed Implementation Plans <https://www.epa.gov/sites/production/files/2018-06/documents/epa-phase-iii-wip-expectations-6-19-18.pdf>

Program Office consisting of Veronica Kasi (program manager) Kristen Wolf (coordinator), Ted Telser (geologist), Natahnee Miller (program specialist), and Stephanie Wilfong (administrative officer), Secretary Dunn (Department of Natural Resources & Conservation), Secretary McDonnell (DEP), Secretary Redding (Department of Agriculture) and the entire Steering committee, workgroups, and supporting organizations and agencies for the nearly two-year process to develop the WIP3. The 2017 “Game Plan for Success”⁴⁰ resulted in unparalleled constructive collaboration, communication, and deliberation among the Steering Committee and established workgroups. Frankly, if such a process were undertaken to this degree in the previous planning processes (i.e., Tributary Strategy, Phase 1 WIP, Phase 2 WIP), the Commonwealth would certainly be in a much more advantageous position regarding the WIP3.

The “Pyramid for Success” is not explicitly evident, considered, described, or planned. The plan describes and myriad of existing and potential programs, policies, practices, and such. The plan prioritizes through a tiered analysis the 43 counties wholly or partially in Pennsylvania’s Bay watershed. The plan ranks the practices and their level of implementation. But, the plan does not adequately prioritize the critical endeavors necessary to establish the capacity and momentum towards rapidly increasing the pace of implementation and thus pollution reduction. This should be rectified in the final plan.

To be successful, the WIP3 needs to have continuous collaboration financially, technically, and logistically. Given the size scale and magnitude of the endeavor, along with the phased approach to county-level plan development, continuous Steering Committee and workgroup meetings are necessary to move forward, refine and define actions and outcomes.

The following narrative represents the detailed comments and recommendations regarding the WIP3, including suggestions to enhance the document and, ultimately, its success.

DETAILED ANALYSIS

As noted above, in June 2018 the EPA established a detailed set of WIP3 expectations for the watershed jurisdictions including specific items for Pennsylvania. Given the significance of these expectations, we generally assessed the WIP3 based the goal of offering suggestions intended to assist the Commonwealth in meeting and exceeding EPA’s expectation. This included a separate section of eight key components for Pennsylvania:

⁴⁰ Pennsylvania Phase 3 Watershed Implementation Plan Steering Committee. Game Plan for Success. Revised May 8, 2017.

1. Local planning goals, showing how the Phase III WIP goals will be achieved through action at county, municipal, and/or sub-watershed scales — especially in priority areas in the Susquehanna and Potomac River watersheds where the most impact to the Bay and local water quality can be achieved. A wealth of decision support tools and high-resolution information is now available to assist in identifying sources of nutrients and sediment, determining appropriate practices to reduce pollution flows, and calculating costs associated with selected actions such as the Chesapeake Bay Assessment and Scenario Tool (CAST): <http://cast.chesapeakebay.net/>. In addition, the U.S. Geological Survey (USGS) identified sources of nitrogen, phosphorus, and sediment within the Chesapeake Bay that can help Pennsylvania and its local partners determine where to target their efforts: <https://water.usgs.gov/nawqa/sparrow/>;

2. Demonstrated collaboration among local governments, state agencies, watershed and other citizen organizations, academic institutions, agricultural sector leaders, farmers, stormwater and drinking water utilities, source water specialists, and others as partners **in identifying, planning for, and implementing the agricultural, urban stormwater, and wastewater actions needed to meet Pennsylvania’s 2025 Bay TMDL goals;**

3. Commitment to programmatic, policy, legislative, and regulatory changes needed to implement Pennsylvania’s Phase III WIP and meet Bay TMDL goals. Examples of this commitment, previously discussed with Pennsylvania, include:

a. Public identification of priority practices and priority watersheds to target resources and implementation to maximize nutrient and sediment pollutant load reductions, consistent with the tiered approach for those highest nutrient loading counties. EPA expects Pennsylvania to share the results of the county pilots in Adams, Franklin, Lancaster, and York Counties after they are conducted this summer to determine if EPA funding and resources need to be redirected towards more priority practices and geographic areas;

b. Implementation of initiatives, including Agriculture Recognition Programs and Agricultural Certainty, designed to implement nutrient management planning and other priority agricultural best management practices (BMPs);

c. Restrictions on manure application during winter months to protect drinking water sources and ensure local and Chesapeake Bay water quality protection, and a plan for proper management of manure during the winter months;

d. Extension of Chapter 38 nutrient management requirements to all animal and crop operations through statutory, regulatory and/or policy changes, as necessary;

e. Implementation of manure treatment and manure transport programs for areas of manure imbalance;

f. Development and implementation of a state agricultural cost share program to assist farmers in implementing priority agricultural conservation practices that are called for in Pennsylvania's WIP and to address local water quality impairments;

g. Development of agricultural tax credit programs that incentivize compliance with state regulatory requirements and higher levels of agricultural conservation practice implementation. For example, link the Clean and Green tax credit program to compliance with the state agricultural regulatory requirements and consider higher tax credits for higher levels of agricultural conservation practice implementation; and

h. Revision of state trading regulations and NPDES permits to address trading program deficiencies and facilitate municipal separate storm sewer (MS4) and interstate trading in order to allow permittees to manage their compliance obligations cost effectively and leverage nitrogen and phosphorus reductions.

4. Commitment to the level of staff, partnerships, and financial resources needed to fully implement the practices, treatments, and technologies necessary to achieve Pennsylvania's Phase III WIP planning targets, including maximizing capacity between the Pennsylvania state agencies to fund and implement grant commitments. An example of this commitment includes:

a. Perform a workload analysis of the Commonwealth's core state programs, voluntary programs, and grant programs to identify the level of staffing necessary to meet Chesapeake Bay Implementation goals and submit this analysis and a resource strategy, detailing the actions and schedule necessary to address staffing resource needs;

5. Continuing to track, report, and participate in quarterly grant meetings with EPA to demonstrate Pennsylvania's commitment to reduce the amount of unspent or unliquidated obligations (ULOs) for Chesapeake Bay Regulatory and Accountability Program (CBRAP) and Chesapeake Bay Implementation Grant (CBIG) grant funding;

6. Contracting out or otherwise obtaining services of a third party to perform activities central to the implementation of the Phase III WIP;

7. Modification of the current expected reductions for the Urban/Suburban Stormwater sector; and

8. Commitment to additional reductions of loadings from point sources to include reductions in current facility specific wasteload allocations for the significant municipal and industrial wastewater discharging facilities in order to increase the share of the allocations to stormwater and/or agriculture.

It is important to note that EPA also highlighted several areas where Pennsylvania has not adequately addressed challenges in the Phase 1 and 2 WIPs:

- *Increasing levels of BMP implementation resulting from both programmatic improvements and increases in implementation and targeting of priority practices in the Agriculture and Urban/Suburban Stormwater sectors;*
- *Targeting geographic areas with the greatest nutrient pollutant load reduction potential for the Chesapeake Bay in order to target funding to the most effective practices and watersheds;*
- *Revising its October 2010 Nutrient Trading Program regulations to address both the issue of the agriculture baseline being consistent with the Bay TMDL and nutrient credit calculation, as well as reconciling and updating these regulations with the trading policies Pennsylvania placed on its Chesapeake Bay Nutrient Trading website in late 2014 and in its Phase II WIP Supplement in 2016;*
- *Ensuring farms are implementing manure management plans as required by Chapter 91.36 and Erosion and Sediment Control or Conservation Plans per Chapter 102, and that Pennsylvania is using its authority to ensure BMPs are being implemented per those plans;*
- *Pursuing advanced technologies to address manure, and providing additional BMP alternatives if technologies are not providing the intended results; and*
- *Revising the Stormwater Management BMP manual.*

Our detailed comments and recommendations below assess whether the WIP3, in our opinion, meets and/or exceeds six of the eight elements and addresses the outstanding concerns from the Phase 1 and 2 WIPs. We do not address expectations #5. and #7. above as these expectations are either being met or discussed in more detail in another section.

A WIP3 that does meet or exceed these elements will help ensure the Commonwealth meets commitments to avoid significant negative impacts of EPA consequences to Pennsylvania's farmers, families, and economy, and also provide the platforms for success to implement the WIP3 with at least \$6.2 billion in additional ecosystem services.⁴¹

MISCELLANEOUS

⁴¹ The Economic Benefits of Cleaning Up the Chesapeake: A valuation of the natural benefits gained by implementing the Chesapeake Clean Water Blueprint. October 2018. <https://www.cbf.org/document-library/cbf-reports/the-economic-benefits-of-cleaning-up-the-chesapeake.pdf>

Reorganize the plan for greater clarity and consistency. The plan should be organized in such a way that it can walk the reader through a path going from the reduction goals to the expected reductions. This path could, ideally, include the following elements: Resources; Legislation; Regulation/Policies; Programs; Projects/Implementation; Follow-up Assessment; Achievement of Reduction Targets; Appendices

Upon analyzing the document, CBF staff found that while generally, these elements exist, they tend to be distributed throughout the document in a way that makes it a challenge to follow their path. Ideally, a flowchart listing all of these elements, and the specific programs/actions/etc. that comprise them, should be included in the plan for easy reference (and ideally, the document would then follow the plan of the flowchart).

More importantly, as discussed above, these elements should always stay focused on the nutrient reduction goals. For example, within Section 2, State Actions, there is an entire subsection dedicated to state programmatic commitments; however, there is nothing that explains how much nutrient and sediment reduction to local waters or the Chesapeake Bay are achieved by the commitments listed. There is little that directly connects the programmatic commitments (which largely describe legislative, regulation, policy, and funding ideas) to the priority initiatives described in the sector-specific subsections that precede (e.g. agriculture, stormwater). It should be noted, however, that the priority initiatives do include estimated nutrient reductions and costs, and quantitative intermediate goals. However, the quantitative information that connects the intermediate goals to the estimated nutrient reductions should be included to provide reasonable assurance.

It is unclear whether the accompanying documents are to be considered as appendices to the WIP3 or not. Since the comment period opened, these accompanying documents as well as the general webpage has significantly changed. Some of the accompanying documents are now difficult to locate and it has become quite unclear as to what is actually part of the draft WIP3. Some of these accompanying documents include, but are not limited to, County Info, DoD Plan, BMP Verification Program Plan and Workgroup Recommendations. We believe these documents are, or should be, included as appendices to the final WIP3 and thus should be referenced and cited throughout the document as such and actually included in the final document as opposed to additional links.

The extensive collaboration and conversations by the workgroups is not adequately represented. At a minimum, the WIP3 should include summary reports detailing the processes, deliberations, and conclusions of each workgroup, including various scenarios considered.

EPA's nitrogen to phosphorus conversion factors, mentioned on several occasions throughout the document, **are not explained or referenced**. Given the nature of the issue, it is recommended that DEP provide a robust explanation.

Throughout the document, **summarizations of and citations for reports, articles, and data are not presented** as there are no footnotes or bibliography as part of the draft WIP3.

DEP should present the area loads per land use along with the best management practice (BMP) efficiencies in an additional Appendix. Although this information is available from the EPA Chesapeake Bay Program, it can be difficult and time-consuming to locate. Reviewers of the draft WIP3 who do not have the capacity to seek this information but do have an interest in it, would benefit from its presentation in the draft WIP.

“PYRAMID FOR SUCCESS”—HOW IT ALL FITS TOGETHER AND IN WHAT ORDER

Conceived of by the famous basketball Coach John Wooden, the concept of a Pyramid for Success is a roadmap for achieving excellence.

When considered in its totality, **the draft WIP3 seems to be missing a pyramid of success: a clear, detailed, prioritized sequence of initiation and timelines of the myriad of recommendations that will serve as the incremental building blocks for rapid acceleration in the pace of implementation.**

Consider the process to build a car. As written, the plan is like an inventory of the parts of a car, with costs and quantities of each part and in total, along with a commitment to have it built by the end of 2025. However, the plan neglects clear assembly instructions. Nor does it contain a describe the sequencing of the assembly. One cannot put the wheels on a car before one assembles the axels. Nor can one identify all the tools one would need to have in the shop to build the car, but provide vague instructions on how to use them, or when.

To ensure that what is described occurs in the most efficient and rapid pace practicable, the draft plan should be revised to add a clear set of instructions—the sequencing of the myriad of recommendations, based on their significance and importance to the success of subsequent endeavors, so build a sound and sustainable implementation strategy—a pyramid for success for 2025 and beyond.

CONCLUSION

CBF, again, commends DEP and the thoughtful, collaborative approach to drafting the WIP3. This collective effort shows a committed effort to be inclusive of all stakeholders involved that are needed for restoring Pennsylvania’s local waters as well as the Chesapeake Bay.

Critically, the draft WIP3, as written, falls short of reaching the Bay TMDL goals, specifically for total nitrogen reductions. To provide reasonable assurance to reach these goals, additional measures will be necessary to have fully funded and implementable programs in place reducing the pollutant loads necessary by 2025.

The plan also requires additional details, including narrative explanation, and quantification of recommendations. Fundamentally, the plan requires a clear implementation plan predicated on a pyramid for success-like approach.

CBF looks forward to DEP considering these comments and incorporating the above recommendations into the final WIP3 as well as working closely with the legislature to have a comprehensive strategy in place which will accomplish the actions necessary for achieving the Bay TMDL. (32)

RESPONSE

Thank you for your support of the collaborative approach taken to develop the Phase 3 WIP. Pennsylvania's ability to reach its goals requires collaboration with and support from all levels and branches of government as well as private-sector partners. DEP believes the Phase 3 WIP is realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. DEP and its sister agencies look forward to working with the Chesapeake Bay Foundation and other organizations like it to ensure successful implementation of the Phase 3 WIP.

The Phase 3 WIP is built on a holistic approach of technical and financial assistance with compliance and enforcement strategies where necessary and appropriate to accelerate Pennsylvania's progress towards achieving restoration goals. More importantly, it recognizes the importance of beginning with locally defined priorities and initiatives, then building the tools and infrastructure needed to achieve these local goals.

Relative to the list of eight EPA Expectations referenced, Pennsylvania believes it has met or exceeded all eight.

1. The Phase 3 WIP includes local planning goals. Pennsylvania has documented the level of collaboration implemented to develop the Phase 3 WIP; identified the necessary programmatic, legislative, and regulatory changes needed to improve Pennsylvania's capacity to achieve the nutrient planning targets; completed the requested workload analysis; and evaluated all the options for nutrient reduction EPA listed for incorporation into the Phase 3 WIP.
2. DEP continues to track grant funding and meet with EPA on a regular basis.
3. DEP continues contracts with Water Words That Work, Consulting with A Purpose, the University of Virginia, and the Susquehanna River Basin Commission to provide various services to implement the Phase 3 WIP. There

are also a number of other grants and contracts in place or proposed to implement other aspects of the Chesapeake Bay Program, such as BMP Verification, Data Management and technical assistance and engineering support.

Specific to the comments above about the following elements that should be included in the final Phase 3 WIP:

1. All the referenced documents are considered part of the Phase 3 WIP and are integral to describing a clear message as to how provisions of the Phase 3 WIP will be implemented. Since they are also stand-alone documents to be used to implement various aspects of the Phase 3 WIP, incorporation into the actual Phase 3 WIP is viewed as problematic. With that said, efforts have been made to clarify the connection between these documents and the Phase 3 WIP document itself. These documents are now listed as addendums to the Phase 3 WIP.
2. Minutes of the workgroup meetings were taken, but not necessarily in a format that is conducive for easy incorporation into the final Phase 3 WIP document. These seven workgroups, the Workgroup Co-Chairs all met on a monthly basis. Some met even more frequently. Included with the Phase 3 WIP is a summary of all final workgroup and county recommendations. In addition, meetings of the Steering Committee are all recorded and posted on the DEP website.
3. DEP made revisions to provide a better flow for how the numbers merge together in the final Phase 3 WIP and to identify which initiatives achieve reductions and which are programmatic, legislative, or regulatory changes needed to address gaps in capacity per the EPA Expectations.
4. The Chesapeake Bay Program Partnership agreed the Chesapeake Bay Watershed Model would be the tool used by all members to calculate efficiencies and loadings for the Phase 3 WIPs to demonstrate achievement of the planning targets. Documentation of how the Phase 6 version of the Chesapeake Bay Watershed Model works, its data inputs, and BMP efficiencies is the responsibility of the EPA Chesapeake Bay Program Office, as support to the Chesapeake Bay Program Partnership. It is not the responsibility of any one member of the Chesapeake Bay Program Partnership to provide this documentation within the contents of its Phase 3 WIP. Readers wanting this information should reference the documentation provided by the EPA Chesapeake Bay Program Office on their website at www.chesapeakebay.net.
5. Footnotes, annotations and citations to various reports have been added, where appropriate.
6. The sequence of steps or “Pyramid of Success” is identified in the Milestones and Progress Reporting Template, complete with deliverables, responsible parties and timeline. This template is the same workplan template used by the Chesapeake Bay

Program for the workplans for all 31 outcomes in the 2014 Watershed Agreement and seems to work well. The template will be updated on a two-year basis.

41. COMMENT

34. Jessica Blackburn, Chesapeake Executive Council, CAC -

On behalf of the Pennsylvania Delegation of the Citizens Advisory Committee (CAC) to the Chesapeake Executive Council please find the following comments on Pennsylvania's draft Phase III Watershed Implementation Plan (WIP).

First, we recognize how far the Bay watershed recovery efforts have come since *The Chesapeake Bay Agreement of 1983* and since the 2010 TMDL was established.

Secondly, we commend Pennsylvania for the thorough process of participation utilized to develop the Phase III WIP. Broad opportunities for public and industry participation were developed at the sector level and the local county level. Numerous sequential discussions on the challenges and opportunities that define the draft WIP provided forums to collect input from both seasoned voices of experience who have been through the process previously and individuals who are new to the effort and bring fresh ideas. The process to assist counties in developing local implementation plans was well developed and well supported by the Department of Environmental Protection resources, EPA Chesapeake Bay Program Office staff expertise, and other crucial players such as Susquehanna River Basin Commission and US Geological Survey, in addition to local groups and expertise.

We encourage the Commonwealth to remain steadfast in its efforts to fully implement the plan. Thank you for the opportunity to comment on Pennsylvania's draft Phase III WIP. We look forward to hearing how the final Watershed Implementation Plan considers and/or addresses these and other public comments. (34)

RESPONSE

DEP believes the Phase 3 WIP is realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. DEP and its sister agencies look forward to working with the Chesapeake Bay Program Citizen Advisory Committee and other similar organizations to ensure the success of its implementation

42. COMMENT

35. Allyson Gibson, Lancaster Clean Water Partners -

Review of BMP effectiveness table: The values for effectiveness aren't adaptable to their actual implementation. For example, why is streambank restoration (lineal feet) not also based on the height of the bank and its erosive characteristics?

I have been unable to find documentation nor reach anyone able to explain to me how the pollutant loading values were attributed to each County in Table 2.4. Similarly,

information has not been made available as to how the proposed BMPs in Lancaster County's CAP resulted in the expected pollutant load reductions in Table 3.2. While I doubt that I'd quibble with someone's judgment in making such assignments, we need the math (input parameters & algorithms) in order to explain and further establish our own decision matrix for distributing the work to be done. Please show us the math. (35)

RESPONSE

The BMP effectiveness and calculations used for Lancaster County's CAP all came from the Chesapeake Bay Program Partnership and the Chesapeake Bay Watershed Model. The Chesapeake Bay Program Partnership agreed the Chesapeake Bay Watershed Model would be the tool used by all members to calculate efficiencies and loadings for the Phase 3 WIPs to demonstrate achievement of the planning targets. Documentation of how the Phase 6 version of the Chesapeake Bay Watershed Model works, its data inputs, and BMP efficiencies is the responsibility of the EPA Chesapeake Bay Program Office, as support to the Chesapeake Bay Program Partnership. Readers wanting this information should reference the documentation provided by the EPA Chesapeake Bay Program Office on their website at www.chesapeakebay.net.

43. COMMENT

36. Renee Reber, American Rivers [for Pennsylvania Stormwater Workgroup for Clean Water] -

Pennsylvania's Stormwater Workgroup for Clean Water (Workgroup) is pleased to provide comments on the Pennsylvania Department of Environmental Protection's (Department or DEP) draft Phase 3 Chesapeake Bay Watershed Implementation Plan (WIP).⁴² The Workgroup is a coalition of citizen-based watershed groups and individuals from across the Commonwealth focused on protecting waterbodies from the effects of stormwater runoff and has long advocated for effective stormwater management for all of Pennsylvania's waterways. The Phase 3 WIP will guide Pennsylvania to implement the necessary programs and policies that will ensure all practices are in place by 2025 to meet the goals of the Chesapeake Bay Total Maximum Daily Load (TMDL) and improve local water quality.

We applaud the Department for the enormous effort put forth in the Phase 3 WIP development process. We recognize the value of DEP's bottom-up approach, inclusion of stakeholders, commitment to meeting the 2025 goals, and attention to local water quality improvement. Collectively, these are all key ingredients to creating the partnerships and momentum to implement the WIP. (36)

RESPONSE

DEP believes the Phase 3 WIP is realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of

⁴² The Pennsylvania Department of Environmental Protection. 2019. Draft Pennsylvania Phase 3 Chesapeake Bay Watershed Implementation Plan. Available at: http://files.dep.state.pa.us/Water/ChesapeakeBayOffice/WIPIII/DraftPlan/PA_Phase_3_WIP_FinalDraft.pdf.

many diverse partners. DEP and its sister agencies look forward to working with the Stormwater Workgroup for Clean Water and other similar organizations to ensure the success of its implementation.

44. COMMENT

38. Katlyn Schmitt, Waterkeepers Chesapeake -

The undersigned members of Waterkeepers Chesapeake (WKC) thank you for the opportunity to provide comments on Pennsylvania’s draft Phase III Watershed Implementation Plan (hereafter, WIP) to restore the Chesapeake Bay by 2025. Waterkeepers Chesapeake is a coalition of eighteen Waterkeepers, Riverkeepers, and Coastkeepers working to make the waters of the Chesapeake and Coastal Bays swimmable and fishable – working across Pennsylvania, Maryland, and Virginia.

We appreciate the opportunity to submit public comments on this plan and commend the Pennsylvania Department of Environmental Protection (DEP) for providing ongoing in-person and in-depth developments of the plan as well as a commitment to a bottom-up collaborative approach to achieve our pollution reduction goals. With an adequate WIP in place, Pennsylvania will be able to move forward with the assurance that the programs, policies, funding, regulations, and incentives will ensure the state meet the 2025 goals under the Chesapeake Bay Total Maximum Daily Load (TMDL), and more importantly, improve the health of local Pennsylvania streams. Despite many of the well thought-out aspects of the draft WIP,⁴³ this comment will focus primarily on the areas in which the WIP can be improved to reflect the needs of our 2025 goals.

We appreciate this opportunity to comment on how Pennsylvania can make the Phase III WIP a true roadmap for achieving our 2025 water quality goals. We view the WIP as Pennsylvania’s best opportunity to reaffirm and invest in a holistic and comprehensive water quality restoration approach that ensures more nonpoint source pollution projects go into the ground faster and are well-maintained. The WIP requires substantial revisions to acknowledge that goal. We encourage Pennsylvania to include more concrete and strategic plans, as well as more consistent and factually accurate information in the final WIP. Without this information, the state is missing an important opportunity to set a successful course for the final phase of the Chesapeake Bay TMDL. If you have any questions, please contact Katlyn Schmitt, Staff Attorney at Waterkeepers Chesapeake, at katlyn@waterkeeperschesapeake.org. (38)

⁴³ For example, the seven high priority agricultural best management practices (BMPs) recommended by the Steering Committee Agricultural Work Group and included in the draft WIP appear to be well-chosen because they are well-established and cost-effective. These practices include compliance with agricultural erosion and sediment control plans; manure and nutrient management plans and barnyard runoff controls; soil health practices (conservation tillage or no-till and cover crops); expanded nutrient management; use of proper manure storage facilities; precision feeding; integrated systems for elimination of excess manure from the watershed; and forested and riparian buffers.

RESPONSE

The final Phase 3 WIP has been revised to add more detail describing how the priority initiatives will be implemented based on the comments received and EPA's evaluation of the draft Phase 3 WIP. With these additions, the final Phase 3 WIP addresses these comments while providing a realistic and implementable path forward to achieve the necessary reductions to meet the planning targets by 2025.

45. COMMENT

39. Jenna Mitchell, Alliance for the Chesapeake Bay -

Thank you for the opportunity to provide comment regarding Pennsylvania's draft Phase III Watershed Implementation Plan (WIP). The Alliance for the Chesapeake Bay has been involved with various advisory groups over the last few months, and have provided our voice to your efforts. We commend you on the unprecedented level of state-agency coordination.

Overall, we offer the following comments regarding this draft document:

- The Alliance commends Pennsylvania's Secretaries of the Department of Conservation and Natural Resources, Environmental Protection and Agriculture for working collaboratively to develop Pennsylvania's Phase II WIP. The Alliance hopes that Pennsylvania contributes significant funds to restoration efforts in order to accomplish the Phase III WIP goals. (39)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Pennsylvania's ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners.

However, DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. DEP and its sister agencies look forward to working with the Alliance and other partners to ensure successful implementation of the Phase 3 WIP.

46. COMMENT

40. Patrick Thompson, EnergyWorks Group -

We have focused our review of the Draft Phase 3 WIP on the area where we have been directly involved and gained expertise in providing solutions to reduce animal agriculture pollution over the past twelve years. We have been disappointed at the lack of attention given to technology solutions during the two- year effort to develop the plan. Technology suppliers and solutions integrators were not included as stakeholders in the planning process. We hope this will change as the plan is finalized.

The attached comments are intended to provide perspective on the opportunity technology solutions offer for reducing cost and closing the gap in meeting the 2025 TMDL nitrogen reduction goal. We look forward to supporting the WIP Steering Committee and Workgroups in development of the final plan. (40)

RESPONSE

The draft Phase 3 WIP identified Manure Treatment Technologies (MTTs), as one of the seven priority actions that are to be implemented in the watershed to address agriculturally sourced nutrient loadings. The final Phase 3 WIP expands on this activity as initially proposed and calls for the implementation of this practice to its full extent across the watershed to eliminate nutrient excesses in all 21 counties identified as having a nutrient excess. The current Chesapeake Bay Watershed model provides nutrient reductions for this practice only where it is implemented to remove excess nutrients in a county, with no reduction shown for removing manure to any greater extent. Therefore, this practice is only prioritized for use in counties where there is calculated to be a nutrient excess, and only to the extent to eliminate that excess. DEP is in discussions with EPA and our partner Chesapeake Bay states to redefine how nutrient trading credits are calculated for manure treatment technologies (MTT), as suggested in your comments. This revised MTT nutrient trading credit calculation methodology is expected to be completed by the end of 2019.

47. COMMENT

22. Charles Hegberg, reGENESIS Consulting Services & Infinite Solutions - The U.S. Biochar Initiative (USBI) <https://biochar-us.org/> and the Eastern Biochar Group would like to submit the following information and comments to the record. Biochar in the Chesapeake Bay Watershed would really make a difference.

The Eastern Biochar Group, along with the U.S. Biochar Initiative (USBI), have searched the draft WIP III with the expectation that recognition would have been given to the efficacy of biochar for urban and agricultural nutrient reduction, runoff infiltration, and reduction of stormwater runoff. Despite the growing interest and application of biochar throughout the world, including the Chesapeake Bay watershed, it was evidently overlooked in the draft WIP III. Since 2011 (Phil Covell, 2011), in which WIP II support for biochar was deferred pending further investigation, pervasively positive research findings regarding the ability of biochar to cost- effectively improve environmental conditions have grown exponentially, along with the capacity of the U.S. biochar industry to supply the growing demand. Recognition of biochar as a national asset rose to the point that the President endorsed biochar as a lever for assisting the forest products industry in Executive Order 13855 signed on December 21, 2018.

In anticipation that the Chesapeake Bay watershed was on the verge of a breakout of biochar projects that would greatly assist in meeting assigned Bay TMDL targets, last August USBI conducted their annual U.S. conference, Biochar 2018 – The Carbon Link in Watershed Ecosystem Services, in Wilmington, DE. With the generous support of the US EPA Region 3 Water Protection Division, the US Forest Service, the University of

Delaware, Delaware State University, Water Environment Federation, American Water Resources Association, and the Water Research Foundation nearly 400 professionals from 34 states and 30 countries attended. The University of Delaware has been heavily engaged in biochar research since 2007, with funding from the National Fish and Wildlife Foundation (NFWF) and the Transportation Research Board (TRB), for its potential to reduce nutrient loads from stormwater runoff and the findings have been very encouraging (Imhoff, 2017). The research results have proven so significant that other Department of Transportation Agencies including PennDOT and PADEP for urban soil restoration has begun to seriously consider the use of biochar and the development of many stormwater related projects involving biochar integration into common stormwater devices.

The EPA Region 3 Deputy Director for Water Protection, Dominique Lueckenhoff, participated in Biochar 2018, delivering a keynote speech, along with her deputy reinforcing their strategic commitment in a panel discussion. Despite Ms. Lueckenhoff's subsequent retirement, Region 3 remains active in support of biochar efforts as a major aspect of the Smart Green Corridors initiative (DL-R3, 2018). Other highlights of Biochar 2018 included a presentation by Dow Chemical on their work using biochar to remediate mercury contamination of soils along the South River in Virginia and a presentation by representatives from Stockholm, Sweden on the use of biochar in urban tree plantings, which improves both water quality and tree survival.

Biochar is particularly useful for nutrient management, manure management (Manure Treatment Technologies Expert Panel, 2016), soil health, and water quality (a primary current concern of the EPA). Poultry waste has been a burden in the region and turning it into biochar has been touted as better for the environment than spreading it on agricultural fields. (Chesapeake Bay Commission, 2012). In Maryland, conversion of manure to biochar is listed as a means of earning nutrient removal credits. Efforts to achieve zero waste goals will be aided by conversion of, not just manure, but all manner of available organic materials to biochar. States such as Maryland, seeking to transition to renewable energy sources, will benefit from the thermal conversion process of making biochar, wherein useful forms of energy can be a coproduct. A few papers from 2018, summarizing and advancing understanding of biochar in environmental applications, are listed below under "For Further Reading."

Immediate benefits derived from solving nutrient, manure, soil, energy, and water problems are compounded over centuries due to biochar's longevity in the environment -- at least an order of magnitude greater than compost. And, since biochar is composed largely of photosynthetically collected, pyrolyzed carbon, which would otherwise find its way relatively quickly into the atmosphere as greenhouse gas, the remarkable stability of biochar makes it a carbon sequestration tool. A thoughtfully designed system of biochar manufacture, delivery, and application (and re-application in the case of nutrient filters later used as soil amendments, for example) easily qualifies as a negative emissions technology, i.e. drawing down atmospheric carbon.

When its unmatched versatility gets confused with indeterminacy, biochar is sometimes left out of the solution set. When you are looking for the best performing material for filtration, or soil health, or reducing runoff, it may not be biochar in every case, but when you look at all of the simultaneous benefits biochar brings in these areas together with its ability to reduce greenhouse gas emissions, it is a very compelling product. As Dominique Lueckenhoff (and all of us) like to say, “Biochar. We put that on everything.”

We respectfully request that the officials making the WIP III update add verbiage supporting widespread use of biochar in farms, forests, and cities to accelerate progress in reaching the Bay water quality targets.

West Virginia has shown the way in their draft update. They are fortunate to have an early adopter of biochar (Frye Poultry) in their state who uses poultry litter to make biochar on site. The original demonstration biochar manufacturing technology used by Joshua Frye in 2007 has since grown into a full-scale commercial enterprise capable of charring 50 tons per day of biomass including manure and has been replicated around the world. The Eastern Biochar Group has convened a group of interested organizations, government agencies, educators, businesses and non- profits which continue to work to educate and to drive biochar as a green environmental and economic driver.

[references and additional readings in attachment] (22)

RESPONSE

The draft Phase 3 WIP identified Manure Treatment Technologies (MTTs), as one of the seven priority actions that are to be implemented in the watershed to address agriculturally sourced nutrient loadings. The final Phase 3 WIP expands on this activity as initially proposed and calls for the implementation of this practice to its full extent across the watershed to eliminate nutrient excesses in all 21 counties identified as having a nutrient excess. The current Chesapeake Bay Watershed model provides nutrient reductions for this practice only where it is implemented to remove excess nutrients in a county, with no reduction shown for removing manure to any greater extent. Therefore, this practice is only prioritized for use in counties where there is calculated to be a nutrient excess, and only to the extent to eliminate that excess. DEP is in discussions with EPA and our partner Chesapeake Bay states to redefine how nutrient trading credits are calculated for manure treatment technologies (MTT), as suggested in your comments. This revised MTT nutrient trading credit calculation methodology is expected to be completed by the end of 2019.

Program Commitments (Section 2) Legislative

48. COMMENT:

18. Kevin Sunday, Pennsylvania Chamber of Business and Industry -

4. Adopt Legislation Allowing Public-Private Partnerships in Stormwater and other Water/Wastewater Projects:

The PA Chamber has long advocated that Pennsylvania consider the adoption of legislation authorizing counties and local governments, as well as Commonwealth agencies, to enter into public-private partnership (P3) transactions for various types of infrastructure and other projects. Although the General Assembly has done so in relation to transportation projects via Act 88 of 2012, counterpart authorizing legislation for other types of projects, including water, wastewater and stormwater, has been proposed but not progressed to fruition.

The viability of this tool in the field of stormwater is underscored in the EPA report, *Community Based Public Private Partnerships and Alternative Market-Based Tools for Integrated Green Stormwater Infrastructure* (April 2015).⁴⁴ This approach has been utilized successfully in our neighboring state of Maryland, where the Prince Georges County Clean Water Partnership was launched in 2014 via a P3 involving the county and Corvias Solutions.⁴⁵ In that area, traditional project delivery methodologies and procurement could have been utilized to address the stormwater issues (including Chesapeake Bay requirements). However, as described in the project's website, "given the magnitude of the challenge of retrofitting 2,000 impervious acres with Green Infrastructure, with the flexibility to potentially grow to 15,000 acres of untreated impervious area by 2025, and an estimated cost of \$100 million, an alternative solution was sought." Under that community-based P3, solutions were sought via a competitive proposal process. The selected solution involves a private partner, Corvias, is leading a \$100 million/30-year effort involving planning, financing, design and execution of projects (including many green infrastructure projects) across the entire watershed, with the private financing to be repaid via a stream of payments from the County's stormwater fee program. Instead of a myriad of literally hundreds or thousands of procurements for individual projects conducted on a design-bid-build basis, this P3 approach brings to the table both financing and private expertise to more efficiently identify and execute cost-effective projects.

⁴⁴ Community Based Public-Private Partnerships (CBP3s) and Alternative Market-Based Tools for Integrated Green Stormwater Infrastructure. U.S. Environmental Protection Agency Region 3 Water Protection Division, April 2015. https://www.epa.gov/sites/production/files/2015-12/documents/gi_cb_p3_guide_epa_r3_final_042115_508.pdf.

⁴⁵ See <https://thecleanwaterpartnership.com/>.

While no tool is a panacea, public-private partnerships are a tool that definitely should be added to the tool box. The Department and Administration should work with the General Assembly to move forward expeditiously with legislation that permits P3 transactions via competitive proposal procurement procedures in the water, wastewater and stormwater sectors. We must also note that P3's can be a tool used to achieve meaningful, verifiable pollutant reductions; any enabling legislation must not establish additional mandates or obligations, particularly on sectors that have already achieved the necessary reductions in nutrient loading. (18)

RESPONSE

The draft Phase 3 WIP discussed the same contractual restrictions local governments in the Commonwealth face as the commentator identified, and this section has been expanded in the final WIP (see Section 2.IX.A.2.c.). This initiative to facilitate public-private partnerships is one of the many priority legislative initiatives identified in the Phase 3 WIP. Pennsylvania's ability to reach the goals of the Phase 3 WIP requires collaboration with and support from all levels and branches of government as well as private-sector partners. Although DEP cannot control what legislation the General Assembly moves forward, DEP is open to discussing how to implement this and other creative ways to cost-effectively achieve verifiable pollutant reductions and to engage private sources of capital in financing conservation practices. DEP and its sister agencies look forward to working with the General Assembly to ensure successful implementation of the Phase 3 WIP.

49. COMMENT:

23. Alice Baker, PennFuture -

c. Lack of Legislative Initiative Undermines Effective Pollution Reduction Measures.

The draft WIP3 identifies a number of legislative actions that would provide authority to achieve significant reductions necessary to comply with the Chesapeake Bay TMDL. For example, the draft WIP3 notes the necessity to revise to Pennsylvania's Clean Streams Law to allow fencing for the purpose of keeping farm livestock out of the streams.⁴⁶ However, without these initiatives being a priority to our state elected officials, there is little likelihood that they will be advanced, hindering Pennsylvania's ability to comply with required TMDL reductions. Without the authority to enact the necessary pollution reducing elements, the Department fails to provide reasonable assurance that expected load reductions will be achieved. (23)

RESPONSE

DEP and its sister agencies are committed to successful implementation of the Phase 3 WIP, but fully achieving the goals of the Phase 3 WIP will require substantial support

⁴⁶ *Id.* at 52.

from the General Assembly, as evinced by the numerous legislative initiatives detailed in Section 2.IX.A. DEP and its sister agencies look forward to working with the General Assembly to ensure successful implementation of the Phase 3 WIP.

50. COMMENT:

32. H L Campbell, PA Chesapeake Bay Foundation -

Agriculture

The Clean Streams Law needs to be amended to require livestock exclusion from streams.

CBF supports the proposed repeal or amendment of Section 702 of Pennsylvania's Clean Streams Law (CSL), 35 P.S. 691.702. Currently, this section of the CSL explicitly bans the Commonwealth or any political subdivision from "requiring any person to erect a fence along a stream in a pasture or other field used for grazing of farm livestock for the purpose of keeping farm livestock out of the stream." *Id.* By repealing this section of the CSL this would reduce streambank erosion, cut bacterial loads, allow vegetation to grow, and improve livestock health with less exposure to pathogens. (32)

Urban/Suburban Stormwater

Act 167 could be used as the fundamental tool to achieve compliance with the stormwater-related requirements of the Chesapeake Bay TMDL, as well as local TMDLs. But in order for it to function in such a fashion, **the Act should be revised so that requirements for such plans and ordinances explicitly and quantitatively integrate achieving and maintaining TMDL Wasteload Allocations and Load Allocations for stormwater.**

[n.b. The following comment appears in the Stormwater section of this document, but is also included here for context.]

A recent study released by Virginia Tech supports the concept of prohibitions of fertilizer applications, with exemptions for nutrient deficient soils or new seedings, as one of the most effective approaches to address this issue with the Bay watershed. Researchers at Virginia Tech estimated that a potential 25 to 50 percent reduction in total phosphorus loading to stormwater could result within several years of the prohibition. The study also concluded that the prohibition achieved an estimated 10 to 20 percent reduction in total nitrogen loads to stormwater runoff. A study by the University of

Michigan noted that in the city of Ann Arbor, a 2006 lawn fertilizer law resulted in an average 28 percent reduction in phosphorus levels in the Huron River.

Given the clear benefit such an approach would yield at relatively low cost, through legislation Pennsylvania should enact a lawn fertilizer restriction law which would ban the sale of all fertilizers designed for turf lands that contain phosphorus and those that contain less than 25 percent slow release nitrogen. Further, by law, prohibit the application of fertilizer that contains nitrogen to turf lands more than once a year unless required by a valid soil test. Applications of fertilizers should be allowed for new seedings on construction and reconstruction sites and for areas where soil test indicate a nutrient deficiency. A multi-year citizen education program will need to accompany the effort so as to ensure homeowner compliance.

Alternatively, the passage of a local municipal ordinance which affectively achieves the same outcome could be an explicit requirement of all reissued and new MS4 permits could be considered. However, this approach may prove unwieldy to manage and code enforcement officers within the municipalities, many of which are already dealing with numerous issues, may not be willing to serve as an enforcement agency.

Stormwater Management Funding and Fees. Stormwater runoff is a fast-growing source of pollution to the Chesapeake Bay. It faces challenges with reducing polluted runoff, with disbursed sources of pollution and antiquated infrastructure in many areas. Under the new MS4 permit requirements for developing Chesapeake Bay Pollution Reduction Plans, this sector is to reduce loads of total nitrogen by 3 percent, total phosphorus by 5 percent, and sediment by 10 percent over the next five years to help meet the pollution reduction plan goals.

In 2016, PA passed what is now Act 62 which authorizes second-class townships to assess reasonable and uniform fees for stormwater management activities and facilities without the need to establish a municipal authority.⁴⁷ Other bills were introduced last legislative session, but did not pass, which would have allowed other class townships and boroughs to do the same. Under the Municipality Authorities Act a stormwater authority may impose a fee⁴⁸, but not all the Township and Borough Codes have been clarified to specifically allow use of fees (are authorized to do so eliminate), independent of forming an authority.

To help offset the cost of these new requirements under the permit many townships are assessing stormwater fees. Legislation that allows all Townships, Boroughs and Cities to pass its own fees, similar to sewer or trash collection fees, will allow for better stormwater management.

Another legislative option is to create, by law, a new development impact fee. This fee would be applied to any new development throughout the Commonwealth. It may be

⁴⁷ 53 P.S. §§ 67701-67705.

⁴⁸ 53 Pa.C.S. § 5607.

assessed by applying a certain dollar amount per square footage of impervious surface that is being developed. The fee could then be put into a *Nonpoint Source Implementation Fund*. This Fund can be used to place nonpoint source BMPs in targeted waters. The implementation could be ranked by giving priority to those waters that are impaired with TMDLs, then move to waters that are impaired without TMDLs and so on.

This new development impact fee would serve three purposes. First, it would incentivize developers to implement practices that reduce impervious surfaces, such as green infrastructure. Second, it would encourage adaptive reuse of vacant and underutilized infrastructure. Third, it would provide an active fund to offset stormwater runoff by placing BMPs in the targeted and most needed watersheds.

Legislation that provides steady and consistent funding sources to manage stormwater is not only needed, but necessary, in order to update, upgrade and plan for better stormwater systems. If some of those new funds come from state programs like these, citizens would be less displeased about the need also to create local sources of new stormwater funding.

In addition to the above programs, Pennsylvania should establish a Forest Conservation & Replacement Act. A model for replication is Maryland's Forest Conservation Act (FCA). With some adaptations, the FCA's basic goals and foundations could work in a state like Pennsylvania in order to preserve more crucial forestland.

Maryland's FCA was an act passed in 1991 and provides a "set of minimum standards that developers must follow when designing a new project that affects forest land." According to the law the FCA applies to any public or private subdivision plan, grading application, or sediment control permits that are on areas of 40,000 square feet (approximately 1 acre) or greater. There are certain exemptions that do not fall under the FCA including: agricultural activity that does not result in a change in land use category, commercial logging, strip or deep mining of coal, and residential construction activity that does not result in 40,000 square feet of forest clearance.

The goals for the FCA are to promote reforestation and afforestation of areas that have been cleared for development. To accomplish these goals the FCA requires two documents to be completed. First the developer with the help of a licensed forester must complete a Forest Stand Delineation, mapping out the existing forest coverage and environmental features on the developing site. Next, they must create a Forest Conservation Plan which lays out which forested areas should be preserved and where new trees should be planted. The forester also determines through certain criteria, how important the forestland is to the environment and at which thresholds the developer needs to practice afforestation and/or reforestation in order to preserve any critical areas. If the developer is unable after construction to put the FCP into action, they can either purchase Forest credits from approved Forest Mitigation Banks or as a last resort

pay in lieu-fees to a Forest Conservation Fund to the State of Maryland. This process and the FCA is over-seen by local municipalities and county officials and then yearly reports are supposed to be filed with Maryland's Department of Natural Resources.

Several adaptations of Maryland's program are immediately apparent:

- A forest conservation law in Pennsylvania could be efficiently implemented by DCNR's service foresters who are assigned to each county in the state. County Conservation Districts could also play a critical role in the administration, coordination, and implementation of such a program.
 - DCNR should partner with conservation professionals that are dedicated to promoting forest conservation and tree planting and maintenance. The companies/foundations/programs would receive payments from a new Forest Conservation Fund which can be leveraged to existing programs and partnerships to plant and conserve more trees. This could prove to be a more successful backstop program to conservation than the forest banks of Maryland.
 - Creating state tax incentives to developers that are preserving or restoring trees in critical areas could incentive avoiding, minimizing, and preserving the loss trees through better site design.
 - Identifying and protecting "priority areas" by providing a clear definition of ecologically important areas that should be considered a priority for retention and protections.
1. Providing transparent and consistent criteria to be considered and applied by local governments when a developer proposes to clear priority forests
 2. Requiring replacement of "priority areas" that are allowed to be cleared on a one-to-one basis where an acre of forest replanting will be required when an acre of "priority areas" is removed.

A legislative option to generate funding to implement nonpoint source BMPs is to create a fee applicable to all water dischargers through the Commonwealth. The fee would be required during the time of applying for new, renewal and/or amended permits and with the submission of annual reports. The fee may be assessed by applying a certain dollar amount per amount of nutrients and sediment being lawfully discharged. Similarly, to the new development impact fee, noted above, the fee could then be put into a Nonpoint Source Implementation Fund. This Fund can be used to place nonpoint source BMPs in targeted waters. The implementation could be ranked by giving priority to those waters that are impaired with TMDLs, then move to waters that are impaired without TMDLs and so on.

This discharge fee would serve two purposes. First, it would incentivize water dischargers to upgrade its systems and/or practices in order to reduce the amount of nutrients and sediment discharged. Second, it would provide an active fund to offset the discharged nutrients and sediments, that are permitted to be discharged, by placing BMPs in the targeted and most needed watersheds. (32)

RESPONSE

Pennsylvania’s ability to reach its goals requires collaboration with and support from all levels and branches of government as well as private-sector partners. While DEP lacks control over what legislation the General Assembly moves forward, DEP believes the Phase 3 WIP is realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Several of the legislative initiatives described in the comments are among the many priority legislative initiatives identified in the final Phase 3 WIP (see Section 2.IX.A). DEP and its sister agencies look forward to working with the General Assembly to ensure the success of its implementation.

51. COMMENT

35. Allyson Gibson, Lancaster Clean Water Partners -

Page 53 of the draft Phase 3 WIP describes a potential revision to Pennsylvania’s Right-to-Know Law. Why is this limited to farm-specific information? Why are other non-agricultural landowners not able to avail themselves of these proposed privacy rights? (35)

RESPONSE

The potential revision to Pennsylvania’s Right-to-Know Law was added as a priority initiative based on a recommendation from the Phase 3 WIP Agriculture Workgroup in order to better access data and information about BMP implementation levels. Since the majority of implementation will occur on agricultural land, and since the privacy and confidentiality of information has been a cultural and societal hurdle to overcome specifically within the agriculture sector, the focus of this revision is on farm-specific information.

52. COMMENT

38. Katlyn Schmitt, Waterkeepers Chesapeake -

The Phase 3 WIP Funding Workgroup also identified numerous other legislative actions that are critical to help Pennsylvania achieve its TMDL required reductions. However, without strong legislative leadership and support, it is unlikely that Pennsylvania will be able to implement the practices identified in the draft WIP and will therefore continue to be out of compliance with its TMDL requirements. DEP must work with legislative champions to ensure that legislation is passed to help the state meet its 2025 goals. For instance, DEP could work with the legislature to ensure more efficient crop fertilization strategies – this is an area where nitrogen can be managed both before and after it is

released to the environment. This is just one idea of many legislative proposals that would assist Pennsylvania in meeting its targets. (38)

RESPONSE

Pennsylvania's ability to reach its goals requires collaboration with and support from all levels and branches of government as well as private-sector partners. Although DEP lacks control over what legislation the General Assembly moves forward, DEP believes the Phase 3 WIP is realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. DEP and its sister agencies look forward to working with the General Assembly to ensure the success of its implementation.

Program Commitments (Section 2)

Regulatory

53. COMMENT

10. Kristopher Troup, North Londonderry Township -

From PA DEP's perspective, there is logic in allocating the required pollutant reductions by county, however, the County Action Plan model is inherently flawed. PA DEP has no regulatory authority to force counties into participating in this voluntary process. As the plan states, "the county clean water goals do NOT establish any new requirement or regulatory obligation on counties." How will PA DEP respond if counties choose not to engage in the plan development process, or if they do not attain their pollutant reduction goals?

Implementation of the County Action Plans (CAP) for the four pilot counties is scheduled to begin July 1, 2019. At the same time, tier 2 counties are scheduled to begin the CAP development process. All of this work will take place prior to EPA providing approval of the draft plan. (10)

RESPONSE

DEP's enforcement or incentive options will depend on the particular legislation, regulation, permit, and best management practice at issue. DEP will evaluate such options on a case-by-case basis.

54. COMMENT

11. Cheri Grumbine, North Lebanon Township -

Pa DEP is allocating the required pollutant reductions by county. However, admittedly, the Pa DEP has no regulatory authority to force counties into participating in this voluntary process. How will DEP respond if counties choose not to engage in the plan development process, or if they do not attain their pollutant reduction goals? How will this affect townships and boroughs? (11)

RESPONSE

DEP has taken the approach from the beginning that the development of the Countywide Action Plans is voluntary, that the obligation to achieve the nutrient reduction planning targets belongs to the state. With that said, there are significantly more advantages than disadvantages to the counties to choose to engage in the plan development process such as the potential for the allocation of additional resources to address their priority goals and initiatives and improve the water quality in their communities.

55. COMMENT

16. Robin Getz, Director of Public Works-City of Lebanon -

4. Where the concept of the County Action Plan there is no legislation listed for oversight as there is no regulatory authority to force Counties to participate. What remedy is there in cases of non-support?

5. It appears to be fairly clear that with all of the regulatory changes to in view of the overall timeline will be almost impossible to meet. DEP is looking for the creation of reliable action plans. The concern remains that DEP is not covering all communities and is in some cases offering waivers/exceptions. Should DEP reconsider their definition of a controlled municipality? It makes sense the when you reach a point of installing physical control measures and/or develop communities near protected waterways they should be regulated as well. It seems this low hanging fruit is being missed and those that are already doing major contributions are expected to provide more in a narrow time frame. (16)

RESPONSE

DEP's enforcement or incentive options will depend on the particular legislation, regulation, permit, and best management practice at issue. DEP will evaluate such options on a case-by-case basis.

56. COMMENT

21. Lisa Schaefer, County Commissioners Association of Pennsylvania -

Finally, in order for implementation of the necessary practices to be successful, counties also encourage the Department to address the need for more efficiencies in the various permitting processes. We hear from our conservation districts that one of the reasons for delays is the need for additional staff and resources to process the increasing volume of permit applications, particularly in some parts of the state that are seeing more growth and development. We would be pleased to be part of these discussions to assist in identifying specific pain points and opportunities for improvement. (21)

RESPONSE

DEP has been actively working to improve efficiency with its various permitting processes, including development of electronic permitting platforms and development of a new simplified permit for stormwater discharges from small construction projects. DEP will continue working to make permitting processes as efficient as possible and appreciates the commentator's offer to assist in these efforts.

57. COMMENT

23. Alice Baker, PennFuture -

b. The Collaborative, “Bottom Up” Approach Unfortunately Provides Little Accountability.

The Department points to the draft WIP3’s “bottom up” approach as the mechanism through which reasonable assurance is demonstrated, but this process, without some oversight or enforcement tool, provides little accountability. The draft WIP3 focuses on a county-by-county creation of action plan approach. The Countywide Action Plans that the draft WIP3 propose to be developed were determined to be most feasible in terms of size, number, existing data levels, and ability to organize resources.⁴⁹ We understand that through this collaborative process, the pilot counties have prepared County Action Plans that the Department believes are “realistic and implementable.”⁵⁰ However, these plans fail to provide reasonable assurance in three critical ways: almost all of the counties’ planning targets for nitrogen fail to meet the necessary goal; the ability to complete thirty-nine additional plans (let alone in five years) is uncertain; and the draft WIP3 provides no accountability structure should these plans not be developed, sufficient, or properly implemented. Pennsylvania’s final WIP3 must address these significant shortcomings.

As described in the draft WIP3, none of these pilot plans reach the nitrogen reduction goal necessary for Pennsylvania to achieve the over-all reduction required.⁵¹ In fact, it appears that the draft WIP3 ascribes targets below the overall nitrogen goal to almost all of the counties.⁵² Should the remaining counties’ County Action Plans only include nitrogen reduction percentages described in the draft WIP3, Pennsylvania will fail to achieve the required nitrogen reductions.

Furthermore, there is significant uncertainty about the ability of the remaining counties to successfully craft and implement such plans in a very short amount of time. Over the last year, only four pilot counties prepared plans. The remaining thirty-nine counties must prepare and implement such plans in just five years—a significant feat. The draft WIP3 does not present a strategy for scaling up the production of County Action Plans from the four pilot counties. Without more, it seems unlikely that so many plans will be successfully prepared let alone implemented.

In the event that County Action Plans are not prepared or do not sufficiently achieve reduction goals, the draft WIP3 remains silent as to an enforcement mechanism or accountability structure for the counties. Instead, it simply relies on the collaborative,

⁴⁹ WIP3, at 75.

⁵⁰ *Id.* at 76.

⁵¹ *Id.*

⁵² *Id.* at 60. Blair County is the only county with a nitrogen reduction goal equal to or above the target.

bottom up approach, which, as discussed above, by itself is insufficient to provide reasonable assurance that the ultimate reductions required by the Bay TMDL will be achieved.

The draft Phase 3 WIP does not include additional stormwater pollution reduction actions from permits.

Solution: The final Phase 3 WIP must address how all National Pollutant Discharge Elimination System (NPDES) permits for stormwater programs, including the Municipal Separate Storm Sewer System (MS4), Industrial, and Construction permits, in the Chesapeake Bay watershed will reduce the pollutants contributing to impairments.

The stormwater sector contains both regulated and unregulated sources of pollution that contribute to the impairment of the Chesapeake Bay and negatively impact local waters. Sources regulated under NPDES permits, authorized by the Clean Water Act, must be held accountable to reducing their contribution.

- The regulated municipal stormwater community in Pennsylvania had not been accountable to a numeric reduction to reduce nutrient and sediment pollutants until the 2018 NPDES General Permit for Stormwater Discharges from Small MS4s (PAG-13). Requiring municipalities to reduce pollutants in the current permit is a first step that should be followed by a commitment to additional reductions achieved in subsequent permit terms to meet the 2025 WIP goals and improve the health of local streams.
- Unfortunately, the draft Phase 3 WIP stays the course and only considers current MS4 permit requirements. We are supportive of continuing current efforts, but they must be bolstered to gain additional reductions from the stormwater sector to meet the 2025 WIP goals and improve the health of local streams. Assurances that additional reductions will be achieved can, and should, be included in the current MS4 permit.
- Similar reductions through revisions to upcoming industrial and construction general permits should be included in the final Phase 3 WIP to complement pollutant reductions achieved through municipal stormwater permits and meet the needs of the Chesapeake Bay and local waterbodies. (23)

RESPONSE

DEP disagrees that Pennsylvania will have a shortfall in meeting the nutrient reduction planning targets. Pennsylvania will continue to work to ensure that sufficient practices are in place by 2025 so that Pennsylvania meets its phosphorus and nitrogen goals.

Pennsylvania, in conjunction with the Partnership, will utilize an adaptive management approach to achieve our shared desired outcome. The two-year milestones and six month progress reporting described in Section 7 of the final Phase 3 WIP will allow Pennsylvania to assess implementation progress and adjust programs and priorities to

ensure sufficient practices are in place by 2025 to achieve the nutrient reduction planning targets.

Moreover, Pennsylvania expects to achieve additional reductions through the countywide planning process described in Section 3, Countywide Actions. The Phase 3 WIP is a flexible document that will be updated every two years as DEP and its sister agencies continue to work with county planning teams to implement the Countywide Action Plans (CAPs). Adaptive management of the CAPs will enable Pennsylvania to overcome challenges and barriers in achieving the targeted pollutant reductions. The four remaining Tier 2 counties will be next to complete their CAPs. The seven Tier 1 and Tier 2 counties collectively account for roughly 54% of Pennsylvania's nitrogen goal and 42% of Pennsylvania's phosphorus goal. With Adams County's CAP completed, 30 of the remaining 35 Tier 3 and 4 counties will complete their CAPs following the priority counties in Tier 2. These final CAPs will target the remaining 46% of Pennsylvania's nitrogen goal and 58% of Pennsylvania's phosphorus goal. For nine counties whose impact to the Chesapeake Bay is relatively minimal, complete CAPs will likely not be needed and planning goals can be addressed by continuing existing state initiatives described in Section 2, State Actions. In the future, additional practices identified in the CAPs will be added to the Phase 3 WIP to create additional reasonable assurance that Pennsylvania will meet its goals.

At present, Pennsylvania does not receive full credit for many currently implemented practices, particularly practices implemented through permit programs and practices implemented without public assistance from grants or cost-share awards. These are described in more detail in Section 4, Federal Actions, under the subsection describing additional coordination efforts needed. Improved data collection around these practices will be addressed during implementation of the Phase 3 WIP at both the state and local level through the additional documenting, tracking, and verification efforts described in Section 6 of the Phase 3 WIP. DEP is currently evaluating and quantifying additional practices which Pennsylvania has previously implemented and will implement in the future to assure Pennsylvania will achieve its nutrient reduction planning targets. Pennsylvania will continue to work to receive full credit for implemented practices across the Chesapeake Bay watershed.

Collectively, these efforts will help ensure that Pennsylvania meets its nutrient reduction planning targets.

DEP's enforcement or incentive options will depend on the particular legislation, regulation, permit, or best management practice at issue. DEP will evaluate the need for enforcement or other regulatory options on a case-by-case basis.

DEP will also consider recommendations for changes for the next stormwater-related NPDES general permits (i.e., industrial, CSO, MS4, construction), but DEP cannot commit to changing the MS4 permit – or any other NPDES general permit – prior to engaging in the normal public process for reissuing NPDES general permits.

58. COMMENT

24. Felicia Dell, York County Planning Commission -

SECTION 1. INTRODUCTION

6. Pg. 14, last sentence of 2nd Urban Stormwater bullet: States that, because about 75% of developed acreage is outside MS4 or combined sewer system areas, *“existing permitting and compliance programs cover very little of the urban sector’s contribution.”* For purposes of clarity, the sentence should reference existing “State” permitting and compliance programs. All municipalities have permitting and compliance programs, through their municipal ordinances, that are applicable to their entire jurisdiction.

13. Pg. 25, 2nd full paragraph: The framework for collaboration and “bottom up” local engagement process do not truly demonstrate reasonable assurance. The framework, while being comprehensive, lacks in integration. There is too much emphasis on sectors, which typically operate independently of one another rather than in partnership. The voluntary initiatives involved an array of local stakeholders, but the limited time to prepare the countywide plans did not provide sufficient time for a more widespread community engagement process. The templates for the CAPs reflected what DEP wanted and assumed needed to be included. Pilot counties were encouraged to go “above and beyond” compliance to reach their county targets, which they did, but still fell short. As stated above, there appears to be no reasonable assurance that compliance actions will occur, let alone reasonable assurance that the voluntary “above and beyond” compliance actions will occur. York County clearly stated that implementation of its CAP is contingent upon programmatic/policy changes called for in the Plan being made at the state level. Many of these changes are not included in the Phase 3 WIP.

14. Pg. 25, 3rd full paragraph: The “robust non-NPDES permitting programs” reference appears to be the same programs in place for WIP 1 and WIP 2. Was “reasonable assurance” met for those programs, and if not, how will it work this time?

15. Pg. 26, last paragraph: At the rate the ag compliance inspections are going (10% per year), PA will likely not even ensure ag compliance by 2025. Thus, how can PA ensure the WIP 3 controls and practices that are above compliance will occur?

SECTION 2. STATE ACTIONS

29. Pg. 54, 2. Enhanced BMP Requirements for Agriculture Erosion and Sediment Control: What does “*If needed in the future,*” mean? Does it relate to if needed in the future to meet the TMDL goals? Additionally, it only proposes that “if needed” mandatory installation of additional priority BMPs in impaired watersheds may be considered. What level of reasonable assurance does this regulatory initiative offer?

31. Pg. 55, Section C, 2: The collaboration of NPDES Stormwater Construction permit applicants with MS4 priorities is a good suggestion. To add more emphasis to this recommendation, language should be included that the MS4 permit holder be contacted to identify mutually beneficial opportunities. (24)

RESPONSE

6. This change was made in the final Phase 3 WIP.
13. Pennsylvania will continue to engage local stakeholders to develop realistic and implementable plans to meet water quality standards. DEP and its sister agencies will continue to prioritize and support the completion of the remaining Countywide Action Plans, as local stakeholders work to develop realistic and implementable plans. This process recognizes the importance of defining local priorities and initiatives, then building the tools and infrastructure needed to achieve these local goals. It also begins to identify the challenges, such as the additional technical resources and funding needed for the plan to be successful. Further challenges and solutions will be identified and addressed as the plans are implemented. Through this planning process the Phase 3 WIP is also flexible and can be easily modified through the two-year milestones and annual progress reports.
14. Permitting and regulatory programs are identified in all three versions of Pennsylvania’s Watershed Implementation Plan. Pennsylvania submits two-year milestones to update EPA and the Chesapeake Bay Program Partnership describing any planned revisions to these programs. EPA does an annual evaluation of Pennsylvania’s progress towards the implementation of these milestones, highlighting Pennsylvania’s strengths and where Pennsylvania needs to improve. It is anticipated this same process will continue with the Phase 3 WIP.
15. There is no point in time that every regulated industry is inspected in a given year. As such, Pennsylvania looks to use statistically viable approach to extrapolate those that were inspected and apply to previous years’ of inspections. This is done in other states, specifically with nutrient management, where they apply the percent in compliance in that given year to the entirety of the known industry.

29. Agricultural compliance with existing regulations would achieve approximately 17% of the total TMDL goal. There is always the opportunity to review the existing regulations and determine if those regulations should be revised based on new science or data.

31. This language was added to the final Phase 3 WIP.

59. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

Update Chapter 102 (25 Pa. Code Chapter 102 The Pennsylvania's Chapter 102 Erosion and Sediment Control requirements are a wide-ranging, high impact permit program that successfully demonstrates the localization of national and state regulations responsibilities can be instituted to the county scale. As with all programs of this nature, the state of the science and engineering continuously evolves requiring updates to the guidance and rules. To that end, we recommend that elements of Chapter 102 be updated, including, but not limited to:

- An additional subsection should be added to Section 102.4(b)(4) to **ensure that disturbance to native topsoil is avoided, minimized, and mitigated.** Section 102.4(b)(4) sets forth the basic standards for planning and implementing earth disturbances under Section 102.4(b). A critical element to minimizing erosion and sedimentation and stormwater runoff is minimizing the disturbance of native soils. To ensure this practice is employed in design, planning, and implementing earth disturbance projects, a Section 102.4(b)(4)(v) should be added stating "Minimize native topsoil disturbance."
- Add an additional requirement in Section 102.4(b)(5) for Erosion and Sedimentation Control (E&S) Plan drawings to **include additional natural features.** Perhaps the greatest key to ensuring that development projects are designed and constructed in a manner that is protective of rivers and streams is to carefully limit disturbance of natural features that provide good natural stormwater management and incorporate them into the site design and stormwater management controls. Thus the E&S Plan should require detailed drawings and narrative describing all natural features, particularly those important for managing stormwater. The regulation should list natural features with specificity to ensure each plan contains them.
- **The acreage threshold for permitting requirements for timber harvesting and road maintenance activities should be revised from 25 acres to 5 acres.**⁵³ Timber harvesting and road maintenance activities of 25 acres can result in significant amounts of earth disturbance and potential for erosion and stormwater runoff. As an example, assuming a 12 foot width road and the 25 acre threshold, this

⁵³ See, 25 Pa. Code § 102.5(b).

means that only projects which disturb an excess of 17.2 miles in length will be required to obtain a permit. The threshold should be revised to be 5 acres or greater, so that regulation of these projects is captured and consistency with other regulated sectors is achieved.

- **The volume control standards set forth in Section 102.8(g) should be complemented with clear standards that require the mimicking of predevelopment hydrology.** The 2-year / 24-hour volume control standard alone will not ensure protection of receiving streams, particularly as it relates to pollutant load of the runoff and stream bank and channel protection of receiving streams. Application of this standard can and has resulted in conventional development proposing large infiltration basins or other centralized stormwater management BMPs, which can result in over infiltration of stormwater and continued point source concentration and release of flows, to the detriment of receiving streams. The concentration of flows results in continued pollutant loads from the developed landscape and additional load of sediment being released from stream banks downstream from concentrated point sources of stormwater runoff. In order to achieve protection of rivers and streams from stormwater runoff, the Chapter 102 regulations must require developers to implement true low impact development (LID). Thus the volume control standards must be complemented by a requirement that all regulated development projects be carried out in a manner so as to mimic the predevelopment hydrology on the site. Further, the regulations should mandate the use of the LID (environmental site design) process throughout all phases of the project, from site selection and planning to design to implementation, so **Post-construction requirements should also include a requirement of no net increase in nitrogen, phosphorus, and sediment loads from development proposed in impaired watersheds.** The federal Clean Water Act requires that DEP not issue permits for new discharges in impaired watersheds that cause or contribute to the impairment and, for watersheds where TMDLs have been approved, NPDES permits are consistent with the waste load allocations (WLAs) set forth in the TMDL. To be consistent with these federal law requirements, Chapter 102 must establish as a post-construction stormwater management (PCSM) standard in Section 102.8 that construction activities in impaired watersheds shall achieve no net increase in discharge of pollutants, unless the increase is consistent with a WLA for future growth as provided within an approved TMDL.
- **Preserve all soils and vegetation designated as special status.**⁵⁴ The regulations should include requirements to protect soils designated by the NRCS as prime farmland, unique farmland, or farmland of statewide importance to conserve for future generations the most productive farmland in the United States. The following requirements for sites with healthy soils and soils with minimal soil disturbance as identified in the site assessment should be added:

⁵⁴ The Sustainable Sites Initiative: Guidelines and Performance Benchmarks for details. <http://www.sustainablesites.org/>

- No soils defined by the NRCS as prime farmland, unique farmland, or farmland of statewide importance shall be stripped from an off-site location for importation to the site.
 - At least 95 percent of all prime farmland, unique farmland, or farmland of statewide importance on a site must be designated as a *vegetation and soil protection zone (VSPZ)*.
- **Restore soils disturbed during construction.** The regulations should require amendment of 100 percent of the soils disturbed during construction with a mature, stable compost material such that the top 12 inches of soil (at a minimum) contain at least 3 percent organic matter or organic matter levels and organic matter depth are comparable to the site's reference soil. The use of sphagnum peat or organic amendments that contain sphagnum peat should be prohibited. Compost utilized for soil restoration should have a carbon to nitrogen (C:N) ratio no greater than 25:1; however, higher C:N ratios may be acceptable if specified by a qualified professional to be more appropriate for the type of vegetation to be established. These requirements should apply to all soil areas that are disturbed or compacted during construction, except in areas of prime farmland, unique farmland, or farmland of statewide importance which require a VSPZ.
 - **Restore soils disturbed by previous development.** The following requirements should be added for soils that have been disturbed by previous development. For previous development sites that will be re-vegetated in whole or part, amend 80 percent of the surface area previously disturbed during with a mature, stable compost material such that the top 12 inches of soil (at a minimum) contain at least 3 percent organic matter or organic matter levels and organic matter depth are comparable to the site's reference soil. The use of sphagnum peat or organic amendments that contain sphagnum peat should be prohibited.

Urban/Suburban Tree Canopy Preservation and Expansion. In addition, we believe DEP should consider requiring the adoption of a tree and woodland protection ordinance as part of an MS4 permit. Ordinances of this type provide a basic level of protection to existing tree canopies and remaining woodlands in urbanized areas. When used in conjunction with programs that enhance canopy cover, such as TreeVitalize and the Keystone 10 Million Trees Partnership, they can provide a quantifiable and stable

source of pollutant reductions from the urbanized landscape. Numerous communities across the nation have adopted such ordinances and several models exist.^{55,56,57,58}

Although mentioned, **there should be more substantive details pertaining to the integration of updated of industrial stormwater permit requirements to align with the Bay TDML and local TMDLs.** For instance, California is considering the first-in-the-nation general industrial stormwater permit incorporating TMDL-related numeric action levels (TNALs) and numeric effluent limitations (NELs) as part of their general permit.³⁸ Recognizing that such requirements may not be achievable exclusively on-site, the proposed rules include off-site options similar to offsets/exchanges. Regardless of the specific approach employed, **requiring specific, numerical load reduction requirements as part of the DEP's NPDES General Permit for Discharges of Stormwater Associated with Industrial Activities (PAG-03) is both necessary and equitable.**

RESPONSE

These are valuable recommendations that DEP will consider for future revisions to the Chapter 102 regulations.

DEP will consider adding a provision for tree and woodland protection in future revisions to the MS4/Action 167 model ordinance.

DEP is considering pollutant reduction alternatives and criteria as part of the reissuance of the PAG-03 NPDES General Permit that is scheduled for 2021.

60. COMMENT

35. Allyson Gibson, Lancaster Clean Water Partners -

Page 59 of the draft Phase 3 WIP describes a potential change to the permitting requirements to “facilitate a smooth process for farmers and others that seek to resolve existing resource concerns or prevent future impacts by increasing the implementation of BMPs.” Who are the others?

Page 70 of the draft Phase 3 WIP describes an intent to “pursue and track legacy sediment reduction and restoration projects as an integral component.” However, the

⁵⁵ Scenic America. Model Tree Conservation Ordinance. <http://www.scenic.org/issues/tree-conservation/model-ordinance>

⁵⁶ PA Land Trust Association. Model Tree Ordinances. <https://conservationtools.org/guides/37-tree-ordinance/> 36 Arbor Day Foundation. Sample City Tree Ordinance. <https://www.arborday.org/programs/treecityusa/documents/sample-tree-ordinance.pdf>

⁵⁷ City of Lancaster. Tree Ordinance & Manual. <http://cityoflancasterpa.com/resident/tree-ordinance-manual>

⁵⁸ Martin, D.P. and C.P. Doyle. October 18, 2018. TMDL Limits Are Coming To California's Industrial Storm Water General Permit. <https://www.huntonnickelreportblog.com/2018/10/tmdl-limits-are-coming-to-california-industrial-storm-water-general-permit/>

permitting for such projects is unwieldy, inconsistent, and cumbersome. Lancaster's historical population of dams and prevalence of legacy sediment is enormous. We need a better system to allow us to undo what was done by our predecessors over the centuries. (35)

RESPONSE

The "others" noted on Page 59 could include any person or persons (landowner, operator, municipality, etc.). The examples provided on Page 59 included a construction general permit for small sites, a pilot project for flood control management, as well as proposed regulatory amendments for Chapter 105.

Program Commitments (Section 2)

Program enhancements

61. COMMENT

9. Keith Salador, Citizens Advisory Council -

CAC was also pleased to see that the WIP includes a commitment by executive branch agencies to increase the implementation of BMPs on state lands. It is imperative that the Commonwealth lead through example instead of solely through oversight and enforcement. Initiatives like this will help instill trust in the government when private stakeholders are asked to take the same actions. (9)

RESPONSE

To further this goal, the final Phase 3 WIP includes a commitment to define specific nutrient reduction planning goals for state agencies, much like those defined for the counties and federal agencies responsible for the management of state lands.

62. COMMENT

13. Jeremy Rowland, Coalition for Affordable Bay Solutions (CABS) -

The Coalition for Affordable Bay Solutions (CABS) is a non-profit advocacy group formed to support the creation of a competitively-bid procurement program for nutrient (nitrogen and phosphorus) reductions in Pennsylvania. It has focused on enabling low cost solutions to address both local drinking water and Chesapeake Bay water quality.

CABS believes the overriding principle to solving the local and Bay water quality issues is a competitive bidding program open to all sources both public and private that will direct funding to the lowest cost solutions with local water quality improvements being valued as part of the award process. Senate Bill 575 is under consideration to effect such a program.

In conclusion, CABS believes that the solution to the Bay mandate and local drinking water issues lies in 21st century technology adoption and new policy based upon current science and evolving market conditions. CABS is confident that the combination of Manure Treatment Technology adoption and Transition Agriculture will significantly contribute to environmental sustainability that is economically sustainable.

We respectfully ask that our proposals be adopted in the WIP for the benefit of all stakeholders. (13)

RESPONSE

The draft Phase 3 WIP identified integrated systems for elimination of excess manure, through transportation or treatment, as one of the seven priority actions to be implemented to address agriculturally sourced nutrient loadings in the watershed. The final Phase 3 WIP expands on this activity as initially proposed in the draft Phase 3 WIP, calling for the implementation of this practice to its full extent across the watershed

to eliminate nutrient excesses in all 21 counties identified as having excess nutrients. The current Chesapeake Bay Watershed Model provides nutrient reductions for this practice only where it is implemented to remove excess nutrients in a county, with no reductions credited for removing manure to any greater extent. Therefore, this practice is only prioritized for use in counties where there is calculated to be a nutrient excess, and only to the extent to eliminate that excess. "Transition Agriculture" is not a Chesapeake Bay Program Partnership approved BMP for nutrient and sediment reduction efficiency values. However, converting lands from one land use (e.g., cropland) to another land use (e.g., pasture) does receive a "land use conversion" factor in the model, which informs the loading rate for that particular county. The Chesapeake Bay Program Partnership approves new BMPs via Expert Panel reports supported by research and data. While there is currently no funding associated directly to a practice referred to as Transition Agriculture, there are many cost-share programs, both federal and state, which offset the cost for the relevant plans and BMPs associated with "Transition Agriculture" such as grazing plans, fencing, and off-stream watering systems.

63. COMMENT

20. Sarah Diebel, DoD Chesapeake Bay Program Coordinator -

1.4 Assign Planning Goals for State Owned Lands

Section Reference: Phase III WIP Priority Initiative State Programmatic and Narrative Commitments,

Section 5, Practice Installation on State Lands, Page 58

Comment: Pennsylvania assigned Local Area Planning Goals to all of the counties and federal agencies within their portion of the Chesapeake Bay Watershed. Pennsylvania should also assign local planning goals to the land it owns.

Discussion: The Phase III WIP states "Pennsylvania state agencies and state affiliated agencies should put buffers and other BMPs in place on state-owned lands wherever feasible." To reduce nutrient and sediment discharges, the Commonwealth assigned planning goals to counties and federal agencies. However, there is an inherent gap in assigning goals to lands owned by the Commonwealth. The Phase III WIP seems to suggest that implementation of BMPs on state owned lands is optional and is not included in the overall strategy for the tremendous level of effort required. Expecting federal agencies and counties to implement practices without having the same expectation for state owned lands is disparate treatment.

Recommendation: DoD recommends assessing state owned lands and assigning planning goals to those lands. (20)

RESPONSE

Agreed. As suggested, the final Phase 3 WIP includes a commitment to define specific nutrient reduction planning goals for state agencies, much like those defined for the counties and federal agencies, responsible for the management of state lands.

64. COMMENT

21. Lisa Schaefer, County Commissioners Association of Pennsylvania -

- We would appreciate clarification regarding the proposed “creation of county-state revolving loan fund” (page 57), as to whether this is intended to be a county-operated revolving loan fund, or a state-operated fund to which counties will have access. If the former, it is unlikely that many of our counties will have the expertise or infrastructure to implement this, and so would seek its creation at the state level.
- Counties appreciate that DEP intends to advocate for restoration of the Act 167 stormwater management planning reimbursement funding. Counties are required to prepare and adopt a watershed stormwater management plan for each watershed within the county, but while the law also requires DEP to reimburse counties 75 percent of the cost of preparing these plans, no funding has been appropriated for that purpose for the past decade. With that said, we believe that any effort by the agency to also prioritize compliance and enforcement will be contingent on such time as that funding is restored. As Act 167 plans rely on the compliance of the municipalities, we also recommend that training and resources be allocated to assist them in this effort as well.
- We are extremely pleased to see the inclusion of the Bradford County Stream Reconstruction Pilot Program in the draft WIP. The county has been advocating this project for many years as a way to help local agencies reduce permitting delays to help mitigate the threat of flooding, while still maintaining the balance with public health and safety needs.
- The flexibility envisioned in the proposed use of block grants would be greatly appreciated, as would the use of a single comprehensive local water quality plan as the application. This would streamline the need to engage in a cumbersome application process for several different grants, making the process more efficient and making it easier for local areas to address their individual goals. We also encourage DEP to consider a streamlined, consolidated reporting process, for information that must be returned to DEP at the end of the projects (rather than multiple reports for individual funding sources as is now the case). (21)

RESPONSE

Thank you for your support of these elements of the Phase 3 WIP. The county state revolving loan fund would be operated by the county. Funding and assistance to get the program started would be provided by Pennvest.

65. COMMENT

24. Felicia Dell, York County Planning Commission -

EXECUTIVE SUMMARY

2. Pg. 4, Section 2, State Actions, last paragraph: References PA’s “bottom up” approach to have stakeholders representing each of the sectors carryout an array of actions to achieve the 2025 targets. Thus, these sector-based state partner actions should not be included in the State Actions section as the state government, in the majority of cases, will not be the one following through with these actions. They should have their own section similar to the Countywide Actions section.

SECTION 1. INTRODUCTION

- 7. Pg. 14, last paragraph: The disconnect between what is in place on the ground locally and what the State knows about is accurately noted in this paragraph and several times throughout the draft. Therefore, it is crucial to identify clearly how the state is going to overcome this problem so that PA receives full credit for all implemented practices.

- 8. Pg. 16, last bullet under 2: It references a focus on “*completion of the sector specific action plans and other issues of interest to local governments.*” It is recommended that examples of the “*other issues of interest to local governments*” be added for clarity. Additionally, this statement appears to imply that local governments in the watershed are interested in the sector plans, which is unlikely. The sector approach to this WIP has divided municipalities into “sectors,” which has resulted in many non-MS4 and MS4 waiver municipalities determining that they do not have any responsibilities. Additionally, State and Federal programs have encouraged MS4 municipalities to “parse out” that part of their municipality for which they are not “responsible” even though they have authority for land use decisions throughout their entire municipality. This has led to missed opportunities in creating partnerships to effectively clean up impaired streams. A holistic approach that eliminates the sectors would be more beneficial.

- 9. Pg. 17, number 1: References PA achieving the TMDL nutrient and sediment load allocations, but PA does not have a sediment load allocation for the Chesapeake Bay TMDL.

11. Pg. 22, Section III: Bulleted item for Land Conservation – Protected Lands indicates land preservation is a priority method to help meet the required reductions. How are protected lands identified within the model, is there a distinction made between preserved open space/natural lands as opposed to agricultural lands, and how can land protection agencies get updated information represented in the model?

SECTION 2. STATE ACTIONS

18. Pg. 32, 4. Strategic Legislative, Programmatic and Regulatory Changes: References recommendations of the 2016 Restoration Strategy considered key actions to meet the 2025 reduction goals. However, it does [likely s/b “not”] identify the recommendations or indicate whether any of them were implemented. The “meat” of York’s CAP lies within its State Programmatic Recommendations Template. The Plan identifies these recommendations as necessary actions to meet the County pollutant reduction targets. The most important part of York County’s Plan has not been included in this draft Phase 3 WIP.

24. Pg. 46, 3. Woods and Pollinator Habitat: One of goals is to convert lawns to meadows. While this goal is supported, in some jurisdictions, it may require amendments to municipal ordinances, particularly as it relates to their “weed” ordinances.

25. Pg. 46, 4. Forest, Farm and Natural Area Conservation: The action includes “*revise zoning and ordinances to conserve existing natural areas.*” It would be beneficial to include some examples. Also, be advised that zoning is a local ordinance. The responsible parties for this action should collaborative with municipalities who are the local land use authority.

30. Pg. 56, 5. Bradford County Stream Reconstruction Pilot Program: The last sentence states that “*once the pilot program assessment is complete, a determination may be made on the applicability for other areas or counties.*” With the effort being invested in this pilot program, a determination regarding its applicability for other areas/counties should be made and documented. The word “may” should be replaced with “shall”.

33. Pg. 58, 5. Practice Installation on State Lands: This states that PA state agencies and affiliated agencies “should” install buffers and other BMPs on state-owned land when feasible. However, is any agency actually going to do this? The state should set an example by stating that it “shall” install BMPs when feasible.

34. Pg. 64, last paragraph: References Figure 2.6, which follows on page 65. However, there is already a Figure 2.6 on page 62. This reference and the figure should be changed to 2.8.

36. Pg. 67, 2. Nutrient Trading Program: This section is under the category “VI. Accounting for State Actions Not Currently Credited to Pennsylvania.” Expanding this program to include NPDES permittees will help to achieve compliance, but will not help with the “above and beyond” actions. Doesn’t the model already recognize “how far” compliance will get PA?

39. Pg. 72, Table 2.4 needs to be renumbered as there is already a Table 2.4 on page 60.

40. Pg. 73, 3. The Coordination of Pennsylvania’s Activities... & Pg 74. b. Other Agency Staff: References the need for 12 additional staff in the Chesapeake Bay Office and additional staff resources in other state agencies to implement the additional work related to carrying out the State actions and CAPs. However, will this need be met? How will the positions be funded? What roles will the additional staff play? What is the timing to get them onboard?

SECTION 3. COUNTYWIDE ACTIONS

41. Pg. 76, Section II., 4th paragraph: The last sentence says “...resulting in CAPs that are realistic and implementable.” York County EMPHASIZED that its CAP was not realistic WITHOUT the programmatic changes called for its Plan (State Programmatic Changes Template). These programmatic changes are not included in PA’s Draft WIP 3. The other pilot county CAPs also included programmatic changes that were important to meet their targets.

45. Pgs. 80-81, 2.c.: This section deals with the BMPs in York County’s CAP and references “*specific BMP commitments and quantities of each.*” It further states “*appropriate flexibility is allowed for in order to meet or exceed their proposed reductions.*” As noted in Comment 36., York County EMPHASIZED that the CAP BMPs are not realistic and will not happen by 2025, UNLESS the recommended State programmatic changes are implemented. These programmatic changes are not addressed in the Draft WIP 3. Additionally, the BMPs should not be consider “*commitments.*” The limited time to create the CAPs was far too insufficient to create a list of BMPs and commit to achieving them. Beyond the programmatic changes, there are a number of other variables necessary to carry out the BMPs, such as willing landowners and funding. The CAP is simply a “planning” tool.

SECTION 7. MILESTONES AND PROGRESS REPORTING

51. Pg. 118-119, Section 11. Key Action Steps: Page 119 lists five priority initiatives. Programmatic changes are not one of the five, but are an important component of achieving the targets. Thus, more emphasis should be placed on the programmatic changes.

APPENDIX

4. The lack of coordination/integration at the State level is evidenced through no mention/implementation of the recommendations called for in the State Water Plan. The entire process/development of the Draft Phase 3 WIP was conducted independently of, and without regard to, the State Water Plan. In fact, State programs and policies continue to be conducted without regard to the State Water Plan. (24)

RESPONSE

DEP disagrees with this statement. The key to success is addressing implementation at the local level, thus the priority in the Phase 3 WIP on local priorities, local water quality and local engagement. The State Water Plan recommendations can play a key role in helping the countywide efforts to develop Action Plans moving forward as the planning teams define local priorities and initiatives.

66. COMMENT

25. Julie Cheyney, Lebanon County Clean Water Alliance (LCCWA) -

Section 2.IV.C. describes various programmatic and policy adjustments that DEP intends to commit to. The proposed enhancements to the NPDES Stormwater Construction and Chapter 102 Erosion and Sediment Control permits will not produce significant pollutant reductions above those already required by these permits. DEP is asking those entities that are already required to implement BMPs to "overcompensate" for water quality but should be targeting entities that are not currently required to implement BMPs.

The plan proposes improvements to the Act 167 program. The Model Stormwater Management Ordinances that municipalities must adopt as part of the MS4 program have supplanted the need for an Act 167 plan in many watersheds.

The plan proposes a LIDAR pilot project to identify existing BMPs. While the LIDAR would be useful in locating the BMPS, additional information including the type and arrangement of the outlet structure and characteristics of the underlying soil would also be needed in order to characterize the pollutant reduction potential of the BMP. (25)

RESPONSE

The elements of the Phase 3 WIP are all components of the overall, comprehensive strategy to achieve the nutrient reduction planning targets by 2025. No one sector or one element can do this alone. It is through the collaborative approach taken to develop the Phase 3 WIP that Pennsylvania can ensure success in its implementation.

67. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

[n.b. To contextualize subsequent comments, the following comment appears three places in this document.]

3. Specifics critical to WIP3 implementation should be more robust. Any plan, no matter how collaborative or detailed, is only as good as its implementation. Given the size, scale, and complexity of the issues influencing the ability of the Commonwealth to implement the WIP3, it's important to achieve specific and measurable priority near-term actions that form the platforms of success towards implementation. To that end, the plan should provide greater details pertaining to:

- b. *State initiatives.* There are complex myriad of state statutes, regulations, policies, and programs that in some way impact the success of the WIP3, and none of which were designed with it as a goal. Nonetheless, to achieve success these components need to be (re)aligned and updated to leverage, build, and synchronize priority

programs, with priority projects and in priority places. Importantly, integration with federal programs, (e.g., Farm Bill) should be more vigorously detailed. Critically, a tiered, stepwise timeline for completing (re)alignment and leveraging is necessary.

Commitment to programmatic, policy, legislative, and regulatory changes needed to implement Pennsylvania’s Phase III WIP and meet Bay TMDL goals.

For WIP3 to be successful, a full suite of up-to-date programmatic, policy, legislative, and regulatory tools are necessary. Unfortunately, at both the federal and state level, existing tools were developed for different purposes, often in isolation, and not with the intention of addressing something as broad and complex in scale such as the Bay TMDL and WIPs. As a result, a patchwork system has evolved. Simultaneously, resources allocated to state resource agencies, have seen in some cases dramatic declines in investment and staff over the last 15 years. As a direct result, over the last several years EPA has identified several delegated programs administered by DEP that are so underfunded and understaffed that they essentially fail to function.⁵⁹ For that reason, **not only do existing programs need to be updated and some new ones initiated, but the trend of disinvestment in resource agencies must be reversed.**

In addition, there needs to be **a holistic analysis on how the WIP3 actions/programs/legislation can meet the TMDL goals.** Such an endeavor would help ensure actions/programs/legislation are aligned and synergized, do not contradict, are not redundant, and to help identify specific gaps in actions/programs/legislation so that they may be addressed.

The Clean and Green preferential tax assessment program should only be available to farms that truly are “clean and green” and meet state and federal regulatory requirements for Erosion and Sediment Control Plans, and Manure Management or Nutrient Management Plans, if relevant. The Pennsylvania in the Balance Conference²⁰ also recommended adding baseline conservation requirements to this tax relief program eligibility. Continued participation could require verification of compliance, and new applicants would need to verify compliance as they apply. Deliberate, false statements could be penalized by a \$100 fine (consistent with other violations), while rollback taxes would be a more significant penalty for egregious cases. Landowners who do not verify compliance could voluntarily remove their land from the program and revert to paying taxes according to fair market value, without rollback taxes.

⁵⁹ PA Faces Losing Control Of Environmental Programs Due To DEP Funding, Staff Cuts. <https://paenvironmentdaily.blogspot.com/2016/02/pa-faces-losing-control-of.html>

Nutrient Trading Program

Pennsylvania's approach to nutrient trading improves water quality by using market mechanisms to produce overall pollutant reductions at lower costs. It is a voluntary program that enables point or nonpoint sources that exceed their regulations and permit requirements to generate credits that may be traded to others who are seeking nutrient credits.

Since 2006, Pennsylvania has had a nutrient trading program designed to minimize the financial burdens of meeting sewage treatment plant discharge limits while promoting pollution reductions from agriculture and other nonpoint pollution sources. In 2010, formal regulations were adopted in Pennsylvania. In 2012, the EPA identified several areas requiring improvement of the program to remain consistent with the Chesapeake Bay TMDL and CWA requirements and guidance.

In fall 2012, DEP proposed numerous changes to the state trading program. These updates would better align the program with the Bay TMDL, enhance the certification, verification, and registration processes, increase precision and accuracy with calculation methodologies, and other provide other benefits.

Although several of 2012 recommendations have been employed, several significant recommendations have yet to come to fruition. We recommend that DEP initiate updates that include, but may not be limited to, the following:

- **Performance-based baseline.** Evolution to a performance-based baseline approach (e.g., lbs/ac/yr) before nutrient credits may be generated will add greater confidence in the program while retaining site specific flexibility in achieving said baseline. Several models exist that may be applicable but due to the regulatory context of trading, any model employed must be peer-reviewed and defensible. The USDA's Nutrient Tracking Tool⁶⁰ (NTT) is a "...water quality estimator designed to quantify the change in nitrogen, phosphorous and sediment loss potential from changes in land management practices. The tool also estimates changes in crop yield. NTT is used by water quality trading programs to model the water quality benefits from conservation practices implemented on cropland."
- **Third-Party Audits.** Although EPA removed language that required "state or third party" verification in its 2015 technical memorandum on trading verification and certification⁶¹, in order to assure the program is transparent and sound, we believe the verification process must assure that either the state or a third party

⁶⁰ The Nutrient Tracking Tool (NTT). USDA Office of Environmental Markets.
<https://www.oem.usda.gov/nutrient-tracking-tool-ntt>

⁶¹ USEPA. 2015. Final Technical Memorandum. Certification and Verification of Offset and Trading Credits in the Chesapeake Bay Watershed. https://www.epa.gov/sites/production/files/2015-07/documents/certif_verif_tm_7-21-15_.pdf

verify a subset of credit generating practices on an annual basis with un-biased verifiers that possess the necessary training, skill and experience to monitor and inspect credit generating projects and practices and the associated documentation.

- **Additionality.** “Additionality” refers to ensuring that credits established for trading purposes are those that would not have occurred in the absence of a trade. A credit generator should not be compensated twice for the same action, such as allowing a federally cost-shared practice to also generate nutrient credits. In addition, we believe credits should not be generated from practices that are already scheduled to be implemented or are being implemented, as there would be no additional water quality improvement with a trading program context. Also, the eligibility requirements are confusing for agricultural nonpoint sources, who must first meet regulatory requirements under 25 Pa. Code Chapter 102, 25 Pa. Code Section 91.36, 25 Pa. Code Section 92a.29, and 25 Pa. Code Chapter 83, Subchapter D, and then meet additional conditions, presumably to provide a higher level of certainty. However, either of two of these possible conditions (100-foot setback or 35-foot permanent buffer from a water body for manure application) are requirements under 25 Pa. Code Section 91.36(b)⁶² so provide no additional benefit. (32)

RESPONSE

DEP has been working with the World Resources Institute (WRI) and the Texas Institute for Applied Environmental Research (TIAER) to determine the extent of work needed to revise the current Chesapeake Bay Nutrient Trading Tool (CBNTT) to allow Pennsylvania’s Nutrient Trading Program to transition into the use of this EPA and regionally accepted credit calculation and tracking tool. Transitioning to the CBNTT tool will allow Pennsylvania to incorporate the performance-based, TMDL linked agriculture baseline analysis for determining NPS nutrient credits as has been requested by EPA. Making this transition to the new trading tool and baseline methodology is dependent on funding to make this transition, with the funding planned to come from EPA’s Chesapeake Bay Implementation Grant to DEP. DEP intends to work with WRI and TIAER to make the necessary revisions to the CBNTT tool by the end of calendar year 2019, allowing Pennsylvania to transition to using this new tool, and the new performance-based TMDL linked agriculture baseline analysis in early 2020. The transition of the PA Nutrient Trading Program to using the CBNTT tool is expected to simplify the nonpoint source eligibility determination and credit calculation process.

DEP is continuing work to implement Nutrient Trading Program enhancements as recommended by EPA including the suggested verification oversight and additionality referred in your comments. The current nonpoint source verification protocols carried out in the program involve conservation district or certified nutrient management

⁶² Pennsylvania Department of Environmental Protection. 2011. Land Application of Manure: A supplement to Manure Management for Environmental Protection. Manure Management Plan Guidance. 361-0300-002.

specialists, trained in the BMPs they are assessing, to provide written, and where appropriate, photographic verification of the practices proposed for trading, with those verification requests required to be submitted annually. This has resulted in appropriately trained individuals involved in ensuring practice viability which is assessed annually in order to verify the requested nutrient credit. For practices such as manure hauling or manure destruction, actual hauling and manure treatment records and laboratory analysis are required to be provided and accepted by DEP in order to verify practice implementation and to generate the desired credits.

In relation to additionality, it is difficult to determine what practices would or would not be implemented without the availability of nutrient credits. In many cases the practice is implemented without any prior agreement to sell the nutrient reduction, with the request to generate credits submitted after the implementation is completed in the hopes of generating some funding to offset the cost of the practice. In addition, many of the funding programs administered by the state disallow the party implementing the practice to receive nutrient credits if the practice was funded using the funding program. For example, the grant contracts established through Pennsylvania's Growing Greener Program include a provision which retains any nutrient credits generated through the implementation of the funded project, to be the property of the DEP, not the entity receiving the public funds.

Pennsylvania is interested in continually enhancing its Nutrient Trading Program, as evidenced by our work to move our program into using the EPA-supported CBNTT trading tool and incorporating a performance-based TMDL linked agriculture baseline analysis into our nutrient credit calculations. DEP remains interested in working with EPA and any other interested parties to discuss program enhancements that may improve the state's Nutrient Trading Program.

68. COMMENT

33. Michael Sachs, Resource Environmental Solutions, LLC (RES) -

Resource Environmental Solutions, LLC (RES) is the nation's only fully-scaled operating company providing ecological restoration and water resource solutions. We work closely with developers, operators, landowners, and regulatory agencies to create a balance between sustainable economic development and the environment. Our unique operating model, which combines in-house analytics and technical expertise with extensive implementational resources and capabilities, has allowed RES to become distinguished as a leader in an ever- changing commercial landscape. RES employs nearly 400 dedicated staff in 15 operational hubs across the country, with 35 employees operating in our Philadelphia and Pittsburgh offices.

RES respectfully submits the following comments to the Pennsylvania Department of Environmental Protection (DEP). We applaud the State's effort to develop a comprehensive strategy through local engagement and we appreciate the opportunity to review and comment on the Pennsylvania Phase 3 Chesapeake Bay Watershed Implementation Plan (Phase 3 WIP) draft.

The following comments focus on opportunities where the private sector can provide solutions to help improve water quality while supporting economic growth in the Commonwealth.

Sections 2.III.B.5; 2.VI.D. and others – Consistent Stream Restoration Guidelines:

Project planners and implementors could benefit from more explicit guidelines on qualifying stream restoration projects, credit calculation, and monitoring protocols. Stream and wetland restoration is identified in a number of sections of the draft WIP as a mechanism for addressing the goals set for the Bay, as well as helping meet local water quality goals. For this management practice to be used in connection with development, there needs to be clearly delineated guidelines. Development projects can take many years to accomplish and having established design and crediting will help promote certainty and thus encourage private investment. Published guidelines for stream restoration projects receiving credit for nutrient and sediment reduction can have many benefits. Establishing such standards improves project consistency and this can in turn help increase efficiency in review and implementation. There is precedent for using the Bay protocols for stream restoration as well as established stream restoration protocols in other states in order to receive credits that can be applied to demonstrate compliance.

Section 2.II.4.b – Growing Greener

Modifying programs such as Growing Greener to be more flexible, specifically allowing for the private sector to submit projects, will help meet the 2025 reduction goals. As noted earlier, managing impacts related to needed economic growth is identified as a significant issue in the draft WIP. Much of the growth will be associated with private land and therefore will require collaboration with private industry to effectively manage the impacts. Performance-based procurement can benefit stakeholders by leveraging the private market to more rapidly develop high quality and more cost-effective projects.

Full-delivery procurement often lends itself well to larger-scale solutions with added cost savings due to economy of scale. Full-delivery procurement involves a single contract covering all aspects of the project from conceptual development and land search/acquisition through full attainment of the desired ecological performance criteria. Cost savings and shorter timelines can be realized by eliminating incremental contracting per project phase and streamlining planning and handoffs. Other benefits include: a single point of accountability, price certainty in an up-front fixed price, performance-based payments, and having construction teams involved in the design process. (33)

RESPONSE

Stream Restoration Guidelines – The four pilot counties highlighted this issue as part of the development of their Countywide Action Plan. As a result, this is identified as one of the priority programmatic initiatives in Section 2, State Actions of the Phase 3 WIP.

Growing Greener – The Environmental Stewardship and Watershed Protection Act (HB868; Act 68 of 1999) does not recognize private entities as being able to accept grants directly. To change this would require a legislative change in the Act. However, a private entity could partner up with an eligible entity as their sponsor and apply under the sponsor’s name. All granting documents would be in that sponsor’s name.

69. COMMENT

35. Allyson Gibson, Lancaster Clean Water Partners -

Table 2.4 (also depicted on page 7 of the Executive Summary) describes actions and programs currently in place. The eighth listing is “Stormwater programs that result in net increase (greater than 1:1 ratio)”. I don’t understand this description. (35)

RESPONSE

This language was in the draft Phase 3 WIP to convey the principle that a net reduction in pollutant loads from stormwater BMPs may be realized if existing developed lands that are currently untreated with respect to stormwater runoff are treated, or if land cover is changed in a way that reduces pollutant loads in runoff (e.g., conversion of impervious to pervious surfaces). This language has since been removed in favor of a more accurate description of the programs that can achieve expected nutrient and sediment reductions as part of Pennsylvania’s current strategy.

70. COMMENT

36. Renee Reber, American Rivers [for Pennsylvania Stormwater Workgroup for Clean Water] -

The Stormwater Management Act of 1978 (Act 167) must be funded, staffed, and enforced to be an effective tool for reducing pollutants and managing stormwater.

Solution: The final Phase 3 WIP should continue to include plans for the enforcement and funding of Act 167 stormwater management plans.

Act 167 requires counties to adopt a stormwater management plan for each watershed and to reviewed and updated that plan every five years. In turn, municipalities are required to adopt ordinances and local regulations consistent with the county Act 167 plan. This provides a path to develop stormwater ordinances compliant with MS4 permits. It is also a path to addressing unregulated sources of stormwater because Act 167 requires local governments without MS4 permits to pass a stormwater ordinance. In recent years, the legislature cut funding to this program and since then DEP has been unable to enforce the ordinance requirement. Furthermore, planning assistance grants to local governments for Act 167 plans were also cut from the budget. Updating Act 167

ordinances for all municipalities should be included in each Countywide Action Plan.
(36)

RESPONSE

Agreed. Thank you for your comment.

Numeric Commitments (Section 2)

Cross-sector allocations

71. COMMENT

18. Kevin Sunday, Pennsylvania Chamber of Business and Industry -

We appreciate that the Department has taken strides to develop a plan that reflects accurately the progress that the respective sectors involved have made so far – and that responsibly allocates responsibility with respect to remaining reductions by these sectors. The point source sector (including publicly owned treatment works and industrial wastewater plants) in Pennsylvania have fulfilled their commitments to achieve the reductions called for under the Chesapeake Bay TMDL, which the Draft WIP 3 notes. At considerable cost, in terms of both capital investment and operation and maintenance expense, industries have modified production processes to reduce nutrient generation in wastewaters, and both municipalities have upgraded treatment facilities to reduce nitrogen and phosphorus in their effluent. According to the latest available assessment of loading reductions achieved, as of 2015, the point source sector had more than met its targeted 2017 milestone reductions for nitrogen and phosphorus (TN: 9.8 M lbs/year actual vs 10.2 M lbs/year 2017 target; TP: 0.76 M lbs/year actual vs. 0.966 M lbs/year 2017 target). Indeed, the point source sector in Pennsylvania has already achieved its mandated 2025 phosphorus load levels (0.897 M lbs/year) reductions and is within striking distance of meeting its 2025 nitrogen reductions (8.92 M lbs/year). That progress has been made by industries and municipalities not because it was easy, but because this sector has taken its obligations seriously and has worked assiduously to design, construct and invest in the improved processes and facilities required to meet these ambitious targets.

Unfortunately, the progress made by some other sectors toward their TMDL targets have been less encouraging. As the Department reported last year, Pennsylvania committed to reduce its urban/suburban stormwater load for Nitrogen by 41 percent and for Phosphorus by 45 percent, but as of 2016 had only reduced Nitrogen Loads from that sector by about 1 percent and Phosphorus by approximately 10 percent. With respect to the agricultural sector, the modeled loadings remain significantly above the 2017 TN and TP targets. While we understand (and support) efforts to assure that the Bay model better accounts for all best management practice that are, in fact, being implemented, it appears that both the stormwater and agricultural sectors have accrued a significant shortfall that needs to be addressed in the Phase III WIP.

With this in view, the PA Chamber reiterates its support for the following theme as part of a final Phase III WIP.

1. Maintain Fair Sector Allocations: Given the significant investments already made by the wastewater point source sector, it would be unfair and unreasonable to shift the loadings shortfalls of other sectors onto the point source sector. As the Department knows, the point source sector has already implemented TN and TP removal efficiencies of 95% and higher, and attempting to achieve reduction or the last few percentages will achieve little, but at enormous cost. “Zero discharge” is not technologically nor economically achievable, but even if one were to eliminate the entire

point source category the resulting reductions in TN would represent less than 25% of the current shortfall in loading reductions required from the agricultural and stormwater sectors. Punishing one sector (industry and POTWs) to make up for the shortcomings in other sectors makes no regulatory, water quality, or economic sense.

2. Encourage a More Viable Nutrient Trading Program: The PA Chamber continues to favor utilization and encouragement of market measures to help promote more cost-effective implementation of nutrient load reductions. For a nutrient trading program to be effective, however, there are several significant prerequisites: (1) a regulatory regime must be stable and predictable, establishing criteria for determining credits that are fixed for the long-term; (2) credits once traded must be secure against subsequent “second-guessing” or regulatory change; (3) there needs to be a marketplace with both an adequate number of willing buyers and willing sellers.

After an initial promising start, it is unfortunate that Pennsylvania’s nutrient trading program was essentially side-tracked by EPA’s objections, and subsequent changes made by policy and guidance that trumped published regulations, leading to regulatory confusion and uncertainty. Such changes have led potential buyers in the marketplace to be chary of relying on credits to meet what would otherwise be their nutrient reduction obligations, lest the value of those investments evaporate in a subsequent regulatory “adjustment.”

At the same time, the fact is that the market of willing buyers has reached a hiatus. Point sources have opted for the security of investing in their own long-term improvements to meet nutrient reduction obligations; and having done so and achieved mandated cap loads, the incentive to acquire credits has dissipated. But if the credit program is encouraged, that hiatus may be temporary. As municipal separate stormwater systems face the requirement of developing and implementing nutrient reduction plans, if the option is offered of acquiring credits as part of such plans, the credit program might assist in helping to channel funds through the market toward activities (whether it be in the agricultural or stormwater sectors) where nutrient reductions can be achieved in a more cost-effective manner.

This said, we are reluctant to endorse proposals that have come from some quarters that would set up a forced market – where the government would be statutorily obligated to purchase credits and charge “fees” or “assessments” to municipalities, stormwater authorities or perhaps others to fund the program. A true market system is one based on willing buyers and willing sellers, not forced transactions where one side is forced to participate. On the other hand, if it is determined that a public investment is needed to attract sufficient nutrient reductions (particularly from non-point sectors, such as agriculture), then we might suggest *pilot testing* a public procurement program to solicit and enter into long-term contracts for credit creation via a competitive bid/competitive proposal process – allowing the market to respond with competitive and cost-effective proposals, rather than just allocating funds to a range of “initiatives” and “measures” that we hope will generate reductions. (18)

RESPONSE

1. Based on the analysis completed, the conclusions of the Phase 3 WIP Wastewater Workgroup are very similar to yours. As a result, the focus of the priority initiatives to achieve the remaining reductions in the Phase 3 WIP are from the nonpoint sources.
2. DEP is fully supportive of Pennsylvania's Nutrient Credit Trading Program and has actively implemented this program in Pennsylvania since 2006. This program continues to be a valuable resource for NPDES permittees who choose to purchase nutrient credits from generating entities rather than make the necessary facility upgrades or process changes to meet their permit cap loads for nutrients. These current nutrient trades are driven by nutrient cap loads included in the NPDES wastewater treatment facility permits. MS4 permits currently do not include nutrient or sediment cap loads. Therefore, the Nutrient Trading Program has no current basis for determining nutrient or sediment goals to be met by a trading program. However, DEP is supportive of the option to allow MS4s to offset their permit compliance obligations through implementation of offsite practices. Guidelines are being developed to support this option.

Numeric Commitments (Section 2)

Agriculture

72. COMMENT

3. Scott Rebert, unknown affiliation -

Also, the spreading of animal wastes on fields in the spring is an ongoing problem. It seems like farmers apply this fertilizer right before a big rain storm. I know that many Amish/Mennonite farmers do not have the weather forecast available so they are guessing about the forecast when they apply the fertilizers. Maybe if PA could inform them of a good time to apply based on the weather forecast? Or if there was a requirement to inject or plow-under any fertilizer applications? (3)

RESPONSE

DEP will consider adding more specific guidance related to considering weather forecasts when applying manure into the next revision to the Manure Management Plan Guidance (361-0300-002). The current Manure Management Plan Guidance includes incorporation timing (the number of days after the application of manure before manure is mechanically incorporated) as one of the application rate variables that should be considered when applying manure. There is no requirement to incorporate manure or fertilizer; rather, practices like no-till farming would restrict such incorporation, unless through the means of low-disturbance manure injection. Where the soil is left undisturbed for an extended period of years, water infiltration is greatly enhanced, which decreases overall stormwater runoff and enhances infiltration of nutrients carried with that runoff.

73. COMMENT

12. Eric Rosenbaum, PA4R Nutrient Stewardship Alliance -

In our review of the draft Phase 3 Chesapeake Bay Watershed Implementation Plan (WIP) for Pennsylvania, we are encouraged to see increased focus on enhanced nutrient management practices, increased agricultural compliance efforts, and increased focus on soil health. We feel that the seven strategic areas highlighted for the agriculture sector (page 5, draft WIP) will move Pennsylvania in the right direction for improving water quality goals. However, even with implementing these strategies as outlined in the WIP Progress and Tracking Template, Pennsylvania faces a gap of nearly 11 million pounds of nitrogen reductions for the 2025 deadline. We feel there are opportunities within the current strategies to increase reductions through 4R nutrient stewardship.

The 4R Nutrient Stewardship concept is a holistic decision-making tool. 4R nutrient management encourages farmers and their trusted advisors to consider both in-field BMPs including the Right Rate, Right Source, Right Place and Right Time of nutrient applications (including manure, inorganic fertilizers, and other sources), and edge-of-field conservation practices that can help to trap and prevent nutrient losses to surface water. The goal of 4R Nutrient Stewardship is to improve recoverability and efficiency of applied nutrients, resulting in reduced environmental losses, improved crop yields, and increased profitability for farms. The 4R concept is applicable for manured acres, as

well as non-manured acres, and is consistent with soil health initiatives. 4R practices are a cost-effective means of meeting a significant portion of PA's nutrient reduction goals.

WIP 3 Considerations: We, the individuals and organizations of the PA4R Alliance, do respectfully request DEP considers the following recommendations and statements of support for the final Pennsylvania Phase 3 WIP.

1. Increased acreage with Core and Enhanced Nutrient Management, including **both** manured and non-manured lands for 2025 goals
 - a. We recommend DEP establishes performance targets for development and implementation of nitrogen-based and phosphorus-based "core" nutrient planning on 90% of crop land not currently receiving animal manure (through a simple Nutrient Balance Sheet for nutrients -crediting legume contributions and all fertilizer applications vs. expected crop yields, based on historic yield goals).
 - b. We recommend DEP establishes more ambitious enhanced nutrient management acreage and practices goals for both manured and non-manured lands. Through our work with agribusinesses and our preliminary survey results, we believe the goal of 20% of non-manured lands with enhanced NM practices could be significantly expanded and still remain a realistic goal for PA farmers.
 - c. We recommend clarification of which 4R practices are included in recommendations. Our survey results indicate that farmers adopt nitrogen and phosphorus rate, timing, and placement practices at different levels, and we feel that these factors should be separated out in the recommendations in the Phase 3 WIP in order to account for appropriate BMPs in the Chesapeake Bay Model.
 - d. We suggest re-evaluating anticipated costs and nutrient reductions associated with 4R practices. Many farmers implement 4R practices on their own without cost-share due to the return on investment of these practices. The high costs listed in the draft WIP do not take the return-on-investment into account and create the perception of high costs for 4R practices.
4. Integrate soil health and enhanced nutrient management practices
 - a. We applaud the emphasis on soil health practices in the Phase 3 WIP but feel the importance of enhanced nutrient management as a component of soil health was underplayed. As more farmers increase soil health practices, soil fertility and microbial populations affect nutrient source and rate requirements. 4R practices are a key part of understanding the specific fertility needs of a farm in relation to their level of soil health. More research and funding are needed to understand and communicate this 4R and Soil Health relationship.
5. Edge of field practices to trap nutrients leaving farm fields
 - a. As part of 4R nutrient stewardship, farmers strive to encourage crop uptake of nutrients and minimize any potential losses to the environment through runoff or leaching. We also support the concept of 4R Plus, combining in-field nutrient management practices with edge-of-field and in-stream practices that trap and mitigate nutrients leaving cropland. We support the WIP 3 initiatives to increase

adoption of practices such as riparian buffers, wetland restoration, and legacy sediment streambank restoration. (12)

RESPONSE

The Phase 3 WIP Agriculture Workgroup was comprised of farmers and agricultural industry representatives to provide an industry informed proposal for addressing nutrient losses from farms. This workgroup determined the seven priority initiatives over the course of the two-year Phase 3 WIP development process.

While the draft Phase 3 WIP identified “enhanced” Nutrient Management (adjustment of rate, timing, and placement of nitrogen and phosphorus) on non-manured acres, it did not include this on manured acres. The Phase 3 WIP Agriculture Workgroup discussed and determined that these manured acres were missed in their initial discussions and recommendations, and enhanced nutrient management on manured acres have been recommended by the workgroup to be added to the Phase 3 WIP at a 20% level. DEP has accepted this recommendation. Performance targets for “core” nutrient management on 90% of crop land not currently receiving animal manure was also considered by the Phase 3 WIP Agriculture Workgroup. However, since there has been limited data to support this figure, the Workgroup recommends that the performance target should remain at 20% of crop land not currently receiving animal manure and DEP agrees with this recommendation.

For consistency, the Chesapeake Bay Program Chesapeake Assessment Scenario Tool (CAST) was used to determine costs associated with all practices identified throughout the Phase 3 WIP, regardless of sector. This was the best means of consistently identifying costs. However, if jurisdictions have cost data to share with the Chesapeake Bay Program, they are able to use that information to update the cost values. Unfortunately, DEP does not currently have confirmed alternative cost data to include in the final Phase 3 WIP to use as an alternative in the development of the final WIP.

DEP acknowledges that most, if not all, of the priority initiatives set forth in the agriculture sector should be integrated as a holistic approach. Soil health, manure storage, and nutrient management are not separate, but one holistic piece. By pulling out Enhanced Nutrient Management as a separate priority initiative in the Phase 3 WIP, the Phase 3 WIP Agriculture Workgroup believed that it would get greater attention, but commentary has been added to address the integrated aspects of these practices.

74. COMMENT

13. Jeremy Rowland, Coalition for Affordable Bay Solutions (CABS) -

Transition Agriculture

Another CABS sponsored low cost alternative solution to livestock waste impacts is transition agriculture (TA) which holds enormous promise for agriculture, local fresh

water resources, the Chesapeake Bay and Pennsylvania taxpayers. TA is a voluntary approach that will enable small livestock operators to generate verified nutrient reductions by voluntarily adopting lower impact agricultural activities. This could take many forms such as transitioning from traditional milk production to grass fed milk; transitioning from either dairy or hog production to raising beef cattle; or from livestock production to either row crops or organic row cropping. CABS proposes to incorporate TA as a BMP that could participate in the competitive bidding award. In essence, the competitive bidding program becomes an aggregator providing the taxpayer with a market based cost effective solution that also enables small livestock producers to capture the full economic value of their nutrient reductions.

CABS believes that the use of taxpayer funded programs to mitigate livestock environmental impacts should include enabling the producer to decide which approach is in the best interests of his/her family based upon the fact that the cost to taxpayers is equivalent. Presently, no such revenue source exists to sufficiently offset the transition costs to higher value lower environmental impact agricultural activities. TA revenue from selling verified nutrient credits would provide a long term revenue stream to fund these transition costs.

Lastly, CABS believes that the adoption of a competitive bidding program to enable MTT projects and TA will be viewed as “innovative” programs by federal EPA and USDA and be supported with federal cost share funding. (13)

RESPONSE

“Transition Agriculture” is not a Chesapeake Bay Program Partnership approved BMP for nutrient and sediment reduction efficiency values. However, converting lands from one land use (e.g. cropland) to another land use (e.g. pasture) does receive a “land use conversion” factor, which informs the loading rate for that particular county. The Chesapeake Bay Program Partnership approves new BMPs via Expert Panel reports supported by research and data. While there is currently no funding associated directly to a practice referred to as “Transition Agriculture”, there are many cost-share programs, both federal and state, which offset the cost for the relevant plans and BMPs associated with “Transition Agriculture” such as grazing plans, fencing, off-stream watering systems, etc.

75. COMMENT

18. Kevin Sunday, Pennsylvania Chamber of Business and Industry -

5. Conservation District Programs and Other Should Build Upon Promising Outreach to the Agricultural Sector:

The agricultural sector remains the most challenging element of the TMDL picture. We are encouraged by the recent Penn State evaluation of what farmers reported were best management practices they were implementing compared to what was observed in the field – which indicated that reported voluntary measures were, in fact, being implemented and in some cases

underreported.⁶³ It should not require an overly elaborate regulatory program to encourage the type of communication needed to collect data on those measures and obtain credit for such efforts in the Bay model. A combination of enhanced Conservation District outreach programs, farmer self-assessments, periodic spot-checking of self-assessments of the type that Penn State demonstrated, and use of remote sensing technologies should be considered and advocated.

In this regard, we would encourage the agricultural community to modify its positions which limit effective use of satellite and other remote sensing technologies. As noted in a study prepared for EPA:

A principal reason for the often haphazard nature of BMP data collection by watershed projects is the fact that privacy laws and policies often restrict the type and amount of information available to those involved in a watershed project, most notably information about agricultural enterprises. Because specific, farm-level information about livestock, crops, farm inputs such as fertilizer and pesticides, and basic farm management is usually only available if disclosed by the individual farmer, watershed projects often have incomplete information or inconsistent levels of detail from farm to farm. Project investigators are often put into the position of having to reduce the level of detail to the least common denominator across farms or of patching together as much information as they can and then determining how to use it later. Confidentiality policies also drive government agencies that collect land use or management data to aggregate their data – even information collected on a site-specific basis – to a geographic scale (e.g., county, HUC-12) that reduces the utility of the data to a watershed project evaluating water quality influenced by specific drainage areas.⁶⁴

Industries, municipalities, and others in the regulated community are universally subject to some amount of reasonable data collection by the government, including rights of inspection. The use of remote sensing to ascertain and verify use of BMPs on farms, so that they may be utilized in modeling loadings to the Bay, is by far less intrusive than the governmental oversight that other members of the regulated community face every day. We need to get past overly broad claims of “confidentiality” to tackle this shared challenge.

While some (perhaps many) farmers have taken on the challenge, adopted nutrient management plans, and undertaken various voluntary practices (such as no till and

⁶³ Survey finds Pa. farmers have done much to protect Chesapeake Bay water quality. Penn State News, Dec. 15, 2016. <http://news.psu.edu/story/442579/2016/12/15/survey-finds-pa-farmers-have-done-much-protect-chesapeake-bay-water-quality>.

⁶⁴ Land Use and BMP Tracking for NPS Watershed Projects. Meals, et al., National Nonpoint Source Monitoring Program, August 2014. Available at https://www.epa.gov/sites/production/files/2016-05/documents/tech_notes_11_aug28_bmptrack.pdf.

stream buffers), pursuit of best management practices is far from universal. A financial incentive approach, via the type of trading arrangement mentioned above, might help. But none of this will work unless the agricultural community fully embraces its responsibilities. (18)

RESPONSE

DEP agrees that the use of many different methods to document, collect, track, verify, and report BMP implementation data is necessary to document the full extent of practice implementation on farms throughout the watershed. The draft BMP Verification Plan included with the Phase 3 WIP takes full advantage of all of these different methods, including the use of remote sensing, where appropriate. Remote sensing has proven to be one of the more effective means of collecting certain types of BMP data and DEP is supportive of including this process for tracking BMP activities, but technical staffing and Chesapeake Bay Program Partnership acceptance of this data is necessary to allow remote sensing to be used to any great extent.

In relation to the confidentiality of reported data, the Phase 3 WIP identifies potential revisions to the Right To Know Law which would provide limited confidentiality to individual farm records for the purpose of tracking and verifying BMP implementation in the watershed. If passed into law, this additional confidentiality provision would facilitate the collection and verification of site-specific BMP data from farms throughout the watershed.

76. COMMENT

27. Rick Meinke -

It is discerning to see that Pennsylvania allows out of state jurisdictions to spread sludge in January on frozen ground. This happened twice in Delta PA in January 2019, by an out of state municipality thru a contractor. Although PA had to approve this action, it seems to me to be detrimental to the Susquehanna River since the application was followed by 2-3" of heavy rain after each application. What was accomplished by this action? Nothing good for the Bay. Thank you. (27)

RESPONSE

25 Pa. Code Chapter 271 Subchapter J provides for the beneficial use of sewage sludge (biosolids) by land application. Biosolids that meet the pollutant limits, pathogen reduction requirements, and management requirements may be land applied in PA. There are out-of-state sources of biosolids that are land applied in PA. PA regulations state that biosolids may not be applied to agricultural land, forest, a public contact site or a reclamation site that is flooded, frozen or snow-covered. When a land applier finds that site conditions are flooded, frozen or snow cover, land application is prohibited. The regulations define the term "frozen ground" as "[g]round frozen to a depth of at least 2 inches for a period of 72-consecutive hours." When conditions meet the definition of being frozen, land application cannot occur. Instances of land application of biosolids on frozen ground should be reported to DEP's Regional Office Clean Water Program that covers the area where the land application occurred. Although the biosolids regulations do not specifically prohibit the land application of biosolids directly prior to a rain event,

they state that a person may not apply sewage sludge in a way that will cause surface or groundwater pollution. Pollution events that occur as a direct result of land application prior to a rain event are not be acceptable. Pollution incidents involving biosolids should be reported to DEP's Regional Office Clean Water Program that covers the area where the pollution event occurred.

77. COMMENT

29. Taylor Nezat, Pennsylvania Choose Clean Water Coalition [part of PennFuture] -

Agricultural Compliance and Collaboration is the Key to Achieve Load Reductions

The seven high priority agricultural best management practices (BMPs) recommended by the Steering Committee Agricultural Work Group and included in the draft WIP appear to be well-chosen because they are well-established and cost-effective. These practices include compliance with agricultural erosion and sediment control plans; manure and nutrient management plans and barnyard runoff controls; soil health practices (conservation tillage or no-till and cover crops); expanded nutrient management; use of proper manure storage facilities; precision feeding; integrated systems for elimination of excess manure from the watershed; and forested and riparian buffers.

With an estimated 71% of nitrogen reductions coming from the agriculture sector, it is critical that Pennsylvania provide farmers and landowners with the financial and technical assistance needed to implement these BMPs. Furthermore, it is critical that Pennsylvania ensure compliance assurance, funding support, and verification.

The Pennsylvania plan emphasizes participation by a wide range of stakeholders; however, it has ignored the food supply chain, in whose service the agriculture sector produces animal and plant food commodities with associated impact to the environment. When these commodities are exported from the state, Pennsylvania taxpayers are left with the costs for environmental remediation. With few exceptions, food supply chain companies and organizations have failed to take direct responsibility for mitigating agricultural nonpoint pollution. Lack of food supply chain ownership and leadership are detrimental to achieving sustainable agriculture.

Pollution from the production of agricultural food products should be fully attributed to the food supply chain. Pennsylvania and other jurisdictions should permanently engage organizations such as the Food Manufacturers Association, the Sustainable Food Supply Alliance, the Sustainability Consortium and the US Poultry and Egg Association to address regional agricultural pollution. The Chesapeake Bay Partnership should generate active involvement by companies such as Walmart, Unilever, Ahold, Nestle, Tysons, Keystone Foods, Aramark, and Perdue Farms. Engagement and involvement

should include responsibility for improvement, not mere representation in working committees.

Through its role as producer and consumer intermediary, the supply chain is uniquely enabled and responsible for eliminating systemic barriers to sustainability. Well known market trends indicate that consumers are willing to pay more for food products with certified low environmental impact. Food supply chain members and institutions can educate consumers and build upon existing logistical and food safety management systems to track products and compensate producers on the basis of food product environmental attributes. Permanent funding for maintenance of Chesapeake watershed water quality beyond 2025 should be provided by the food supply chain and other polluting enterprises.

The limited success of Pennsylvania’s waterways restoration efforts has been due to a lack of adequate technical and financial assistance to farmers. Now is the time for the Commonwealth to show leadership and make the necessary investments to ensure that Blueprint goals are met. We implore the legislature to explore new sources of technical assistance to farmers, such as an agriculture cost-share program and revamping the nutrient credit trading program. (29)

RESPONSE

The Phase 3 WIP Agriculture Workgroup was comprised primarily of farmers and agricultural industry and organization representatives to ensure that the appropriate entities could be identified to support implementation of the goals established in the Phase 3 WIP. The types of companies and organizations identified in the comment were likewise identified by the Phase 3 WIP Agriculture Workgroup as important entities to involve in program implementation. The Phase 3 WIP Agriculture Workgroup was provided information from the MDVA Cooperative and Alliance for the Chesapeake Bay on their work with Turkey Hill and has incorporated this message in the Phase 3 WIP. Work will continue to identify and incorporate those in the food supply chain in the implementation of the Phase 3 WIP. DEP will look to engage those groups identified in the comment and others moving forward. Note that the US Poultry and Egg Association is represented on the Chesapeake Bay Program Partnership Agriculture Workgroup.

78. COMMENT

30. Ronald Ramsey, The Nature Conservancy -

Agriculture:

We encourage the Department and the Agriculture Workgroup to explore appropriate opportunities to increase the 2025 goals for the amount of acreage managed with core and enhanced nutrient management, including both manured and non-manured lands. We also suggest that key partner agencies and groups collaborate to develop a data-

secure process that enables farmers to voluntarily self-report their employment of enhanced nutrient use efficiency practices (4R). (30)

RESPONSE

The Phase 3 WIP Agriculture Workgroup considered and ultimately recommended expanding enhanced nutrient management to manured acres. DEP accepted these recommendations for 20% of all crop land (both manured and non-manured) for practicing rate, timing, and placement for Nitrogen and Phosphorus. DEP and the Phase 3 WIP Agriculture Workgroup strongly support the formation of a confidential, data-secure process for enabling farmers to voluntarily self-report certain BMPs which may include enhanced nutrient use and efficiency practices.

79. COMMENT

31. Grant Gulibon, Pennsylvania Farm Bureau –

Pennsylvania Farm Bureau wishes to offer its comments on the Department of Environmental Protection's (DEP) draft Chesapeake Bay Watershed Implementation Plan for Phase 3 (WIP-3). Farm Bureau is a general farm organization, made up of more than 62,000 members. Since 1950, Farm Bureau has provided support, advocacy and informational and professional services for Pennsylvania agriculture and farm families. Farm Bureau members and staff have also invested numerous hours in meetings and other communications as participants in the work group process used to develop the WIP-3, and our comments will focus specifically on the seven strategic areas in which Pennsylvania state government and its partners will work with agriculture.

1. Agricultural Compliance—Ensure farmers are implementing their state required Agricultural Erosion and Sediment Control (Ag E&S) or conservation plan, Manure Management/Nutrient Management Plan, and implementing required barnyard runoff controls, where needed.

In the case of agricultural compliance, we believe it is reasonable to conclude that the vast majority of Pennsylvania agricultural operators understand the importance of complying with applicable environmental laws and regulations, and the attendant necessity to develop and implement the plans and conservation practices. However, this statement presupposes that Pennsylvania farmers currently have, or will soon be able to access, the financial and technical resources needed to do so—and these are major challenges that have yet to be overcome. Then too, the economic position of many Pennsylvania farmers has worsened in recent years, leaving them in a situation in which they cannot feasibly implement new pollution controls without significant financial assistance.

In fact, financial and technical support are far from the only issues that must be overcome if compliance is to be achieved. The nearly 34,000 farms operating in the Bay watershed differ widely in size, types of commodities produced, and technological development. There are also religious issues involved in some communities, as well as skepticism about whether or not new pollution control methods will actually benefit a

given operation, especially given the level of financial commitment required in most cases. Additional education and training for farmers will be needed to overcome this skepticism.

2. Soil Health—Use crop and soil management practices that improve long-term soil health and stability.

Both water quality and soil health are critical to the future viability of farms in the watershed. In the area of soil health and stability, Farm Bureau believes that farmers will be more receptive to implementing crop and soil management practices that have been demonstrated to increase yield, reduce costs of production and improve the farm's future economic viability, including residue management, management and use of cover crops, and the use of prescribed grazing plans. There has been considerable progress in technical knowledge and understanding of soil health management, and much greater optimism that soil health management can provide a win-win in sustaining both the environmental quality and economic viability of farming operations. Farm Bureau believes that actions to improve and manage soil health should be a key element in any version of WIP-3 finally adopted by the Commonwealth.

3. Expanded Nutrient Management—Non-manured farmlands use nutrient management plans and precision nutrient management practices.

Farm Bureau believes there can be potential benefits from performance of enhanced nutrient management planning on farms not generating or receiving manure, but also believes there may still be strong resistance in accepting governmental actions that are perceived by these farmers to be a universal mandate for non-animal farm operators to employ enhanced nutrient management planning and implementation on their farms.

4. Manure Storage Facilities—Install and use manure storage systems that meet federal standards.

Farm Bureau believes that there is substantial benefit to water quality that can be attained through additional on-farm installation and use of manure storage systems with sufficient storage capacity and are located or relocated to be consistent with state and federal location standards. However, there are several factors that must be considered in determining how to achieve this result. Among them are the extensive criteria for design and construction of these facilities; the standards for management of soil and stormwater runoff that must be met; and the costs associated with acquiring the materials needed for construction and hiring design and construction professionals to perform the needed work.

Farm Bureau believes that the WIP-3 must recognize the serious economic challenges that most farmers face in constructing the type of manure storage facilities needed for effective water quality management, especially without a prevailing source of available

public funding. It is estimated that for Pennsylvania to achieve the draft WIP-3's recommended goal of adequate manure storage systems on 90% of swine and poultry operations and 75% of other animal operations by 2025, the Commonwealth would need to incur costs each year of \$214 million.

Adequate manure construction is by far the largest cost ticket item among the draft WIP-3's agricultural conservation measures. Current sources of public funding fall considerably short of farmer need. And because of relative efficiency in design and construction of manure systems with other on-farm structures, there may be greater opportunity for attainment of construction of effective manure storage systems in production of some animal species over others.

5. Precision Feeding—Use precision feed management to reduce nitrogen and phosphorus in manure.

Farm Bureau believes that such practices can be implemented on many Pennsylvania dairy operations without significant adverse impact on efficiency or cost of production.

6. Integrated Systems for Elimination of Excess Manure—Create integrated (county/regional) programs for removal of or beneficial use of excess manure.

Farm Bureau supports the development of coordinated regional systems to facilitate elimination of excess manure through enhancement of manure transportation and manure treatment systems. We further believe that development of manure systems must be supported by proven data and analysis that show that such systems will result in reductions in nitrogen, phosphorus and sediment and will be a practical solution for meeting Bay reduction goals.

7. Forest and Grassed Riparian Buffers—Plant grassy vegetation or forest buffers along streams.

Farm Bureau opposes any action by a regulatory agency that would mandate a standard defined buffer or riparian zone. We recognize that development of forested and grassed buffers adjacent to surface waters can provide substantial benefit in improving and protecting water quality; at the same time, there are numerous challenges associated with establishing and maintaining both forested and grassed buffers. Furthermore, these challenges would, in the main, fall of the owner of the land committed to the buffer, including planting and maintaining buffer vegetation. Finally, designating land for a buffer means that the land in question cannot be used for other productive purposes.

Farm Bureau believes that locally based approaches to identify the areas in which buffers would have the greatest benefit at the lowest cost, and which incentivize landowners to participate, are preferable to more compulsory approaches. Some of this incentivization could take the form of providing additional public funds to landowners committing lands adjacent to waterways for forested and grassed buffer development,

as well as for management and to provide training and support for additional individuals who can provide technical and maintenance assistance to owners of farms. This assistance could help find ways to manage buffer areas that provide effective environmental benefits and help enhance future supplemental income opportunities. (31)

RESPONSE

The Phase 3 WIP Agriculture Workgroup was comprised of farmers, agricultural industry, state agency staff, and organization representatives, including the Pennsylvania Farm Bureau. The workgroup's recommendations included a high priority for agricultural compliance. Pennsylvania has had agricultural erosion and sediment control regulatory requirements since 1972 and manure management regulatory requirements since 1985. While there are costs associated with implementing BMPs, compliance with these long-standing requirements is critical for improving local water quality. Technical and financial support has been available to the farm community for decades to support efforts to meet these compliance obligations. Many of the agricultural BMPs called for in the Phase 3 WIP have the additional benefit of providing a more sustainable and economically stable farm. Thus, while an investment to initiate the BMP is needed, the expectation is that long-term use of the BMP will reduce farmer input costs and save the farmer money over time.

The Phase 3 WIP places a high priority on "core" and "enhanced" nutrient management on non-manured and manured acres, recognizing both the significant water quality benefit and cost saving to farmers afforded by this practice. DEP acknowledges the large cost attributed to implementing manure storages which meet construction standards necessary to protect water quality. These manure storages allow a farmer to apply manure more closely to when crops need the nutrients, which reduces the farmer's fertilizer costs. The cost for manure storage implementation in the Phase 3 WIP is strongly dependent on the number of storages yet to be installed.

NRCS has been the primary source of data used to report the number of existing manure storage facilities to the Chesapeake Bay Program. DEP believes there is a large gap in reporting the number of existing manure storage facilities, because Plain Sect and other farmers often work directly with private consultants. As a result, the manure storages may not be reported because the farmers do not receive NRCS or other government support to implement these BMPs. This under-reporting likely inflated the cost necessary to meet the manure storage goals in the WIP.

The Phase 3 WIP identifies the number and type of professionals (engineers, consultants, and contractors) expected to be required to meet the end goals by 2025. DEP agrees that a significant amount of additional education, outreach, training, and guidance resources for public and private entities is needed to assist farmers to obtain the water quality improvement end goal. The agriculture related actions outlined in the Phase 3 WIP do not generally call for regulatory changes in Pennsylvania. However, if current measures are not on track to reach goals, then additional steps will be

discussed to determine what additional measures are needed, including the possibility of new support programs and/or regulatory requirements.

80. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

Pennsylvania's bay watershed is home to over 33,000 farms of diverse size, scale, and type of production. As the Commonwealth's largest industry, agriculture forms the backbone of our culture, heritage, communities, and economy. **Simply stated, a well-managed, conservation-based farm with healthy soils is the most ecologically beneficial land use except a forest.**

Yet, **farmers are facing extraordinary challenges from global trade policies, low commodity prices, and the impacts from a changing climate.** Shifting demographics, such as an aging population, changes in consumer preferences, the fact that most farmers see only a small percentage of their sale price of their goods, and other factors are adding further pressure on Pennsylvania's farmers. Consequently, many do not have significant income from farming, so need additional employment. The result: **little time or capacity to design and implement conservation practices, even with financial assistance.**

To that end, CBF fully supports DEP's commitment to reducing stream pollution from agriculture in ways that preserve soils and nutrients on the land, where they can improve soil health and farm productivity.

Nevertheless, Pennsylvania farms continue to generate substantial nutrient and sediment loads, although a well-managed, conservation-based farm has far less pollution than a strip mall or subdivision. Agricultural pollution is largely linked to economic drivers that create a net regional influx of nutrients, with large grain imports from the Midwest for livestock production, while the nutrients remain here in manure.

Sufficiently reducing this sector's loads is the most critical aspect of Pennsylvania's WIP3. DEP and other Pennsylvania agencies and partners have developed and pursued creative approaches to achieving agricultural nutrient reductions to augment on-going efforts. These initiatives include nutrient credit trading, state enhancements to CREP, soil health initiatives, REAP transferrable tax credits, and PENNVEST nonpoint source projects, farmland preservation, and others. The final WIP3 must clearly outline a strategic plan for agriculture that integrates and supplements these initiatives, with specific commitments of technical and financial resources with measurable goals and timelines.

The draft WIP3 for agriculture does not contain sufficient detail to provide reasonable assurance to EPA that necessary agricultural reductions will be

achieved, nor did it give PA policymakers a clear roadmap for funding and program needs.

Soil health is critical to farm and stream health. CBF especially supports the WIP3's commitment to soil management practices that improve long-term soil health and productivity. Conservation farming practices that reduce tillage intensity, responsibly incorporate manure, establish cover crops, and rely on Integrated Pest Management may improve soil health and reduce water pollution. Cover crops can reduce nutrient leaching from farm fields, increase soil organic matter, improve soil structure, reduce soil erosion, and facilitate more comprehensive pest management. Stable forms of organic nitrogen may decrease fertilizer usage and costs, and in turn, reduce nutrient loading to the waterways. Soil health also promotes strong natural communities of microbes, fungi and insects that can contribute to pest control. Improving soil health can further enhance water quality by increasing infiltration, to effectively retain more moisture during times of drought, and to reduce stormwater runoff and associated soil erosion during heavy rains, retaining soil and nutrients in the agricultural fields, rather than degrading local streams. Management practices that advance soil health are cost-effective, with many eco-system services and farm profitability benefits. Therefore, the WIP3 should include a comprehensive plan to assist farms to adopt these practices.

Pennsylvania's various partners and programs should recognize that farmers embrace **"a culture of stewardship"** and depend on healthy, productive soils and clean water for the continued viability of their farming operations. Outreach and educational programs, financial assistance, as well as efforts to ensure regulatory compliance, should help farms adopt a high level of stewardship by focusing on the benefits of keeping soil and nutrients on the land. For example, technical and financial assistance on conservation farming practices that reduce tillage intensity, responsibly incorporate manure, and establish cover crops may improve soil health, decrease erosion, facilitate more comprehensive pest management, and reduce water pollution. Improving soil health can further enhance water quality by increasing infiltration, to effectively retain more moisture during times of drought, and to reduce stormwater runoff and associated soil erosion during heavy rains. Helping farms achieve these benefits would improve farm profitability and resilience to climate change, while significantly reducing nutrient and sediment pollution.

The PA Agricultural Conservation Stewardship (PACS) program may help to achieve the Agricultural Compliance and Enforcement Strategy, but strong incentives are needed for private sector entities that are involved, and for farmers to seek certification. The current proposal will help identify farms meeting regulatory requirements, so DEP and Conservation Districts may focus on others that may need enforcement, but it won't provide benefits for farmers that truly "embrace a culture of stewardship." A higher tier or a separate recognition program should reward a superb

level of stewardship with criteria that are tangible to farmers and the public, such as improved soil health (measured by water infiltration, soil organic matter or other objective test), livestock exclusions from streams, no winter manure application, and ground cover maintained throughout the year. Farmers and agricultural leaders, as well as the Pennsylvania in the Balance Conference attendees,⁶⁵ have long recommended a recognition program for this high level of stewardship.

The WIP3 acreage goals for nutrient/manure management and enhanced nutrient management should be significantly expanded. With adequate education and technical assistance from NRCS, Conservation Districts, 4R Alliance and others in the private sector, enhanced nutrient management practices could be widely adopted to help farms improve their production and/or reduce fertilizer costs. Also, improved soil health often enhances soil fertility and nutrient availability, to decrease nutrient application requirements.

Winter manure application must be limited, with adequate time and financial and technical assistance for farms to develop the necessary storage or management.

New operations should be permitted only if they have the means to avoid winter application. Other states in cold climates with diverse operations have been able to limit winter application, showing that it is feasible for Pennsylvania:

- Maine bans manure spreading from December 1 through March 15, unless there is a variance from the Commissioner for the Department of Agriculture, Food, and Rural Resources.²¹ The Department developed a loan program to help farmers comply.²²
- Minnesota requires protective measures when applying during winter months, including 300-foot setbacks from surface waters.²³
- Vermont restricts manure winter application between December 15 and April 1 unless the Secretary grants an exemption because of an emergency situation, such as the structural failure of a manure storage system. Under an exemption, the manure must be spread on fields with the least likelihood of generating runoff to the adjoining surface waters. Being granted an exemption does not relieve persons from complying with the Vermont Water Quality Standards.²⁴

The WIP3 relies on **precision feeding** of 33% of the dairy cows for 604,000 pounds of nitrogen and 61,000 pounds of phosphorus reduction to Pennsylvania streams, but has no details on how this goal will be reached. “Precision feeding” is unclear to most people, while most successful dairies are probably already using a form of precision feeding. Tracking of this practice is currently limited to the very few farms using support from U.S. Department of Agriculture’s Natural Resources Conservation Service

⁶⁵ Penn State Agriculture and Environment Center. 2017. Pennsylvania in the Balance: Harnessing Agriculture’s Culture of Stewardship as a Solution to Clean Water.

(NRCS). Tracking could be feasible if Milk Urea Nitrogen data is somehow made available from milk processors. Extensive outreach and education could help dairies limit phosphorus supplements to when needed, improve forage quality, increase feed digestibility, and adopt other feed management practices that would improve profitability. Without a strategy that includes feed companies, dairy processors, and educators, this WIP3 goal will be unmet.

Similarly, the **WIP3 has no clear strategy to reach the included goals for enhanced nutrient management, manure storage facilities, and development of forested and grassed buffers.** Without the financial and human resources, regulations, policies, programs, projects and plans to reach these goals, we have little confidence that they will be achieved.

With poultry production growing substantially throughout the Chesapeake watershed, **ammonia emissions** are also increasing. These emissions not only degrade air quality but also contribute to deposition of atmospheric nitrogen. The WIP3 needs a strategy to address this growing challenge. (32)

RESPONSE

The Chesapeake Bay Foundation is represented on the Phase 3 WIP Agriculture Workgroup, providing direct input into the development of Pennsylvania's Phase 3 WIP. Through this process the Foundation has been able to incorporate many of the key program elements listed in the comments above into the Phase 3 WIP; such as soil health, agricultural compliance, and implementation of environmental management plans on farms. The recommendations provided by the Phase 3 WIP Agriculture Workgroup call for the implementation of activities at the farm scale which are expected to result in a significant decrease in loading coming from farms, as Foundation comments suggest as appropriate for the industry to accomplish.

As with all implementation goals found throughout the Phase 3 WIP; without adequate legislative, industry, public, and private sector buy-in and support, the improvements made are likely to fall short of expectations. With that in mind, the final Phase 3 WIP includes a Center for Water Quality Excellence, where outreach, education, engagement, and technical and financial support coordination would be housed for agriculture, stormwater, and forestry. This "Center" will support coordinated implementation of the Phase 3 WIP to ensure maximum efficiency for the resources provided to this effort. As indicated in the Foundation's comments, there is a need for more human resources to coordinate and provide technical and financial assistance to the farm community. This Center will provide for additional training of the professionals supporting this effort.

The Phase 3 WIP provides a significant focus on compliance with existing agricultural regulations. These regulations provide the assurance that proper environmental

management actions will be taken by the farm community with the oversight of the regulating agencies.

The Phase 3 WIP goal relating to manure storage installation will support the recommendation to reduce winter spreading of manure and will support the implementation of enhanced manure management practices. The final Phase 3 WIP calls for all farmers using manure to follow proper manure management practices as called for in state regulations, and it increases the implementation of enhanced nutrient management practices on these farms, as suggested. Overall, the Phase 3 WIP calls for the implementation of farm practices that significantly reduce nutrient and sediment loading coming from farms and support the continuation of a sustainable farm industry in Pennsylvania.

81. COMMENT

38. Katlyn Schmitt, Waterkeepers Chesapeake -

2. Changes are Needed to Achieve True Load Reductions from the Agricultural Sector

With an estimated seventy-one percent of nitrogen reductions coming from the agriculture sector under the draft WIP, it is necessary that Pennsylvania provide farmers and landowners with the financial and technical assistance needed to implement the BMPs under the draft WIP. The limited success of Pennsylvania's restoration efforts have been due to a lack of adequate technical and financial assistance to farmers. Now is the time for the Commonwealth to show leadership and make the necessary investments to ensure that our Chesapeake Bay TMDL goals are met. We implore the DEP to work with the legislature to explore new sources of technical assistance to farmers, such as an agriculture cost-share program and revamping the nutrient credit trading program.

We commend Pennsylvania for encouraging broad participation by certain stakeholders, but DEP has largely ignored the stakeholders involved in the production of agricultural food products (i.e. those on the food supply chain end). When these commodities are exported from the state, Pennsylvania taxpayers are burdened with the costs for environmental remediation from the pollution caused by these operations. With a few exceptions, food supply chain companies and organizations have failed to take direct responsibility for mitigating agricultural nonpoint pollution. Without full inclusion of these players, the state will not meet EPA's requirement that the state employ "comprehensive strategies" for engagement with a broad array of stakeholders.⁶⁶

⁶⁶ Pennsylvania Draft Phase III Watershed Implementation Plan, Page 24

In addition to engaging and involving stakeholders in the food supply chain,⁶⁷ Pennsylvania must hold them accountable for improving their pollution loads to our local waterways. Pollution from the production of agricultural food products must be accounted for by the food supply chain under the draft WIP. Lack of food supply chain ownership and leadership in the WIP are detrimental to achieving our 2025 goals. To that end, the draft WIP should include measurable targets for planned transition of agriculture pollution mitigation costs from taxpayers to the supply chain; permanent funding for maintenance of the Bay's water quality beyond 2025 should also be provided by those causing the agricultural pollution and other polluting enterprises.

Similarly, the draft WIP does not directly address the significant amount of pollution caused by Concentrated Animal Feeding Operations (CAFOs) and Animal Feeding Operations.

This appears to result from the widely held and mistaken impression that, as National Pollutant Discharge Elimination System (NPDES) permittees, these operations are not part of the water quality problem. However, the environmental benefits of NPDES permits are limited to control of direct liquid discharges and barnyard runoff. These controls provide local benefits but do nothing to eliminate watershed pollution from volatile emissions during manure storage or volatile emissions and runoff from land application. By omitting CAFO/AFOs from the draft WIP, Pennsylvania has ignored a major source of the problem and has missed an opportunity to adequately address a massive risk to our waterways.

The draft WIP also includes large investments for manure storage facilities on agricultural operations, but does not include an adequate explanation or justification for why this practice will actualize in reduced agricultural pollution loads. Storage does nothing to reduce excess manure and, except for facilities with sealed covers, it allows additional release of volatile nitrogen to the environment. In the case of egg layer operations with belt manure collection systems, the estimated TN lost by volatilization during storage is over 6%. In the case of dairy lagoons and multi-flock cleanout of broiler chicken houses, loss of TN by volatilization can be 30% or more. If DEP wishes to rely on these types of facilities for pollution reductions, it should not overvalue the estimated reductions and it should offer a greater explanation for its reasoning.

In order to not drastically undervalue or overvalue the water quality benefits of certain practices outlined under the WIP, DEP must ensure that it update its data to better reflect the estimated reductions that will result from any given practice. For example, EnergyWorks' facility that uses updated manure treatment technology near Gettysburg is currently credited with 18.3 pounds of Chesapeake Bay (Edge of Tide or EOT)

⁶⁷ Pennsylvania and other jurisdictions should permanently engage organizations such as the Food Manufacturers Association, the Sustainable Food Supply Alliance, the Sustainability Consortium and the US Poultry and Egg Association to address regional agricultural pollution. The Chesapeake Bay Partnership should generate active involvement by companies such as Walmart, Unilever, Ahold, Nestle, Tysons, Keystone Foods, Aramark, and Perdue Farms.

nitrogen load reduction for every measured 100 pounds of nitrogen removed from the environment (Edge of Stream or EOS load reductions). Based on CAST data presented for Adams County in Table 2.4 of the Draft Phase 3 WIP, corresponding EOT reductions are 62.4% of the EOS reduction. This implies that EOT reductions by the Gettysburg facility are underestimated by a factor of 3.4, reducing benefit to the Commonwealth and increasing the cost per pound of reduction. In this case, DEP must update the MTT nutrient credit generator certification methodologies so that its calculations for the WIP are correct.

In terms of under-recognized future climate change impacts, DEP should reevaluate the expected reductions and effectiveness of cover crops in reducing soil erosion and short-circuiting of forested riparian buffers due to more frequent and intense precipitation should be taken into account in prioritizing and evaluating BMP investments. Preparations for water quality sustainability beyond 2025 should be included as a Phase 3 WIP performance measure.

Given that Pennsylvania will be heavily relying on agriculture for nitrogen reductions, it is critical that the state has a clear path for compliance assurance, funding support, and verification moving forward in its draft WIP. (38)

RESPONSE

The Phase 3 WIP Agriculture Workgroup was provided information from the MDVA Cooperative and Alliance for the Chesapeake Bay on their work with Turkey Hill to incorporate those involved in the food chain to be actively involved in the restoration efforts. This type of food supply sector involvement is described in the final Phase 3 WIP and is recognized in the Phase 3 WIP as an important component of addressing farm nutrient losses. DEP and other agencies involved will continue to work with those in the food supply chain throughout the implementation of the Phase 3 WIP to maximize reductions from the agricultural sector.

The Phase 3 WIP includes the compliance, inspection, and enforcement measures for all agricultural operations, to include NPDES permitted Concentrated Animal Feeding Operations (CAFOs) and Act 38 Nutrient Management Program regulated Concentrated Animal Operations (CAOs). The requirements extend beyond control of direct discharge, and include the requirement for Nutrient Management Plan implementation, whereby land application of manure and fertilizer is limited to agronomic rate, with required setbacks for mechanical application from environmentally sensitive areas. More information can be found in Chapter 83, Subpart D. CAFOs, as well as all other farms that plow and till land throughout the state are also required to implement Erosion and Sediment Control Plans which ensure that farm practices are carried out in a way that minimizes soil loss from their farm fields.

All reductions within the Phase 3 WIP for practices such as manure storages, cover crops, and manure treatment technologies have been calculated through the Chesapeake Bay Program modeling tools. All efficiency values have been determined by the Chesapeake Bay Program Partnership via approval and acceptance of Expert

Panel reports. These reports review available research and conclude the values that should be associated with BMP implementation.

As with all implementation goals found throughout the Phase 3 WIP, without coordinated technical and financial assistance support, the improvements made are likely to fall short of expectations. With that in mind, the final Phase 3 WIP includes a Center for Water Quality Excellence, where outreach, education, engagement, and technical and financial support coordination would be housed for agriculture, stormwater, and forestry. This “Center” will support coordinated implementation of the Phase 3 WIP to ensure maximum efficiency for the resources provided to this effort. There is a need for more resources to coordinate and provide technical and financial assistance to the farm community and this Center will provide for additional training of the professionals supporting this effort.

DEP is in discussions with EPA and our partner Chesapeake Bay states to redefine how nutrient trading credits are calculated for manure treatment technologies (MTT). This revised MTT nutrient trading credit calculation methodology is expected to be completed by the end of 2019.

82. COMMENT

39. Jenna Mitchell, Alliance for the Chesapeake Bay –

- The Alliance encourages additional partnerships with the private sector, like the Turkey Hill Clean Water Partnership, to inspire culture of conservation within the agricultural industry.
- In regards to pollution reductions goals through the installation of grass buffers on agricultural lands, it appears the WIP fails to adequately define what constitutes a grass buffer, nor does it outline the mechanism on how the practices will be implemented. This is an opportunity to clarify this area of implementation in subsequent drafts. (39)

RESPONSE

The Phase 3 WIP Agriculture Workgroup was provided information from the MDVA Cooperative and Alliance for the Chesapeake Bay on their work with Turkey Hill to incorporate those involved in the food chain to be actively involved in the restoration efforts. This type of food supply sector involvement is described in the final Phase 3 WIP and is recognized as an important component of addressing farm nutrient losses. DEP and other agencies involved will continue to work with those in the food supply chain throughout the implementation of the Phase 3 WIP in order to maximize reductions from the agricultural sector. All agriculture BMPs identified in the Phase 3 WIP are defined by NRCS and/or Chesapeake Bay Program Partnership standards.

83. COMMENT

40. Patrick Thompson, EnergyWorks Group -

Pennsylvania's Draft Phase 3 WIP has been widely criticized for its high cost and failure to show that the 2025 TMDL nitrogen reduction goal will be met. The following comments are based on EnergyWorks' experience over the past 12 years in developing, owning and operating a Country/Regional Manure Treatment Facility in Adams County. These comments are intended to draw attention to the fact that technology solutions are available and can enable Pennsylvania to meet its TMDL nitrogen goal on schedule and at a lower cost than projected in the Draft Phase 3 WIP.

- Focus on Nitrogen: As shown in Table 1, each of Pennsylvania's seven priority agricultural initiatives provides both nitrogen and phosphorus load reductions. Due to the *45-fold difference* (34.23 million vs 0.757 million pounds) between nitrogen and phosphorus reductions needed to meet TMDL edge of tide or EOT goals, the Phase 3 WIP (the Plan) should be optimized for maximum nitrogen reductions at the least cost. Almost any combination of Priority Ag initiatives will meet the phosphorus reduction goal. Therefore, cost effectiveness of agricultural initiatives should be compared on the basis of "annualized" and "Total Ph3 WIP" cost per pound of EOS and EOT nitrogen reduction. Total Ph3 WIP costs are equal to the annualized cost multiplied by 6.
- County/Regional MTT is the Low Cost Ag Solution: As shown in Table 1, MTT solution provider estimates indicate that large scale and integrated County/Regional Manure Treatment System costs for Edge of Stream or EOS nitrogen reductions are an *order of magnitude lower* than the those shown in the Plan (\$2.06/lb vs \$22.76/lb). Cost per pound of EOT nitrogen reductions will depend on modeling assumptions. EOT load reductions should not be discounted for replacement fertilizer in cases where MTT systems provide long term elimination of manure storage and land application. Where replacement fertilizer is not assumed, the EOT reduction cost will be approximately \$3.26/lb.

In spite of its cost effectiveness and potential to provide major nitrogen reductions from Integrated Manure Treatment Systems, the Plan has given little attention to this initiative.

- Interdependent Ag Initiatives: It should be recognized that the benefits from Agricultural Compliance and Soil Health initiatives are dependent upon parallel implementation of the Enhanced Nutrient Management and Manure Storage initiatives. The stand-alone benefit of the first two initiatives is diminished in the absence the latter two. Taken as a group, the average composite cost of these four soil health-related initiatives is at least \$79.80 per pound of EOS nitrogen reduction and \$120.90 per pound of EOT nitrogen reduction. This interdependence and resulting average high cost appear to invalidate the phased approach shown in Table 5.10 of the WIP.

- Timely Capture at the Source: The advantage of measures that limit nitrogen releases to the environment is demonstrated by the cost effectiveness of Integrated County/Regional MTT System compared to the other major agricultural initiatives (Precision Feeding excluded). (40)

RESPONSE

The draft Phase 3 WIP identified Manure Treatment Technologies (MTTs), as one of the seven priority initiatives that are to be implemented in the watershed to address agriculturally sourced nutrient loadings. The final Phase 3 WIP expands on this activity as initially proposed and calls for the implementation of this practice to its full extent across the watershed to eliminate nutrient excesses in all 21 counties identified as having a nutrient excess. The current Chesapeake Bay Watershed Model provides nutrient reductions for this practice only where it is implemented to remove excess nutrients in a county, with no reduction shown for removing manure to any greater extent. Therefore, this practice is only prioritized for use in counties where there is calculated to be a nutrient excess, and only to the extent to eliminate that excess. DEP is in discussions with EPA and our partner Chesapeake Bay states to redefine how nutrient trading credits are calculated for manure treatment technologies (MTT), as suggested. This revised MTT nutrient trading credit calculation methodology is expected to be completed by the end of 2019.

84. COMMENT

13. Jeremy Rowland, Coalition for Affordable Bay Solutions (CABS) -

The Coalition for Affordable Bay Solutions (CABS) is a non-profit advocacy group formed to support the creation of a competitively-bid procurement program for nutrient (nitrogen and phosphorus) reductions in Pennsylvania. It has focused on enabling low cost solutions to address both local drinking water and Chesapeake Bay water quality. CABS believes the overriding principle to solving the local and Bay water quality issues is a competitive bidding program open to all sources both public and private that will direct funding to the lowest cost solutions with local water quality improvements being valued as part of the award process. Senate Bill 575 is under consideration to effect such a program.

The WIP continues to ignore the lowest cost alternatives available to taxpayers to meet local water quality and Chesapeake Bay targets. It continues to recommend solutions focused on runoff to capture solids when the far greater nutrient issue and cost driver for Pennsylvania taxpayers is volatile nitrogen in both dissolved and gas forms. As much as 70% of the nitrogen from livestock manure is subject to natural transformation to reactive water soluble ammonium or volatile gaseous ammonia both of which are extremely mobile once released into the environment and therefore extremely expensive to capture and treat.

Taxpayers and manure treatment technology (MTT) providers have not been adequately represented in the WIP stakeholders group. MTT systems are the low cost best management practice (BMP), yet they are absent from the WIP recommendations for achieving nitrogen load reductions. The WIP proposes to increase Pennsylvania

taxpayer funding from \$229M to \$486M or by \$257M annually for 6 years. This is a huge increase in taxpayer spending but it does not meet the basic test for spending taxpayer funds: Does it meet the end goal, are the recommended solutions cost effective, and have more cost effective alternatives been considered?

The WIP continues to diverge from its primary mission – to meet the nutrient reduction targets at the lowest possible cost to taxpayers. A major focus of the WIP is to improve soil health. That is a worthwhile undertaking but it is not subject to the same schedule and funding considerations as the federal mandate to reduce nitrogen loading to the Chesapeake Bay. The potential for litigation by the EPA, Maryland and other stakeholders will be based upon the fact that Pennsylvania failed to meet its nitrogen reduction targets as per their agreement; not that it failed to improve soil health.

A study by the Pennsylvania legislature concluded that MTT solutions are up to 90% less expensive than landscape BMP's relied upon by the WIP. Consistent with this conclusion, proposed legislation enables private sector MTT project development while requiring the private sector to finance the cost of installing these systems and that their compensation be solely for the quantity of Pennsylvania Department of Environmental Protection (DEP) certified verified nitrogen reductions that their installations generate. In essence, the private sector will finance the solutions and assume all nutrient reduction performance risk. In contrast, the WIP proposed BMP's are taxpayer funded and continue to place the performance risk on the taxpayers.

The WIP states that the excess nitrogen in Lancaster and Franklin counties are 17.2 million lbs and 5.9 million lbs respectively or a total 23.1 million lbs. The WIP projects that the total nitrogen reduction potential for manure transport and MTT combined are 1.2 million pounds annually absent any documentation to support this projection. The sponsors of existing MTT projects with DEP-certified nitrogen reduction processes have publicly projected that two projects will reduce in excess of 10 million lbs of nitrogen onsite. In fact, these two projects alone represent a larger volume of nitrogen reductions onsite than any individual BMP proposed in the WIP.

Why are Manure Treatment Technology projects so much more efficient than BMP's?

- MTT's are designed to capture and treat both organic nitrogen and volatile nitrogen compounds prior to their release into the environment while BMP's attempt to capture nitrogen after it has been released into the environment.
- Volatile nitrogen either in gaseous or soluble form is extremely expensive to capture and treat once it's released into the environment.
- MTT's focus on large-scale livestock producers, capturing efficiencies of scale.
- MTT projects are private sector financed and therefore represent a riskless transaction to the taxpayer. These projects will only be paid for the actual verified nutrient reductions that are certified by the Pennsylvania DEP.
- MTT projects not only capture and treat nutrients but also generate renewable energy; reduce greenhouse gases; destroy pathogens; generate fertilizer co-products; generate water for reuse; reduce air impacts and virtually eliminate

odor. These MTT environmental benefits positively impact not only the local environment but also quality of life and public health in the local community.

The WIP projects local agricultural nitrogen reductions at an overall projected cost of \$67 per lb (\$313M *6 years /28M lbs of N) and that does not include the forest riparian buffer per lb projected costs of \$52 (\$67M*6 years /7.7M lbs of N) while MTT projected cost is less than \$4 per lb. The WIP projection is a best case scenario since the economic costs of any failure including climate change impacts to the modeled BMP reduction targets will be borne by the taxpayer. On the other hand, the MTT projection is a worst case scenario since costs to taxpayer are contractual and, through competition and the adoption of science-based policies to fully recognize nutrient reduction benefits, verified nutrient reductions can be increased, lowering the unit cost of reductions. (13)

RESPONSE

The draft Phase 3 WIP identified Manure Treatment Technologies (MTTs) as one of the seven priority initiatives that are to be implemented in the watershed to address agriculturally sourced nutrient loadings. The final Phase 3 WIP expands on this activity as initially proposed and calls for the implementation of this practice to its full extent across the watershed to eliminate nutrient excesses in all 21 counties identified as having a nutrient excess. The current Chesapeake Bay Watershed Model provides nutrient reductions for this practice only where it is implemented to remove excess nutrients in a county, with no reduction shown for removing manure to any greater extent. Therefore, this practice is only prioritized for use in counties where there is calculated to be a nutrient excess, and only to the extent to eliminate that excess. DEP is in discussions with EPA and our partner Chesapeake Bay states to redefine how nutrient trading credits are calculated for manure treatment technologies (MTT), as suggested. This revised MTT nutrient trading credit calculation methodology is expected to be completed by the end of 2019.

Numeric Commitments (Section 2)

Forestry

85. COMMENT

2. R John Dawes, Foundation for PA Watersheds (proposed SMCRA legislation attached) -

PA's Bay inventory of toxic Abandoned Mine Lands is 119,00 acres and 1,900 biologically dead stream miles. These streams, if restored could be fully functional, processing nitrogen and sediment. (attach Stroud report). Further, by addressing the denuded landscapes, additional sediment reductions as well as climate control strategies (e.g. carbon sequestration) could be achieved. biologically

As Pennsylvania has an award winning department of DEP named BAMR, the Bureau of Abandoned Mine Reclamation, it is feasible, that with their relationship with the Office of Surface Mining Reclamation and Enforcement (OSMRE), Dept. of Interior, that many acres of scarred land could be reforested. This would address another Phase III WIP goal. In the first WIP document, it was calculated that PA needed to reforest 14,562 acres of the previously stated 119,000 acres. The Office of Surface Mining has a respected protocol ARRI--the Appalachian Regional Reforestation Initiative (ARRI) (<https://arri.osmre.gov/>), providing professional foresters to help with this task, using native species. FPW is actively working with BAMR, OSMRE, and Pennsylvania Environmental Council (PEC) on meaningful mineland reclamation. The most recent project is located in Round Knob, Huntingdon County, and will result in nearly 50 acres restored. This will directly benefit Shoups Run--a previously biologically dead stream.

RESPONSE

Abandoned Mine Lands (AMLs) were discussed early in the Phase 3 WIP process, but due to oversights in potential reduction opportunities, AML restoration was not initially considered as a high priority for Pennsylvania's Phase 3 WIP. However, due to recent reconsiderations of how AMLs are classified based on current land use, the final Phase 3 WIP was revised to include AML restoration/reforestation as a priority. Pennsylvania also will continue to support work to improve streams impacted by Abandoned Mine Drainage to continue to improve the nutrient processing capability of fully-functional and restored stream habitats.

86. COMMENT

14. Joe Pizarchik, former director, OSMRE, Dept of the Interior –

[n.b. This comment discusses including abandoned mine lands in the Phase 3 WIP, but the main focus is reforestation, so the comment is included here.]

The Pennsylvania Phase 3 Chesapeake Bay Watershed Implementation Plan, DRAFT, April 2019, (PA WIP) should be revised to correct a significant omission. The draft PA WIP does not adequately include abandoned mine lands (AML) that can be addressed to reduce sediments and other nutrients. The draft PA WIP's brief reference to AML

reclamation and reforestation of mine land overlooks an opportunity for significant sediment reduction and stream restoration.

Pennsylvania's Bay Inventory of toxic abandoned mine lands is 119,000 acres and 1,900 biologically dead stream miles. Restoring these destroyed lands would reduce sediment. Reforesting these lands would further reduce sediments and nutrients and would also shade waterways and store carbon. Furthermore, as the trees mature, the forests will further reduce runoff. Mature forests consume more precipitation through transpiration and root uptake (about 30% of the precipitation), which would further reduce pollution coming from abandoned mines. Restoring these streams would further reduce sediments. Restoring these streams to be fully functional would result in additional processing of nitrogen and sediments. See attached report: Reducing Nutrient Levels in the Chesapeake Bay: A Report of Work in Progress, Prepared by Stroud Water Research Center

Pennsylvania's DEP's Bureau of Abandoned Mine Reclamation (BAMR) is recognized as an award-winning program. PADEP BAMR has worked with and could work with the Office of Surface Mining Reclamation and Enforcement (OSMRE), Department of the Interior, to reforest abandoned mine land and former mine sites that were reclaimed by the mine operator but not reforested. There are thousands of acres of such land. OSMRE has worked with states and universities, etc., to create the Appalachian Region Reforestation Initiative (ARRI) to reforest reclaimed mines and abandoned mine land. ARRI is a proven, scientifically based, and practical process. Working with OSMRE, BAMR, and others, more land, including riparian buffers, could be reforested. This would help address another draft PA WIP goal, reforestation of 14,562 acres. For example, the Foundation for Pennsylvania Watersheds (FPW) is actively working with BAMR, OSMRE, and Pennsylvania Environmental Council (PEC) on meaningful mine land reclamation. The most recent project is located in Round Knob, Huntington County, and will result in nearly 50 acres restored, which will benefit Shoups Run—a previously biologically dead stream.

The draft PA WIP identifies funding of various BMPs as an issue. Mine reclamation has a dedicated funding source to fund reclamation of abandoned coal mines and restoration of mine impaired streams. PADEP BAMR has been receiving an annual AML grant of about \$50 Million per year for the last several years. For the past four years PADEP BAMR has received \$25 Million additional funds as part of the AML Pilot program sponsored by Chairman Hal Rogers and Representative Glenn Thompson. The AML Pilot funds AML reclamation that includes job creation in coal country. Past projects have included stream restoration and reforestation. PADEP BAMR may also receive about an additional \$55 Million per year for five years if the RECLAIM Act (HR 2156) is passed.

Given the magnitude of this problem of huge acreages of toxic pollution in the watershed, it is unwise to leave mine land reclamation, reforestation, and mining impaired stream restoration out of the draft Pennsylvania Phase 3 Chesapeake Bay Watershed Implementation Plan. The funds are there for reclamation and Pennsylvania

should be credited with the reductions in sediment and the opportunity for nitrogen processing this practice produces.

The Pennsylvania Phase 3 Chesapeake Bay Watershed Implementation Plan, DRAFT, April 2019, should be improved to include mine land restoration, reforestation, and mining impaired stream restoration as discussed above. (14)

RESPONSE

Abandoned Mine Lands (AMLs) were discussed early in the Phase 3 WIP process, but due to oversights in potential reduction opportunities, AML restoration was not initially considered as a high priority for Pennsylvania's Phase 3 WIP. However, due to recent reconsiderations of how AMLs are classified based on current land use, the final Phase 3 WIP was revised to include AML restoration/reforestation as a priority. Pennsylvania also will continue to support work to improve streams impacted by Abandoned Mine Drainage to continue to improve the nutrient processing capability of fully-functional and restored stream habitats.

87. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

Trees, particularly alongside streams, streets, or in other sensitive landscapes play a profoundly significant role in Pennsylvania's ecology, economy, and quality of life. So vast and profound are the impact of trees, that it is not within the scope or capacity to summarize them here.

According to the Bureau of Forestry of Pennsylvania "the state forest system serves as the headwaters and living filter for municipal drinking water supplies and thousands of miles of high-quality coldwater streams. Sound management of our state forests helps keep these important waters clean."⁶⁸ In addition to that, 70 percent of the forestland in the Commonwealth is privately owned and 54 percent of forestland is owned by families or individuals.⁶⁹ Thus, not only is it difficult to educate every landowner on proper forest management, the actions of few can have the potential to adversely affect many.

Existing Programs that support tree plantings. Pennsylvania currently has multiple programs that can assist land owners and farmers with funding that helps preserve and create forestland. Examples include: USDA NRCS Conservation Reserve Enhancement Program (CREP), Growing Greener Funding, Clean & Green, and DCNR's Riparian Forest Buffer Grant Program and TreeVitalize program. These resources have been helping provide landowners with the assistance to design, implement, and maintain forested riparian buffers as well as street trees.

⁶⁸ Pennsylvania Department of Conservation and Natural Resources Bureau of Forestry.
<https://www.dcnr.pa.gov/about/Pages/Forestry.aspx>

⁶⁹ Pennsylvania Forest Strategies. Pennsylvania Department of Conservation and Natural Resources, Bureau of Forestry, June 2010.
http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_007996.pdf

The benefits and amazing work of the CREP program and programs like it cannot be overstated. They have been very useful to PA and the environment and should continue to be in the future. The main conclusion in this section is that, although these programs are great, they have their inherent limitations and the only way to fully embrace forest conservation is to create legislation to protect all forestland.

Within the Forestry Working Group, members entertained all ideas and numerous spinoffs from these meetings resulted in collaboration between organizations and members within the group. These **new and innovative ideas were born from this sustained collaboration and should be encouraged and supported in future iterations of the WIP**. For example, members utilized different financial mechanisms to design and implement grass and forested buffers on the ground, from typical grant programs (i.e. PA Lawn Conversion Program submitted to National Fish & Wildlife Federation) to the newly formed maintenance fund for buffers in Lancaster County with the Lancaster Clean Water Partners.

Additionally, in spring 2018, CBF launched the **Keystone 10 Million Trees Partnership**. The Keystone 10 Million Trees Partnership is a multi-year effort designed to spark governmental action, public attention, and funding to rally efforts around Pennsylvania's Chesapeake Clean Water Blueprint. The ambitious goal of this collaborative effort is to add 10 million new trees by 2025 in Pennsylvania's agricultural riparian buffers, urban and suburban landscapes, and abandoned mine lands. A coalition of diverse organizations are committed to making the Keystone 10 Million Trees Partnership goal a reality. This growing list of partners includes a range of local, regional, and national conservation groups, commonwealth and federal government organizations, nursery and tree supply businesses, and other businesses throughout Pennsylvania and the Mid-Atlantic.

The Keystone 10 Million Trees Partnership is developing six Partner working groups: Grower-Supply; Advisory; Finance; Messaging; Science; Outreach-Voices; and Planting to refine strategies, identify common outcomes, goals, and actions. **This process could serve as a mechanism to keep the momentum generated through the WIP working groups moving forward, if supported by the state.**

Finally, at the last Forestry Workgroup meeting, there was some confusion about buffer goals/widths/percentages, or at least confusion about how to communicate the buffer goals. Specifically, the confusion centered around whether the 83,000 acre forested riparian buffer goal was based on an assumed minimum 100 foot wide buffer. Most buffers, particularly those through the CREP program, are 35 feet in width. While the total acre goal is 86,000 acres, the width will determine the linear feet/miles necessary to achieve that goal. the linear feet/miles of the riparian area that will need to be buffered will increase with each buffer that is planted that is less than 100 feet wide. Given that the agricultural workgroup recommended that 25 percent of acres available

for forested buffers be so, the assumed with becomes a significant factor for local water quality and Pennsylvania's ability to meet the Bay TMDL. The draft WIP3 should provide clarity on this matter. (32)

RESPONSE

Thank you for the acknowledgement and support of the current Pennsylvania programs that fund forestry BMPs in the Chesapeake Bay Watershed, as well as for the importance of trees to the Commonwealth's landscape and supporting and encouraging the work completed by the Phase 3 WIP Forestry Workgroup in preparing Pennsylvania's Phase 3 WIP. While legislative changes are difficult to realize, Pennsylvania continues to support increased outreach and education of as many private landowners as possible to help create a culture of stewardship around forestland, further protecting and enhancing Pennsylvania's private forest resources. We appreciate the Chesapeake Bay Foundation's efforts to aid in the restoration of Pennsylvania's forests and watersheds and the investments made through the K10 program and look forward to continuing to work with Foundation.

Regarding any perceived confusion around Pennsylvania's buffer goals: This matter has been cleared with both the Phase 3 WIP Forestry and Agriculture workgroups, with 25% of available agricultural lands within 100ft of streams selected as a Phase 3 WIP goal. This goal is based on social/demographic reasoning, factoring in the human dimensions of restoration work on private lands, rather than linear miles/feet of stream-frontage buffered. While linear feet/miles of stream frontage buffered may vary depending on implemented buffer width, the acreage goal and associated percentage (83,000 ac, 25% of available acres) will not change based on buffer width. Pennsylvania acknowledges that the minimum width for a creditable riparian forest buffer in the Chesapeake Bay Watershed Model is 35 feet, and therefore the minimum width of many funding programs (such as CREP) is also 35 feet. Pennsylvania also recognizes that wider buffers are best for improving water quality and achieving associated co-benefits and encourages implementation of the widest buffers reasonably possible. This will be clarified in the final Phase 3 WIP.

88. COMMENT

30. Ronald Ramsey, The Nature Conservancy -

Forestry:

The Forestry Workgroup completed a detailed planning template that provides a list of action steps and supporting context for each of the priority recommendations involving riparian forest buffers; tree canopy; woods and pollinator habitat; forest, farm and natural area conservation; and stream and wetland restoration. We recommend that this template be included as an addendum or appendix to the WIP3 document.

Although the WIP3 includes a select subset of key action steps for each of these categories, we believe that the full template offers a more comprehensive

representation of the Workgroup's ideas, including, but not limited to: helping counties identify locations where field-scale wetland and stream restoration practices have the greatest potential to provide significant and creditable load reductions and other co-benefits; educating agribusiness and other private sector farm service providers on wetland and stream restoration opportunities and encouraging these entities to share information about these practices with their customers and partners; identifying opportunities to bundle/stack creditable wetland and stream restoration projects and associated funding with riparian forest buffer implementation, priority habitat restoration, and other edge-of-field/riparian zone practices; and exploring the possibility of adding wetland restoration to list of projects eligible for REAP tax credits.

We encourage the Department to assess the potential value of legacy sediment restoration in the Commonwealth's efforts to meet its nutrient reduction obligations as part of the WIP3 process. Of particular interest would be evaluating the role of legacy sediment remediation in conjunction with credit-generating practices in the riparian zone, e.g., riparian forest buffers and wetland restoration.

We believe the WIP3 would benefit from a more detailed examination of the potential opportunities offered by credit-generating land conservation practices, especially forest conservation. Increased support for locally-driven, voluntary conservation of important forested areas, including headwater forests and bottomland/floodplain forests, could result in multiple water resource benefits. (30)

RESPONSE

Further detail and additional information based on the planning templates of the Phase 3 WIP workgroups and how these priority initiatives will be achieved has been added to the final Phase 3 WIP where it is believed adding additional supplemental documents will add confusion.

Pennsylvania supports the further assessment of the potential value of legacy sediment restoration, and furthering this work is included in Section 7; II. Key Action Steps; B. Funding and Resources; 1. Section 2, State Actions; b. Numeric Commitments; ii. Forestry; 2.2.8F (page 121), and in Section 7; II. Key Action Steps; D. Reporting and Tracking Progress; 1. Section 2, State Actions; b. Numeric Commitments; ii. Forestry 2.4.1F. The Chesapeake Bay Program Partnership considers this a priority and has convened Action Teams to revisit the protocols and efficiencies currently in place for this practice for simulating reductions in the Chesapeake Bay Watershed Model and for documenting reductions achieved through projects implemented to address legacy sediment issues.

Although Pennsylvania's Sector Growth section was incomplete at the time of the publishing the Draft Phase 3 WIP, a more detailed Sector Growth section that relies on forest and agriculture preservation and other associated conservation practices will be included in the final Phase 3 WIP documents.

89. COMMENT

39. Jenna Mitchell, Alliance for the Chesapeake Bay -

- Overall the statewide riparian forest buffer goals and the urban forest expansion goals are achievable and realistic in the timeframe. The projected new acres of new riparian forest buffers in some of the local jurisdictions are inadequately low from what could be achieved on the landscape and likely accounts for the inability of the statewide WIP to account for its required pollution reductions. The Alliance will continue its work with the state agencies, local governments and landowners to support these goals and implement its practices. (39)

RESPONSE

Thank you for your support for Pennsylvania's Phase 3 WIP forest buffer and urban forest expansion goals. We acknowledge and appreciate the work done by The Alliance to further these goals at the local level through outreach and implementation.

Encouraging additional local implementation beyond what was outlined in the draft of Pennsylvania's Phase 3 WIP will be critical to the long-term success of the efforts to restore the Chesapeake Bay, and much of this is reliant upon the work of non-profit and non-governmental partners such as the Alliance.

Pennsylvania hopes to revisit some of the goals set by Tier I counties during the milestone reporting process, which will happen every two years. We look forward to continued partnership to meet and exceed the current and future numeric implementation goals.

Numeric Commitments (Section 2)

Stormwater

90. COMMENT

5. David Lamereaux, unknown affiliation -

Of 140+ pages it was disappointing to see 6 lines about Penndot and the Pa Turnpike Commission. The plans for these large players in the MS4 program seem to be dismissed as under development while some small municipalities are already being punished for lack of implementation. Thousands of tons of cinders and salt are spread on state owned roads with little or no removal of cinders. Sometimes the red Ash used on rte 115 in Luzerne County is so heavy it covers the yellow line from view and it basically remains until it is washed away by rain.

I understand this is a difficult issue, but it is more difficult for small municipalities who often don't even own a street sweeper. My recommendation would be to develop some less costly alternatives for homeowners. I recall PADEP once funding recycling containers. Perhaps giving homeowners an inexpensive item like a perforated extension to run from the downspout into the yard would be nice! (5)

RESPONSE

PennDOT and the Pennsylvania Turnpike Commission are MS4 permittees. Both agencies are actively seeking to build stormwater BMPs in collaboration with the urbanized municipalities through which they pass. Additional description on these efforts has been added to the final Phase 3 WIP.

Anti-skid materials are not a major pollutant of concern in the Chesapeake Bay. DEP does not regulate their use other than to require that stored salt is not exposed to the weather.

DEP encourages homeowners and their municipalities to select the most cost-effective BMPs. The best options vary from one municipality to another; BMPs can be on public or private property, and they can make use of a wide variety of techniques. Municipalities are also free to update their stormwater plans as better opportunities become known.

91. COMMENT

7. Jamie Yienst, South Lebanon Township -

Since stormwater from developed areas only accounts for 4% of the pollution, the plan does not seem to be delivering a cost-effective solution. Rather it seems like a lot of money for a small benefit. How do we know that the target reduction to 73 million lbs nitrogen reaching the bay by 2025 is a realistic goal? These are estimated benefits to a lot of different projects but how is the result being measured as improvements take place and at what locations? The ratio of funding to actual reduction is just an educated guess of something that can not be predicted due to an unpredictable environment. (7)

RESPONSE

In general, it is more cost-effective to capture nitrogen from agricultural sources than from urban stormwater. Urban stormwater is not a major source of nitrogen, and most urban stormwater BMPs capture limited nitrogen. The primary purpose of urban stormwater permits (Municipal Separate Storm Sewer System (MS4) permits, Industrial Stormwater permits and Construction Stormwater permits) is to protect local waters. Streams within and immediately downstream of developed areas are frequently impaired because older development was built without consideration of urban stormwater impacts. The result is often habitat destruction, extreme flow variability, high temperatures in dry weather, illicit discharges and sediment deposition. Urban stormwater BMPs do capture some nitrogen, so it is appropriate for the Phase 3 WIP to recognize these limited reductions.

92. COMMENT

10. Kristopher Troup, North Londonderry Township -

According to a University of Maryland – CBPO report presented to the WIP 3 Steering Committee, “Regulated stormwater (MS4) accounts for about 4% of nitrogen runoff,” and “Currently planned and potential future MS4 reductions will not significantly reduce nutrients.”

However, the Phase 3 draft WIP details spending nearly 80 million dollars on an annual basis to reduce MS4 stormwater pollutants. This money would be much better spent if it was targeted toward programs that provide real, direct impacts on reducing pollutants (ex. Agriculture sector).

The draft plan indicates that DEP will prioritize Act 167 compliance, enforcement and education. With all municipalities being forced to utilize PADEP’s model stormwater ordinance, Act 167 plans seem to be redundant and unnecessary. The money spent on Act 167 plans would be better spent if focused on “in-the-field” pollution reduction BMPs. (10)

RESPONSE

In general, it is more cost-effective to capture nitrogen from agricultural sources than from urban stormwater. Urban stormwater is not a major source of nitrogen, and most urban stormwater BMPs capture limited nitrogen. The primary purpose of urban stormwater permits (Municipal Separate Storm Sewer System (MS4) permits, Industrial Stormwater permits and Construction Stormwater permits) is to protect local waters. Streams within and immediately downstream of developed areas are frequently impaired because older development was built without consideration of urban stormwater impacts. The result is often habitat destruction, extreme flow variability, high temperatures in dry weather, illicit discharges and sediment deposition. Urban stormwater BMPs do capture some nitrogen, so it is appropriate for the Phase 3 WIP to recognize these limited reductions.

Act 167, the Pennsylvania Stormwater Management Act, is a matter of state law. It provides an opportunity for counties and municipalities to take a leadership role in issues of water quality, flooding and development.

93. COMMENT

11. Cheri Grumbine, North Lebanon Township -

The University of Maryland – CBPO report presented to the WIP 3 Steering Committee, states “Regulated stormwater (MS4) accounts for about 4% of nitrogen runoff,” and “Currently planned and potential future MS4 reductions will not significantly reduce nutrients.” However, the Phase 3 draft WIP details spending nearly \$80 million on an annual basis to reduce MS4 stormwater pollutants. This money would be much better if spent towards programs that provide real, direct impacts on reducing pollutants (I.e. Agriculture sector). (11)

RESPONSE

In general, it is more cost-effective to capture nitrogen from agricultural sources than from urban stormwater. Urban stormwater is not a major source of nitrogen, and most urban stormwater BMPs capture limited nitrogen. The primary purpose of urban stormwater permits (Municipal Separate Storm Sewer System (MS4) permits, Industrial Stormwater permits and Construction Stormwater permits) is to protect local waters. Streams within and immediately downstream of developed areas are frequently impaired because older development was built without consideration of urban stormwater impacts. The result is often habitat destruction, extreme flow variability, high temperatures in dry weather, illicit discharges and sediment deposition. Urban stormwater BMPs do capture some nitrogen, so it is appropriate for the Phase 3 WIP to recognize these limited reductions.

94. COMMENT

15. Mary Gattis, Mary Gattis LLC -

To address pollutant loads associated with stormwater runoff, DEP should develop a stormwater offset program. The Stormwater Offset Workgroup, which the DEP convened many years ago, did quite a bit of work on this but, the program was never launched.

Thank you for the opportunity to comment. (15)

RESPONSE

DEP continues to work with the United States Environmental Protection Agency to develop acceptable procedures that would allow MS4s to credit pollutant load reductions from outside the urbanized area toward their MS4 pollutant load reduction obligation.

95. COMMENT

16. Robin Getz, Director of Public Works-City of Lebanon -

2. After attending one of the summit (steering committee) meetings it is still very difficult to get over the fact that in accordance with the University of Maryland’s report as presented it was clear that the regulated MS-4 communities contribute less than 4% of the nitrogen runoff. Yet the proposal details spending nearly \$80 million dollars on an annual basis to reduce the MS-4 runoff. It makes more sense to invest those dollars into the true contributors such as AG or abandoned anthracite mines. (16)

RESPONSE

In general, it is more cost-effective to capture nitrogen from agricultural sources than from urban stormwater. Urban stormwater is not a major source of nitrogen, and most urban stormwater BMPs capture limited nitrogen. The primary purpose of urban stormwater permits (Municipal Separate Storm Sewer System (MS4) permits, Industrial Stormwater permits and Construction Stormwater permits) is to protect local waters. Streams within and immediately downstream of developed areas are frequently impaired because older development was built without consideration of urban stormwater impacts. The result is often habitat destruction, extreme flow variability, high temperatures in dry weather, illicit discharges and sediment deposition. Urban stormwater BMPs do capture some nitrogen, so it is appropriate for the Phase 3 WIP to recognize these limited reductions.

96. COMMENT

18. Kevin Sunday, Pennsylvania Chamber of Business and Industry -

3. Establish and Encourage More Effective Stormwater Institutional

Arrangements: The Chamber perceives that one of the impediments to effectively addressing the stormwater component of the TMDL lies in Pennsylvania’s currently balkanized institutional arrangements for stormwater. Across much of the Commonwealth, we see multiple communities in a watershed, each attempting to manage their own stormwater infrastructure and programs – often one flowing into the next. Although the Storm Water Management Act, enacted nearly 40 years ago, called for watershed planning for stormwater, implementation of stormwater management has been left to each municipality, and this municipality-by-municipality approach has been fostered by the MS4 permit program.

Tackling this challenge will require some evolution of our institutions toward a more watershed-based implementation structure. That evolution may well require some concerted educational effort and investment in fostering inter-municipal cooperation and the creation of stormwater management authorities (as now authorized under the Municipality Authorities Code). A concept to be considered would be to establish a

“seed fund” program that provides foundational support for creating such authorities and their initial funding, with the provision that they must establish and maintain a long-term sustainable funding base using the tools provided in the Municipality Authorities Code (e.g., a fee system premised on contribution to the stormwater challenges). In that process, we would note that in addressing various legislative proposals on this topic, the PA Chamber has consistently taken the position that those property owners who have invested in stormwater management practices, such as infiltration basins, to address their respective contributions must be given credit for such efforts in any fee structure. It is our understanding EPA Region 3 has been dismissive of an approach that allows for municipalities to achieve compliance with MS4 requirements by supporting projects outside their borders; we believe this opposition sidelines a very important option for local governments to deploy. (18)

RESPONSE

The Municipal Code establishes the authority for local governments to regulate land development and stormwater. As such, municipal involvement is essential to accomplishment of MS4 permit requirements. The need for municipal involvement does not restrict municipalities from working together. BMPs can be shared by neighboring municipalities. Municipalities can share in a joint Pollutant Reduction Plan or use a municipal or multi-municipal Authority, and other entities (like Planning Commissions) can perform a leadership role for a group of MS4 municipalities. Collaborative arrangements have potential, in general, to result in more effective and efficient outcomes than what is achievable by individual municipalities.

DEP guidance on collaboration is described in the [Pollutant Reduction Plan Instructions](#), and further explained in the MS4 [Frequently Asked Questions](#) document.

The Phase 3 WIP Stormwater Workgroup recommended that various forms of regional collaboration be required by DEP. There is, however, no specific basis in state law for DEP to require collaborative arrangements. DEP has the authority to designate entities other than municipalities (like counties) as MS4 permittees, but for the reasons noted above, municipalities would need to be co-permittees. There would need to be consensus among the relevant parties for any such designations to work. Further consideration is needed to develop a path forward on this issue.

Municipalities (and Authorities) who obtain stormwater revenue through fee systems have the option to provide credits to property owners who install stormwater BMPs. The decision to use a fee system, and the content of such systems, is a matter of local prerogative.

97. COMMENT

20. Sarah Diebel, DoD Chesapeake Bay Program Coordinator -

1.3 Pennsylvania does not Receive Full Credit

Section Reference: Existing State and Federal Programs that Directly Result in Reductions, Page 33

Comment: The WIP implies that under Chapter 102 permits Pennsylvania should receive full credit for post-construction stormwater management BMPs.

Discussion: The Phase III WIP states, "The Chapter 102 permits include requirements for post construction stormwater management BMPs and erosion and sediment control BMPs, however Pennsylvania does not receive full credit for these practices." It is unclear why Pennsylvania would receive credit for these practices. In most circumstances, the Commonwealth is not paying for the design and construction of these practices nor owns the land where the practices would be installed. For example, DoD should receive the pollution reduction credits from a post construction BMP installed on a DoD installation as a result of development or redevelopment.

Recommendation: DoD recommends clarifying the Phase III WIP and not suggest that Pennsylvania should receive credit for the installation of post construction stormwater management BMPs and erosion and sediment control BMPs. (20)

RESPONSE

Language in the Phase 3 WIP was in reference to programs within DEP that implement provisions of Chapter 102 and were not being captured within the annual progress reporting provisions to the Chesapeake Bay Program. DEP is taking steps to remedy this situation. As far as practices installed on DoD facilities to comply with provisions of Chapter 102, these are all reported to the Chesapeake Bay Program as installed by DoD, provided they are reported to DEP in the right format with the correct classification and labels.

98. COMMENT

24. Felicia Dell, York County Planning Commission -

SECTION 1. INTRODUCTION

12. Pg. 25, 1st full paragraph: It states "*NPDES permitting programs demonstrate reasonable assurance that WLAs in the TMDL will be achieved...*" We agree with this statement. However, in our opinion, PA's NPDES Permit for MS4s, which requires

pollutant reductions where a TMDL WLA is not assigned, does not offer “reasonable assurance” as far as compliance is concerned. The complexity and subjectivity of the permit requirements; the limited time to prepare, often multi-million dollar, PRPs; and the burdensome administrative requirements all affect implementation and likewise reasonable assurance that reductions will be achieved. In some cases, permits for the current cycle have not yet been issued. Additionally, important tools to expedite implementation are missing, such as an improved permitting process, option for a watershed permit, and offsetting provisions.

SECTION 2. STATE ACTIONS

26. Pg. 47, Stormwater, Item 1: The first goal is to implement the BMPs within the current MS4 communities, which have a requirement to meet reductions as follows: 10% sediment, 5% phosphorous, 3% nitrogen. With this requirement and implementation of the plans, it should be reasonable to expect a 3% reduction in Nitrogen from the Stormwater sector. However, the WIP is only indicating a 1% reduction in Nitrogen from Stormwater. Does this mean that the MS4 permit as currently drafted will miss the goal? If so, the regulations for the next MS4 permit cycle should be redrafted with more options to achieve reductions holistically and cost effectively. See also Comment 12.

27. Pg. 48, 4. Industrial Stormwater: Using this action as an example, the WIP 3 is missing the integration/development of permits that incentivizes permittees to partner and collaborate to accomplish common goals...which in turn should lead to their permit compliance. For example, Industrial Stormwater Permits need to be designed such that the permittee can achieve compliance by joining in a “regional” MS4 PRP that accomplishes stormwater pollutant reductions. This would likely facilitate many public/private partnerships and infuse private money into a common community goal. This is the type of narrative that would display “reasonable assurance” because it would offer a more cost effective and efficient way for industrial stormwater permittees to achieve compliance with a new permit requirement. It would also be beneficial to implementation of the MS4 PRPs.

GENERAL COMMENTS

6. It is apparent that State micromanagement of 350 MS4s covering a small percentage of the developed land in the Bay Watershed (urbanized area), 33,000 individual farms, land developers, and wastewater treatment plants continues to be the strategy incorporated into the Draft. The only new commitment described in any detail is the new staffing format of the CBO, which is a great commitment, especially IF this staffing will help make the programmatic changes called for in the CAPs a reality. However, there is no mention of this responsibility in the Draft WIP. (24)

RESPONSE

12. The 2018 Pennsylvania MS4 permit requires, for the first time, a tangible pollutant load reduction from existing developed areas that are not served by modern stormwater pollution control. The process described in the "Pollutant Reduction Plan Instructions," provides a logical, flexible basis for municipalities to begin to reduce what has heretofore been a largely unaddressed pollutant load. The process is logical in that it requires an objective calculation of current load, a specific load reduction, and the calculation of load reductions from a wide variety of BMPs. It also allows flexibility by granting MS4s the discretion to apply simple or sophisticated calculation methods.
26. Different stormwater BMPs capture different amounts of sediment and nutrients. At the time the MS4 permit was being written EPA performed model runs that were used by DEP to apply a presumptive approach in which a 10% sediment capture by a hypothetical variety of BMPs could be assumed to also result in a 5% phosphorus and 3% nitrogen reduction. Later, during the Phase 3 WIP development, DEP reviewed a sample of PRPs and developed a list of the actual BMPs proposed for use in that sample. The reductions that could be expected from those particular BMPs were then extrapolated to all MS4s in the Chesapeake Bay drainage to estimate the expected reductions identified in the Phase 3 WIP from the implementation of the 2018 MS4 permit. The result was less than a 3% nitrogen capture. DEP believes that the difference is at least in part the result of MS4 Pollutant Reduction Plans commonly used BMPs that are more effective at reducing sediment and less effective at reducing nitrogen. Keep in mind, it is not yet known what actual nitrogen capture will result from the 2018 MS4 permit. These reductions will be refined and updated as each Countywide Action Plan is completed and the actual Pollutant Reduction Plans for the MS4s in that county are incorporated into the reductions for that county. DEP agrees that discussions on the next MS4 permit should consider incentives to encourage use of BMPs that more effectively reduce nitrogen.
27. The current Industrial Stormwater Permit requires control of industrial process pollutants but does not require nutrient and sediment pollutant controls such as are required of MS4 permittees. DEP agrees that consideration should be given to changes in the industrial permit when it is reissued in 2021.
6. DEP recognizes the development and implementation of the Countywide Action Plans is essential to the success of the Phase 3 WIP. Using EPA grant funding,

DEP has started the process of hiring three of the additional 12 people identified in the Phase 3 WIP for the Chesapeake Bay Office. Recognizing the importance of the Countywide Action Plans, two of these three people will be the Internal Coordinators for the Tier 1 and Tier 2 counties. The third person will focus on the additional efforts needed to implement the BMP Verification Plan, the reporting of undocumented practices and the tracking and reporting of progress. DEP believes hiring these three people is a good start towards ensuring the Chesapeake Bay Office has the necessary infrastructure to support the successful implementation of the components of the Phase 3 WIP.

99. COMMENT

25. Julie Cheyney, Lebanon County Clean Water Alliance (LCCWA) -

According to a University of Maryland - CBPO report presented to the WIP 3 Steering Committee, "Regulated stormwater (MS4) accounts for about 4% of nitrogen runoff," and "Currently planned and potential future MS4 reductions will not significantly reduce nutrients." However, the Phase 3 WIP details spending nearly 80 million dollars on an annual basis to reduce MS4 stormwater pollutants. This money would be better spent if it was targeted toward programs that provide real, direct impacts on reducing pollutants (i.e. agricultural sector). (25)

RESPONSE

In general, it is more cost-effective to capture nitrogen from agricultural sources than from urban stormwater. Urban stormwater is not a major source of nitrogen, and most urban stormwater BMPs capture limited nitrogen. The primary purpose of urban stormwater permits (Municipal Separate Storm Sewer System (MS4) permits, Industrial Stormwater permits and Construction Stormwater permits) is to protect local waters. Streams within and immediately downstream of developed areas are frequently impaired because older development was built without consideration of urban stormwater impacts. The result is often habitat destruction, extreme flow variability, high temperatures in dry weather, illicit discharges and sediment deposition. Urban stormwater BMPs do capture some nitrogen, so it is appropriate for the Phase 3 WIP to recognize these limited reductions.

100. COMMENT

28. Joshua Billings, Lycoming County Planning & Community Development -

First, Lycoming County would like to commend the Steering Committee, PADEP, PADCNR, the Department of Agriculture and all the other contributing agencies and organizations involved in putting a plan together that allows significant flexibility for counties to contribute towards a state-wide goal in reducing nutrient loading to our waterways, cleaning up our environment and the Bay.

Please consider the following comments towards finalizing the draft plan:

1. Lycoming County has several MS4 communities. Dense urban areas often have little available land to construct cost effective nutrient and sediment reducing best management practices (BMP). Smaller urban municipalities should have the

flexibility to broaden the area of where BMPs can be constructed to outside of the specific designated MS4 municipality. The Phase 3 plan could establish criteria for MS4 BMP receiving areas where the municipality will still gain credit towards their MS4 permit required nutrient and sediment reductions. The investment to meet the MS4 requirements could then be potentially leveraged to expand the BMP to gain additional nutrient reductions in areas where there is sufficient area for construction and also contribute towards the Phase 3 WIP goals for the individual county. (28)

RESPONSE

DEP actively encourages Municipal Separate Storm Sewer System (MS4) permittees to work collaboratively with neighboring municipalities. MS4s can prepare joint Pollutant Reduction Plans or share in the load reductions of any number of BMPs.

101. COMMENT

29. Taylor Nezat, Pennsylvania Choose Clean Water Coalition [part of PennFuture] -

Stormwater Sector Plays Too Small of a Role

To meet our TMDL goals and improve the health of local streams, the importance of properly managing stormwater runoff must be addressed. In its 2017 midpoint review, the EPA identified substantial concerns with Pennsylvania's actions regarding urban and suburban stormwater.⁷⁰ Unfortunately, the Phase 3 WIP's actions are insufficient and fall short of the need to significantly address pollution from this sector.

A major concern we found is that nearly 75% of developed acres from which stormwater pollution is generated are outside of municipal storm sewer systems (MS4) areas. The stormwater from these areas is left largely unregulated, yet the Phase 3 WIP fails to identify opportunities to achieve additional reductions through more robust permitting programs and does not identify a strategy to target unregulated sources of stormwater.

The Phase 3 WIP does recommend five actions to reduce stormwater pollution, but it does not identify any new requirements for permittees. The majority of the five activities that are identified in the Phase 3 WIP are largely already taking place, therefore Pennsylvania will see little to no increased reductions from its stormwater sector. As a major and growing source of pollution, it is disconcerting that there are such small reductions from the stormwater sector.

⁷⁰ U.S. Environmental Protection Agency. 2018. U.S. Environmental Protection Agency Evaluation of Pennsylvania's 2016-2017 and 2018-2019 Milestones. Available at: <https://www.epa.gov/sites/production/files/2018-07/documents/final-evaluation-pa-2016-2017-and-2018-2019-milestones.pdf>

The EPA Phase 3 WIP Expectations specific for Pennsylvania acknowledges the importance of the stormwater sector and establishes the expectation that Pennsylvania will not shift all the gaps from the stormwater sector to agriculture.⁷¹ The Phase 3 WIP Stormwater Workgroup representing stakeholders from government, nonprofit, and private practice made several recommendations that were not included in the draft WIP.⁷² The Stormwater Workgroup's recommendations built on the existing framework to achieve additional reductions from this sector that would also benefit local water quality. We agree that Pennsylvania should get credit for actions already underway. However, the draft WIP leaves many missed opportunities for reductions in the stormwater sector. DEP should reconsider including the recommendations of the Phase 3 WIP Stormwater Workgroup. (29)

RESPONSE

Persons proposing construction activities need to meet Pennsylvania erosion and sediment control and post-construction stormwater management requirements in 25 Pa. Code Chapter 102. Since 2010, construction activities with one or more acres of disturbance, regardless of location, require a federal NPDES permit as well as implementation of BMPs to minimize accelerated erosion and sedimentation as well as manage post-construction stormwater. DEP has made every effort to add an estimate of the reductions achieved from implementing these regulatory requirements to the Phase 3 WIP. Better reporting of these activities is also part of the strategy for the future.

In regards to expanding the MS4 permit to regulate more developed lands under the 2023 MS4 permit: the Department will consider these recommendations for the next MS4 permit term as it would other public comments, but cannot commit to changing the MS4 permit prior to engaging in the normal public process for reissuing the MS4 permit. Such a change could address more local water quality impairments and reduce pollutants to the Chesapeake Bay, but would also impose MS4 requirements on more municipalities than are currently regulated. This could include some municipalities that are extremely small and some that have few water quality issues. If such a change is made, other recommendations from the Phase 3 Workgroup would need to be considered, such as regional MS4 coordination (see the response to #96) and outreach assistance. Further consideration is needed before deciding whether to implement this recommendation.

⁷¹ U.S. Environmental Protection Agency. 2017. U.S. Environmental Protection Agency's Expectations for Pennsylvania's Phase III WIP. Available at: [http://files.dep.state.pa.us/Water/ChesapeakeBayOffice/WIP/III/\(13\)%20Pennsylvania%20Phase%20III%20WIP%20Expectations%204_27_17.pdf](http://files.dep.state.pa.us/Water/ChesapeakeBayOffice/WIP/III/(13)%20Pennsylvania%20Phase%20III%20WIP%20Expectations%204_27_17.pdf)

⁷² Pennsylvania Phase III WIP Stormwater Workgroup. 2018. Pennsylvania Phase III WIP Stormwater Workgroup Recommendations. Available at: [http://files.dep.state.pa.us/Water/ChesapeakeBayOffice/WIP/III/2018/November20/Handout%204_Phase%203%20WIP%20Stormwater%20Workgroup%20Recommendations%20\(Final%2011-8-18\).pdf](http://files.dep.state.pa.us/Water/ChesapeakeBayOffice/WIP/III/2018/November20/Handout%204_Phase%203%20WIP%20Stormwater%20Workgroup%20Recommendations%20(Final%2011-8-18).pdf)

102. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

Urban/Suburban Stormwater

In the draft WIP3, DEP provides a summary of existing stormwater-related programs, regulations, and permit structure. As with the overall WIP3, the strategy to achieve nutrient reduction from urban/suburban stormwater is somewhat scattered throughout the document, and not extensively robust or described. **Importantly, the approaches in the draft WIP3 offer limited details regarding solutions to addressing existing loads from previously developed urban/suburban lands in non-MS4 areas.**

However, we have numerous suggestions regarding the sufficiency of these and as well as the solutions for urban/suburban pollutant loads that are currently described and offer the following recommendations:

Re-plumb Non-MS4 roadway ditches and swales. Currently, the accounting of the loads from stormwater runoff via existing regulation and programs appears to only include stormwater runoff in MS4 areas. Yet, research indicates that roadway swales can act as significant sources, depending on the design and maintenance, and conveyance mechanisms for polluted runoff in non-MS4 areas. In 2014, the EPA Chesapeake Bay Program Science and Technical Advisory Committee released a report detailing issues and opportunities within the Bay watershed.⁷³ And since about 2016, the Maryland office of the Chesapeake Bay Foundation, along with the Maryland Chapter of The Nature Conservancy, has had a program to identify, quantify, design, and implement cost-effective retrofits to existing ditches and swales designed to intercept and treat stormwater runoff from roadways and adjacent landscapes.⁷⁴ Such a program in the Commonwealth could offer numerous benefits to address this pollution source.

Reinvigorate and Revise Act 167. When passed in 1978, the Stormwater Management Act (Act 167) was a unique and progressive step towards better stormwater management. But, in many ways, the Act has out lasted its usefulness and needs to be updated to reflect today's regulatory realities and the state of science and engineering. With updates that require preventing new sources of stormwater pollution and addressing problems from existing non-MS4 development, **Act 167 could once again serve as the framework for planning and implementing stormwater management relevant to the challenges of today.**

⁷³ Schneider, R. and K. Boomer. 2016. Re-plumbing the Chesapeake Watershed: Improving roadside ditch management to meet TMDL water quality goals. STAC Publication Number 16-001, Edgewater, MD. 43 pp.

⁷⁴ Williams, J.P. Ditches for Clean Water. Chesapeake Bay Foundation Blog. August 3, 2016. <https://www.cbf.org/blogs/save-the-bay/2016/08/ditches-for-clean-water.html>

In the draft WIP3, Pennsylvania accurately notes the required nature of Act 167 planning and adoption of local ordinances. However, the reality of the program is such that it is considered a voluntary planning program not undertaken by counties or local governments without cost-share funding from DEP. As a result, the development and updating of such plans has been in some cases been extremely protracted.

Lawn Fertilizer Restriction. The draft WIP3 mentions lawn fertilizer restriction legislation to help address nutrient loads from urban and suburban lawns. Several states have passed such restrictions including but not limited to New York, New Jersey, Maryland, Virginia, and Delaware. This law, referenced as Urban Nutrient Management, was included in the Commonwealth's WIP1 (2010); approximately nine years later, a law remains unpassed.

Nearly ten years ago, the Chesapeake Stormwater Network estimated that in Pennsylvania's bay watershed, lawns covered an estimated 1,059,015 acres—most of which occurs in south-central part of the Commonwealth.⁷⁵ Although precise data on management techniques did not exist, and does not exist, the potential implications to local and Bay water quality is large and should be a primary focus.

A recent study released by Virginia Tech supports the concept of prohibitions of fertilizer applications, with exemptions for nutrient deficient soils or new seedings, as one of the most effective approaches to address this issue with the Bay watershed. Researchers at Virginia Tech estimated that a potential 25 to 50 percent reduction in total phosphorus loading to stormwater could result within several years of the prohibition. The study also concluded that the prohibition achieved an estimated 10 to 20 percent reduction in total nitrogen loads to stormwater runoff.⁷⁶ A study by the University of Michigan noted that in the city of Ann Arbor, a 2006 lawn fertilizer law resulted in an average 28 percent reduction in phosphorus levels in the Huron River.⁷⁷ (32)

RESPONSE

Existing roadway ditches and swales are candidates for retrofit BMPs. Modifications to the existing ditch/swale would need to be accomplished so that the criteria for a BMP (e.g. a bioswale) were satisfied.

It is correct that many counties have not maintained an up-to-date Act 167 plan. Note that the Act requires counties to create the plan and update it every five years, regardless of whether or not funding is provided.

⁷⁵ Chesapeake Stormwater Network. 2010. CSN TECHNICAL BULLETIN No. 8 The Clipping Point: Turf Cover Estimates for the Chesapeake Bay. Baltimore, MD.

⁷⁶ Daniels, W.L., M. Goatly, R. Maguire, D. Sample. 2010. Effects of Fertilizer Management Practices on Urban Runoff Water Quality. Virginia Polytechnic Institute and State University, Blacksburg, VA.

⁷⁷ Water quality improves after lawn fertilizer ban, study shows. August 17, 2009. <https://news.umich.edu/water-quality-improves-after-lawn-fertilizer-ban-study-shows/>

DEP supports the currently proposed legislation that would place restrictions on the application of nitrogen in commercial fertilizer and in many situations ban the application of phosphorus and is working closely with the Department of Agriculture and representatives of the state legislature to get this legislation passed.

103. COMMENT

33. Michael Sachs, Resource Environmental Solutions, LLC (RES) -

Section 2.II.3 – Urban Sector:

RES acknowledges that most nutrient reductions achieved by the urban sector are through the implementation of NPDES permits. States across the Chesapeake Bay Watershed, as well as other states including North Carolina, have found that incorporating options for offsite water quality and/or quantity management within their construction stormwater permit programs can accelerate the pace and scale of restoration efforts while providing a cost-effective means of achieving compliance⁷⁸. Allowing third party providers to complete and “bank” offsite water quality allows for cost savings over traditional on-site BMPs while providing a mechanism for aggregating and channeling diffuse permittee needs into large-scale restoration projects that have a tangible effect on local and regional water quality. This nutrient/sediment trading concept also enables development and redevelopment in dense, urban settings where compiled offsite credits are purchased, thereby achieving reductions in close vicinity to the impact site. Other states have successfully encouraged this type of solution through updated permitting regimes.

RES suggests that a technical advisory committee with industry participation provide input on the proposed Stormwater BMP Manual revisions, with an eye towards establishing a framework for offsite compliance (i.e., nutrient credit “banking”). (33)

RESPONSE

DEP agrees that banking should continue to be evaluated. The soon-to-be-completed Stormwater BMP Manual will be subject to a public review, and DEP encourages input during that process.

104. COMMENT

35. Allyson Gibson, Lancaster Clean Water Partners -

If MS4s are expected to perform the heavy-lifting of implementing the CAP, then an associated re-structuring of the MS4 program needs to occur so that Non-Urbanized Areas are included.

⁷⁸ Alicia L. Nobles, Hillary D. Goldstein, Jonathan L. Goodall, and G. Michael Fitch. (2014). *Investigating the Cost-Effectiveness of Nutrient Credit Use As an Option for Stormwater Permitting Requirements* (Report No. FHWA/VCTIR 15-R9). Retrieved from Virginia Center for Transportation Innovation and Research: http://www.virginiadot.org/vtrc/main/online_reports/pdf/15-r9.pdf

Page 48 of the draft Phase 3 WIP document lists two new illicit discharges for municipalities to adopt in their ordinances: residential pool drainage and residential car washing draining. Why are these illicit discharges limited to residential? (35)

RESPONSE

In regards to expanding the MS4 permit to regulate more developed lands under the 2023 MS4 permit: DEP will consider these recommendations for the next MS4 permit term as it would other public comments, but cannot commit to changing the MS4 permit prior to engaging in the normal public process for reissuing the MS4 permit.

Such a change could address more local water quality impairments and reduce pollutants to the Chesapeake Bay, but would also impose MS4 requirements on more municipalities than are currently regulated. This could include some municipalities that are extremely small and some that have few water quality issues. If such a change is made, other recommendations from the Phase 3 Workgroup would need to be considered, such as regional MS4 coordination (see the response to #96) and outreach assistance. Further consideration is needed before deciding whether to implement this recommendation.

The 2013 MS4 permit allowed the discharge of dechlorinated pool discharges. The 2018 MS4 permit eliminated all pool drainage from the list of Authorized Discharges. The WIP should have said “pool drainage” is now considered an illicit discharge, not just “residential pool drainage.” This change has been made to the final version of the Phase 3 WIP.

The 2013 MS4 permit allowed “individual residential car washing” as an Authorized Discharge (commercial car washing discharges were not Authorized). The 2018 MS4 permit allows “residential (not commercial) vehicle wash water where cleaning agents are not utilized” as an Authorized Discharge.

105. COMMENT

36. Renee Reber, American Rivers [for Pennsylvania Stormwater Workgroup for Clean Water] -

While managing stormwater is important to the health of the Bay, it is also very important to the water quality in our local streams. Pollution from this sector is the third leading cause of stream impairment in the Commonwealth.⁷⁹ In fact, the number of stream miles impaired by urban runoff increased between 2016 and the recently released draft 2018 Integrated Water Quality Monitoring and Assessment Report.

⁷⁹ The Pennsylvania Department of Environmental Protection. 2019. Draft 2018 Pennsylvania Integrated Water Quality Monitoring and Assessment Report. Available at: https://www.dep.state.pa.us/2018_integrated_report/index.html

The U.S. Environmental Protection Agency's (EPA) Expectations for Pennsylvania⁸⁰ specifically acknowledges that the urban stormwater sector (sources of stormwater from nonagricultural areas) has an important role to play and that pollutant load reductions cannot all be shifted to the agricultural sector. Pennsylvania has a long way to go in meeting its pollution reduction goals, especially for nitrogen. The numeric reductions included in the draft Phase 3 WIP suggest that Pennsylvania's plan only achieves 67% of the goal. The stormwater sector must appropriately address nitrogen reductions for the Commonwealth to meet its goals. The Midpoint Assessment of Pennsylvania's progress⁸¹ also calls on Pennsylvania to address gaps in necessary reductions from the stormwater sector and further use a regional approach for both regulated and unregulated municipalities. We find the draft Phase 3 WIP insufficient because it does not address these expectations from EPA.

The Workgroup submits the following comments specific to the stormwater sector on the draft Phase 3 WIP. In failing to achieve the necessary reductions from the stormwater sector, the Department is missing opportunities to meet Bay goals and improve local waters.

DEP's Phase 3 WIP disregards the Pennsylvania Phase 3 WIP Stormwater Workgroup recommendations.

Solution: Include the Phase 3 WIP Stormwater Workgroup recommendations in the final version of the Phase 3 WIP.

The Phase 3 WIP Stormwater Workgroup, representing stakeholders from government, nonprofit, and private practice was convened, by the Department, for their expertise in stormwater to develop new ideas that would help Pennsylvania meet reduction goals for the stormwater sector. This group examined the role and source of regulated and unregulated pollutants from stormwater and provided solutions to address this source sector beyond what the Department has previously required. Although the draft Phase 3 WIP acknowledges the group's recommendations, it does not incorporate the proposed pollutant load reduction solutions that were recommended to the Department and the Steering Committee in November 2018.

The draft Phase 3 WIP fails to provide a clear plan to address impacts from 75% of developed land in the Chesapeake Bay Watershed.

⁸⁰ U.S. Environmental Protection Agency. 2017. U.S. Environmental Protection Agency's Expectations for Pennsylvania's Phase III WIP. Available at: [http://files.dep.state.pa.us/Water/ChesapeakeBayOffice/WIP/III/\(13\)%20Pennsylvania%20Phase%20III%20WIP%20Expectations%204_27_17.pdf](http://files.dep.state.pa.us/Water/ChesapeakeBayOffice/WIP/III/(13)%20Pennsylvania%20Phase%20III%20WIP%20Expectations%204_27_17.pdf)

⁸¹ U.S. Environmental Protection Agency. 2018. U.S. Environmental Protection Agency Evaluation of Pennsylvania's 2016-2017 and 2018-2019 Milestones. Available at: <https://www.epa.gov/sites/production/files/2018-07/documents/final-evaluation-pa-2016-2017-and-2018-2019-milestones.pdf>

Solution: The final Phase 3 WIP must include the programs and policies that will ensure practices are implemented to address the unregulated portion of the Chesapeake Bay Watershed.

The area covered under MS4 permits accounts for only 25% of the developed land in the watershed. This leaves 75% of developed land unaccountable for managing stormwater runoff. Capturing stormwater from the unregulated developed area has the potential to more than double pollutant reductions from the stormwater sector. The final Phase 3 WIP must set forth a plan to reduce pollution from this area. This plan should investigate a suite of creative options. For example, analysis conducted by the Chesapeake Stormwater Network⁸² suggests that fertilizer legislation that limits and reduces the application of lawn fertilizers will help reduce a large source of nutrient pollution. However, without a clear plan to address pollution from these land areas, Pennsylvania will remain far from achieving its target. (36)

RESPONSE

DEP recognizes the Phase 3 WIP Stormwater Workgroup recommendation for various forms of regional collaboration. DEP has the authority to designate entities other than municipalities (like counties) as MS4 permittees, but municipalities would need to be co-permittees. There might need to be consensus among the relevant parties for any such designations to work. Further consideration is needed to develop a path forward on this issue.

In regards to expanding the MS4 permit to regulate more developed lands under the 2023 MS4 permit: the Department will consider these recommendations for the next MS4 permit term as it would other public comments, but cannot commit to changing the MS4 permit prior to engaging in the normal public process for reissuing the MS4 permit.

Such a change could address more local water quality impairments and reduce pollutants to the Chesapeake Bay, but would also impose MS4 requirements on more municipalities than are currently regulated. This could include some municipalities that are extremely small and some that have few water quality issues. If such a change is made, other recommendations from the Phase 3 Workgroup would need to be considered, such as regional MS4 coordination (see the response to #96) and outreach assistance. Further consideration is needed before deciding whether to implement this recommendation.

⁸² Chesapeake Stormwater Network. 2013. Recommendations of the Expert Panel to Define Removal Rates for Urban Nutrient Management. Chesapeake Bay Program Approved Final Report. Available at: https://www.chesapeakebay.net/documents/Final_CBP_Approved_Expert_Panel_Report_on_Urban_Nutrient_Management--short.pdf

106. COMMENT

37. James Wheeler, Pa. State Assoc. of Township Supervisors -

Stormwater Priority Initiatives

The draft WIP indicates that currently regulated MS4 municipalities in the Chesapeake Bay watershed will annually spend on the order of \$74 million to meet their current permit requirements, yet this level of spending will only provide less than 1% of the needed reduction in the state's nitrogen goal, and less than 2% toward the state's phosphorus goal.

To put this into perspective, the "Agriculture Compliance" and "Soil Health" priority initiatives would cost \$66 million but together would result in a 43% reduction in nitrogen and 18% reduction in phosphorus. We therefore question the wisdom of forcing municipalities to spend exorbitantly on nitrogen removal efforts which are almost 100 times less effective than can be obtained elsewhere.

We encourage the department to complete its nutrient trading policy, which would result in municipalities spending less to meet their pollutant reduction targets, as in some cases, the stormwater permit compliance budget is consuming between 25 and 50 percent of the municipality's budget. We also believe the MS4 permit requirements for mandated Pollutant Reduction Plan (PRP) targets be lowered to better align the municipal costs with potential benefits from the expenditures.

Another concern is that the volume of rain falling per storm is overwhelming the capacity of the currently-installed detention basins and rain gardens (best management practices). Municipalities are becoming concerned that they will need to dramatically upgrade these installed structures to accommodate the increased rainfall, which would likewise dramatically increase the cost of both the installation, operation and maintenance of these structures. Given the already-paltry benefit from the expected cost, we suggest that additional attention be given to lowering the PRP requirements.

As we mentioned in our opening section, mandating an expansion of the universe of regulated municipalities to include all municipalities not now regulated as an MS4 would have a deleterious impact. To re-iterate the impact of such mandates, one municipality currently with a \$1 million budget. would incur an additional cost of \$700,000 to meet their obligations. This level of spending increase is unsustainable for most municipalities, and we oppose any actions by DEP or EP A to mandate additional municipalities not currently designated as an MS4 in the Bay watershed be designated as requiring MS4 permits in the future.

The requirement that regulated MS4 communities implement pollutant reduction plans is already a component of the current (2018) MS4 permit. And though regulated municipalities continue to make aggressive progress towards compliance, we again feel that a five-year time-frame is too short to implement all the needed practices to meet the

initial level of required reductions. Likewise, any future increase in the required RPP reductions should be lowered and based on more realistic expectations of possible reductions. (37)

RESPONSE

In general, it is more cost-effective to capture nitrogen from agricultural sources than from urban stormwater. Urban stormwater is not a major source of nitrogen, and most urban stormwater BMPs capture limited nitrogen. The primary purpose of urban stormwater permits (Municipal Separate Storm Sewer System (MS4) permits, Industrial Stormwater permits and Construction Stormwater permits) is to protect local waters. Streams within and immediately downstream of developed areas are frequently impaired because older development was built without consideration of urban stormwater impacts. The result is often habitat destruction, extreme flow variability, high temperatures in dry weather, illicit discharges and sediment deposition. Urban stormwater BMPs do capture some nitrogen, so it is appropriate for the Phase 3 WIP to recognize these limited reductions.

In regards to expanding the MS4 permit to regulate more developed lands under the 2023 MS4 permit: DEP will consider these recommendations for the next MS4 permit term as it would other public comments, but cannot commit to changing the MS4 permit prior to engaging in the normal public process for reissuing the MS4 permit.

Such a change could address more local water quality impairments and reduce pollutants to the Chesapeake Bay, but would also impose MS4 requirements on more municipalities than are currently regulated. This could include some municipalities that are extremely small and some that have few water quality issues. If such a change is made, other recommendations from the Phase 3 Workgroup would need to be considered, such as regional MS4 coordination (see the response to #96) and outreach assistance. Further consideration is needed before deciding whether to implement this recommendation.

Finally, relative to the time it takes to implement the necessary practices for the MS4 permit, the term of the MS4 permit is mandated by EPA to be five years.

107. COMMENT

38. Katlyn Schmitt, Waterkeepers Chesapeake -

3. Failure to Include Sufficient Reductions from Stormwater Sector

The EPA Phase 3 WIP Expectations specific for Pennsylvania acknowledges the importance of the stormwater sector and establishes the expectation that Pennsylvania will not shift all the gaps from the stormwater sector to agriculture. To meet our TMDL goals and improve the health of local streams, the importance of properly managing stormwater runoff must be addressed under the WIP. In its 2017 midpoint review, the EPA identified substantial concerns with Pennsylvania's actions regarding urban and

suburban stormwater. Despite this, the actions outlined under the draft WIP fall short of the need to substantially address pollution from this sector.

The draft WIP does not identify any new requirements for permittees despite recommending five actions to reduce stormwater pollution. The majority of the five activities that are identified in the draft WIP are largely already taking place, therefore Pennsylvania will see little to no increased reductions from its stormwater sector. As a major and growing source of pollution, it is disconcerting that there are such small reductions from the stormwater sector.

Likewise, nearly seventy-five percent of developed acres that generate stormwater pollution are outside of municipal storm sewer systems (MS4) areas. These unregulated areas provide the perfect opportunity for Pennsylvania to achieve additional reductions, yet the draft WIP fails to address these areas and does not even identify a strategy to target unregulated sources of stormwater.

The Phase 3 WIP Stormwater Workgroup representing stakeholders from government, nonprofit, and private practice made several recommendations that were not included in the draft WIP, but could certainly help bolster reductions made from the stormwater sector in Pennsylvania. The Stormwater Workgroup's recommendations built on the existing framework to achieve additional reductions from this sector that would also benefit local water quality. We agree that Pennsylvania should get credit for actions already underway, however, the draft WIP leaves many missed opportunities for reductions in the stormwater sector. DEP should reconsider including the recommendations of the Stormwater Workgroup in order to ensure adequate reductions are made. (38)

RESPONSE

All persons proposing construction activities need to meet Pennsylvania erosion and sediment control and post-construction stormwater management requirements per Chapter 102. Since 2010, construction activities with one or more acres of disturbance, regardless of location, require a federal NPDES permit as well as implementation of BMPs to minimize accelerated erosion and sedimentation as well as manage post-construction stormwater. DEP has made every effort to add an estimate of the reductions achieved from the implementation of these regulatory requirements to the Phase 3 WIP. Better reporting of these activities is also part of the strategy for the future.

DEP will further consider the Phase 3 WIP Stormwater Workgroup recommendations that the MS4 permit regulate more developed lands as part of the public comment period for the 2023 MS4 permit. Such a change would address more local water quality impairments and reduce pollutants to the Chesapeake Bay, but it would also impose MS4 requirements on more municipalities than are currently regulated, potentially including some that are extremely small and some that have few water quality issues. If such a change was made, other recommendations from the Phase 3 Workgroup would need consideration, specifically some form of regional MS4 coordination (see the

response to #96), and probably outreach assistance. Further consideration is needed to develop a path forward on the issue.

Numeric Commitments (Section 2)

Wastewater

108. COMMENT

4. Ronald Furlan, unknown affiliation

1. To assist in meeting the numeric commitments, (Section III, D. Wastewater) why hasn't the Commonwealth Pa DEP implemented the cap load requirements on non-significant wastewater facilities as originally envisioned in the 2011 WIP?
2. Is it possible for municipalities (townships, boroughs and authorities) under current laws, for example: Act 537, Clean Streams Law, Municipal Authorities Act, Laws concerning Borough and Township codes) to implement a fee program to support their activities surrounding an onsite wastewater treatment management program as suggested in the WIP?
3. Why hasn't the Pa DEP implemented a phosphorus index for its Land Application of Sewage Sludge (Biosolids) permits? The Pa DEP can do this, at a minimum, by adding a condition to permits as allowed by the current Solid Waste Management regulations, particularly 25 Pa Code 271.3 (b).
4. Why have actual obligations and commitments by the mining bureaus, programs and deputate disappeared from the WIP? For example: Sewage Sludge is frequently used in mine reclamation projects often outside of the permitting process pursuant to the Commonwealth's Solid Waste Management sewage sludge regulations and EPA's sewage sludge regulations. The mining programs often use reclamation plans to allow the use of sewage sludge, as such, the criteria for nutrients requirements and application is surpassed by the need for the use of organic material needed on what is often soil deprived mined areas. These areas are ripe for runoff sources of nutrients, and sediment, in the upper active and abandon mining areas of the Chesapeake Bay watershed. This often leads to over application of sewage sludge, which could be then considered disposal rather than beneficial use. (4)

RESPONSE

3. The Bay TMDL establishes an aggregate Wasteload Allocation (WLA) for all non-significant sewage and industrial dischargers of 3,006,667 lbs/yr TN and 856,792 lbs/yr TP. DEP monitors the non-significant facilities through NPDES discharge monitoring reporting. The point source sector continues to maintain and is projected to stay within the WLA in the TMDL through 2025. The nutrient removal for non-significant sewage facilities has been considered. Operation of nutrient removal facilities requires greater staff expertise and operator attention to process control. Smaller facilities may not have the staffing capability to operate nutrient removal facilities in many cases. In order to account for the staff capabilities, facilities with design flows greater than 0.075 million gallons per day (mgd) were considered in the evaluation. This group encompasses approximately half of the loading from the nonsignificant sewage facilities. Requirements similar to the significant sewage facility cap loads would result in minimal reduction in the short term since many of

the non-significant facilities discharge below their design flow (50% of the non-significant facilities have actual flows which are less than 50% of design capacity). However, concentration-based limits of 8 mg/L TN and 1 mg/L TP would result in reductions. The following table shows the reduction that would have occurred in 2017 and 2018 if a concentration-based limitation would have been in place.

Year	TN			TP		
	Actual Load (lbs/yr)	Estimated Load @ 8 mg/L (lbs/yr)	Reduction (lbs/yr)	Actual Load (lbs/yr)	Estimated Load @ 1 mg/L (lbs/yr)	Reduction (lbs/yr)
2017	983,973	327,303	656,670	NA	NA	NA
2018	1,152,102	645,383	506,719	155,576	77,168	78,408

Although potential nutrient reductions exist, capital and operational costs have not been developed. A site-specific analysis is required to determine cost. Generally, cost estimates based on the pounds of nutrient reduced or gallons of wastewater treated could be applied; however, a better method of determining estimated cost is needed to perform a facility specific analysis. Site specific constraints will dictate project cost. As a result, it was determined no further action will be taken at this time to require additional reductions from the wastewater sector.

4. Chapter 72.42(a)(5) provides the authority for a local agency to establish a schedule of fees for processing applications and other services provided by the local agency. Sewage Management Program administration would fall into other services provided.
3. Section IV of the draft Phase 3 WIP, titled, Anticipated Reductions from CAP Development and Implementation / Merging the State Priority Initiatives for Numeric Reductions with the CAPs, includes the Programmatic and Policy recommendation for the evaluation of the incorporation of phosphorus management planning into the biosolids.
4. Biosolids are frequently used to re-establish vegetation on mine sites. One-time application of biosolids at higher than typical application rates does occur. This use of biosolids are designed to jump-start revegetation which will then become sustainable without continued reapplication at higher than typical rates. Although there may be an increased risk of nutrient runoff in the short term, the long-term benefit of the reduction of sediment and nutrient runoff from revegetated mining sites greatly outweighs the short-term risk.

Reductions from the Mining Permit programs and recognition of the improvements to water quality that can be achieved through the implementation of the programs that address the impacts on water quality from Abandoned Mine Lands have been added to the final Phase 3 WIP.

109. COMMENT

24. Felicia Dell, York County Planning Commission -

28. Pgs. 50-51, 3. Municipalities Implement Onsite Septic System Inspection and Pumping Programs: Many municipalities already have and are implementing these programs. Is the current operation and maintenance information collected being submitted to DEP for Chesapeake Bay reporting? If it is not, DEP should begin to collect the data NOW and not delay it. WIP 3 only proposes to investigate the feasibility of an online monitoring/reporting program and does not provide a timeline for doing so. It also does not provide any alternative if development of an online program is not feasible. The good work that municipalities are doing needs to be credited in the Chesapeake Bay model, regardless of whether an online monitoring/reporting program is available. (24)

RESPONSE

Local agencies who have approved sewage management programs are required to submit an annual report detailing the operation and maintenance performed during the previous year. Historically, the annual report had been included with the application for reimbursement for sewage management programs. The state funding for reimbursement has been eliminated, so reimbursement applicants and annual reports are not being submitted by all municipalities. The reports that have been submitted were being inputted into a database; however, the position dedicated to inputting this sewage management data was eliminated a few years ago. DEP is researching implementing a web based permitting and reporting system to allow local agencies to improve administration of the program and more easily report pertinent information to the DEP; the research is in the conceptual stages and will require significant funding to begin development and implementation. The implementation of this system, among other things, would allow for accurate credit counting for sewage management programs. In the interim, DEP plans to begin inputting the annual reports received into the existing database and provide guidance to local agencies to fulfill their regulatory obligation to submit their annual reports.

110. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

8. Commitment to additional reductions of loadings from point sources to include reductions in current facility specific wasteload allocations for the significant municipal and industrial wastewater discharging facilities in order to increase the share of the allocations to stormwater and/or agriculture.

CBF has and continues to fully support the implementation of the Point Source Allocation Strategy of 2007 which sets equitable nutrient limits via NPDES discharge permits for significant and non-significant sewage treatment facilities. Based on our analysis of the draft WIP3, a few issues did emerge however.

The draft WIP3 contains 3 priorities to continue to realize cost-effective reductions in nutrient loads from this sector. Although these priorities are good and necessary, additional opportunities exist.

Onsite Wastewater

According to the CAST model, **since 1985 Pennsylvania's nitrogen loads from onsite wastewater treatment have increased by over 380,000 pounds (20 percent) to a total load of just under 1.9 million pounds.** Although comparatively small to other sectors, along with stormwater from new development this sector is the only growing pollutant source in Pennsylvania's Bay watershed.

New or expanded discharges from sewage treatment plants must achieve a no net increase in pollutant loads according to DEP policy; yet, septic systems do not have to achieve this standard and are essentially given a free ride in terms of addressing the pollutant load from these systems.

For instance, a new residential development that can either hook up to an existing sewer line may be required to pay the local authority a fee to offset increase nutrient loads or provide offsets in the form of credits. Alternatively, the development could build a "package" plant to provide sewage treatment if conditions were appropriate. In this case, the no net increase provision applies and credits or appropriate treatment such as spray irrigation would need to be obtained or employed. However, if septic systems are to be employed as the sewage treatment technology the developer and those that live there have no obligation to address nutrient loads from the systems. Such a situation may result in incentivizing septic systems over other treatment options.

To ameliorate this issue, **DEP should close the "loophole" for septic systems and require new or reconstructed septic systems to also achieve a no net increase in nutrient loads.** We note, however, that reliable and affordable technology that addresses nitrogen loads from septic systems are emerging. Yet, other options to address future and existing loads from this source are available. (32)

RESPONSE

Currently, there is only one approved technology in Pennsylvania for on-lot nutrient reduction. Until additional technologies are available, nutrient reduction is not cost effective. Additionally, the expected reduction of total nitrogen from on-lot system designed for a 50% reduction at best, so the technology has limited benefit.

On-lot system permitting is an obligation of local agencies. In most cases the local agency is also the local municipal government. Any nitrogen offsetting program would need to be administered at the local agency level. Given the number of local agencies in Pennsylvania, a record keeping and reporting effort required to establish an offsetting

program would be difficult at best. Rather than burdening homeowners and local agencies with an onerous nitrogen offsetting program, DEP recommends that municipalities and local agencies implement sewage management programs to ensure the operation and maintenance of on-lot systems. Ensuring that systems are maintained provides assurance that systems will provide proper disposal for years to come. The Chesapeake Bay Program Watershed Model also recognizes the benefit of sewage management since it includes a BMP for areas that implement sewage management programs. If all municipalities implement a sewage management program, 144,000 lbs/yr of TN reduction will result. Sewage management will also result in the protection of local water quality.

Countywide Action Plans (Section 3) The Plans

111. COMMENT

24. Felicia Dell, York County Planning Commission -

SECTION 3. COUNTYWIDE ACTIONS

42. Pg. 76, Section II. A. Programmatic and Numeric Results for the Four Pilot Counties: Although the title of this section references “programmatic” results, the summary of the CAPs for each county (pgs. 77-87) focuses only on the numeric results. Considering that the programmatic results are a key component of the CAPs and achieving the reduction targets, an overview of the programmatic recommendations should be included in the PA WIP 3.
43. Pg. 76, Table 3.2: For Lancaster County, the table lists the phosphorus “Percent of County Goal” as 111%, while Table 3.4 on pg. 77 shows the “Percent Achieved” as 100%. It appears that these two percentages should be the same. However, if the 111% is correct on Table 3.2, then York County’s phosphorus “Percent of County Goal” should also be greater than 100%. In York County, the phosphorus target has been met and the CAP will result in additional reductions.

GENERAL COMMENTS

8. The York County CAP contained in the Draft was a misrepresentation of the overall County CAP submitted to DEP. The BMP actions contained in the Draft were a “stretch goal” identified as only being possible with the implementation of the most important part of the County Plan, which was identified as State Programmatic Changes. The programmatic changes are not discussed in the State WIP; there is only a reference to the template. (24)

RESPONSE

The programmatic goals identified by the pilot counties have been compiled together and are listed in detail in section 2 of the WIP. Additional information can be found at the end of the supplemental document titled “County Workgroup Recommendations”.

Thank you for identifying the potential errors, Pennsylvania will consider the changes recommended above for inclusion in the WIP.

112. COMMENT

28. Joshua Billings, Lycoming County Planning & Community Development -

2. There is question to whether the Chesapeake Bay model for determining the required nutrient reduction requirement for each PA county correctly models the nutrient loading from the various types of land uses contributing to the nutrient loading in each respective watershed. The Phase 3 Plan - County Action Plan planning process should allow for counties to understand where the nutrient loading is coming from and if possible, to verify the amount of loading from the various potential sources so the investments made and BMPs chosen can be placed in the most appropriate and cost effective locations. (28)

RESPONSE

The supplemental document titled “Pennsylvania’s Community Clean Water Technical Toolbox” provides examples of the information requested. Although the current document shows information regarding Cumberland County, as the planning process begins in each county, the county will be provided with a county-specific technical toolbox. Within the toolbox, county stakeholders will have a combination of graphs, charts and graphics that help to prioritize areas of focus and shows cost effective opportunities. These technical toolboxes, along with the technical support provided by the technical support team described in the Phase 3 WIP, will help county leaders prioritize cost effective opportunities.

113. COMMENT

29. Taylor Nezat, Pennsylvania Choose Clean Water Coalition [part of PennFuture] -

The proposed collaborative, “bottom up” approach does not provide any oversight or accountability. We understand and appreciate the thoughtfulness of the approach taken by the agency through a pilot county process. However, as described in the Phase 3 WIP, none of the plans in the Phase 3 WIP pilot program reach the nitrogen goal set forth for each of the four counties. These pilot plans highlight the need for a dedicated source of funding to support implementation of BMPs. Each of the pilot plans indicate that more funding and resources will be needed to implement their local plans. If we see similar results in the remaining 39 counties across the Pennsylvania portion of the Bay watershed, Pennsylvania will ultimately fall well short of achieving the required nitrogen reductions. Furthermore, it is troubling that the remaining 39 counties in the Bay watershed have not completed development of their County Action Plans by the date of the posting of the draft state WIP. Completion of these plans and full funding to support implementation should be a high priority. (29)

RESPONSE

Pennsylvania will continue to engage local stakeholders to develop realistic and implementable plans to meet water quality standards. Section 5 of the WIP details how Pennsylvania is proposing to meet funding and resources needs at both the state and local levels. Pennsylvania will continue to prioritize and support the completion of the remaining Countywide Action Plans, as local stakeholders work to develop realistic and implementable plans.

114. COMMENT

30. Ronald Ramsey, The Nature Conservancy -

Pennsylvania's progress in meeting its nutrient reduction targets will depend heavily on the ability of the counties in the Pennsylvania portion of the Bay watershed to complete and implement comprehensive plans for achieving their clean water goals. As Countywide Action Plans are developed in the remaining counties, we urge sustained engagement with, and strong support for, community leaders and local stakeholders to assist their efforts to refine practices, form partnerships, transfer knowledge, and pioneer innovative, high-leverage approaches to reducing nutrients and sediment in local streams and rivers. (30)

RESPONSE

Pennsylvania will continue to prioritize and support the development of Countywide Action Plans in the remaining counties. Pennsylvania’s pilot counties are excellent examples of strong collaboration among local stakeholders. Local stakeholders are strongly encouraged to engage in county planning processes once counties begin the development of their Countywide Action Plans. Local engagement is important to develop realistic and implementable plans.

115. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

1. Local planning goals, showing how the Phase III WIP goals will be achieved through action at county, municipal, and/or sub-watershed scales — especially in priority areas in the Susquehanna and Potomac River watersheds where the most impact to the Bay and local water quality can be achieved.

As part of the WIP3 development process, the Commonwealth established several workgroups including the Local Area Goals Workgroup. Through an exhaustive analysis, the workgroup explored a myriad of options and ideas regarding the most appropriate methods to localize WIP3 endeavors. The workgroup proposed a county-level scale based on tiered ranking of the 43 counties draining wholly or partially into the Chesapeake Bay watershed which was approved by the Steering committee.

Subsequently, the workgroup developed a “workbook” for counties to use as a baseline for developing plans and four counties consisting of Lancaster, York, Adams, and Franklin were initiated as pilots.

Overall, this process has proven successful with several opportunities highlighted by the counties and their stakeholders. The process will need to continue to evolve. However, as EPA indicated, the process not only needs to localize efforts but demonstrate how it will be achieved. To further refine the existing county-level plans and help ensure implementation:

Development of implementation plans for high loading/high opportunity sub-watersheds within each county/planning area. These planning areas should not only align with the high priority watersheds outlined in the draft 2018 Integrated Waters Report⁸³, but should also be added to that Report. These plans would form the nexus between the *WIP3—County plans—Sub-watershed* plan with increasing levels of precision and detail. (32)

RESPONSE

Pennsylvania will continue to prioritize and support the development of Countywide Action Plans in the remaining counties. The four pilot counties provide excellent examples of planning process successes. These pilot county plans were also key to improving the process for the remaining counties. The countywide planning teams can prioritize implementation (for example, sub-watersheds) within their own countywide action plans. Pennsylvania is relying on the planning teams’ local knowledge to best inform and develop a countywide action plan that is realistic and implementable. This collaborative, locally-led approach allows for flexibility within countywide plan development to prioritize efforts that best fit local dynamics.

DEP will further assess the feasibility of forming a nexus between the draft Integrated Water Report and the Phase 3 WIP.

116. COMMENT

35. Allyson Gibson, Lancaster Clean Water Partners -

Is Lancaster County truly ready to implement its Community Action Plan? Have the municipal governing bodies approved the CAP or somehow otherwise endorsed it? Are they even aware of it? The Phase 3 WIP breaks down the funding gap by County. How will Lancaster educate its municipalities as to their role and expected spending increases (i.e. additional \$50M per year for Lancaster County alone)? (35)

RESPONSE

The countywide planning process is designed to engage local municipalities, stakeholders and community members. As part of this process, key community and

⁸³ Pennsylvania Department of Environmental Protection. Draft Integrated Water Quality Report – 2018. <https://www.dep.pa.gov/Business/Water/CleanWater/WaterQuality/IntegratedWatersReport/Pages/2018-Integrated-Water-Quality-Report.aspx>

local government staff are encouraged to provide input on development of the Countywide Action Plan. The intention behind this process of engagement is to gain approval and acceptance of the Countywide Action Plans. Pennsylvania is looking to local countywide planning leaders to assure all key stakeholders are engaged throughout the process. Moving forward, as part of the continual effort to support these local efforts, Pennsylvania is providing funding to counties for external coordinators who will assist in coordinating the planning efforts, engaging local municipalities and securing funding and resources.

117. COMMENT

40. Patrick Thompson, EnergyWorks Group -

As shown in Table 1, an existing system in Adams County can reduce the Plan's gap in meeting the 2025 TMDL nitrogen goal by 1/3.

- Opportunity for Cost Savings and Timely Compliance: Extrapolating from estimates in Table 1, Integrated County/Regional MTT Systems that decouple animal operations from crop fertilizer could provide 34 million pounds of EOT nitrogen reduction for less than \$150 million annually. Since MTT Systems are infrastructure solutions, they can provide nutrient reduction services for 30 years or more while coping with the effects of climate change. Obviously, this is not the entire solution for meeting Pennsylvania's local and Chesapeake watershed water quality objectives; however, when balanced with other initiatives, County/Regional scale MTT Systems can help Pennsylvania meet its TMDL commitments on schedule at affordable costs.

**Table 1. Comparison of Cost Effectiveness
Integrated County/Regional MTT Systems vs PA Phase 3 Priority Ag BMPs**

Ph3 WIP Priority Ag Initiatives		Ph3 WIP EOS N Red (pounds)	Ph3 WIP EOT N Red (pounds)	Ph3 WIP EOS P Red1 (pounds)	Annualized Cost1 (\$ Millions)	Total Ph3 WIP Cost (\$ Millions)	Ph3 WIP EOS N Red Cost (\$/pound)	Ph3 WIP EOT N Red Cost (\$/pound)
1	Agricultural Compliance	7,381,000	4,933,460	251,000	33.1	198.6	26.91	40.26
2	Soil Health	7,337,000	4,904,051	298,000	33.0	197.9	26.97	40.35
3	Enhanced Nutrient Management	755,000	504,642	34,000	20.9	125.1	165.72	247.93
4	Manure Storage	7,167,000	4,790,423	300,000	214.0	1284.3	179.19	268.09
5	Precision Feeding	604,000	403,714	61,000	-1.7	-10.1	-16.76	-25.07
6	Int. Manure Transport/Treatment Sys.	1,230,000	822,132	101,000	4.7	28.0	22.76	34.05
7	Forested & Grassed Buffers	4,098,000	2,739,103	747,000	9.2	55.1	13.45	20.12
Totals and Averages		28,572,000	19,097,525	1,792,000	313.1	1,878.9	65.76	98.38
Integrated MTT Systems for Elimination of Excess Manure								
Adams County/Reg MTT Pilot (Now Available)		5,750,784	3,588,489	1,885,520	11.5	11.5	2.00	3.20
Lancaster County/Reg MTT #1 (Future)		5,750,784	3,645,997	1,885,520	12.0	12.0	2.00	3.29
Lancaster County/Reg MTT #2 (Future)		5,750,784	3,645,997	1,885,520	12.0	12.0	2.00	3.29
Totals and Averages		17,252,352	10,880,483	5,656,560	35.5	35.5	2.06	3.26

Notes:

1. Draft Phase 3 WIP Table 2.2
2. Draft Phase 3 WIP Table 2.4 shows the average EOT/EOS ratio = 0.667. EOT reductions assume no replacement fertilizer.

• **Conclusions from Table 1:**

1. Three County/Regional MTT Systems similar to the available Adams County proposed Pilot Project can increase the Phase 3 WIP agricultural load reductions by 60% with just 10% additional WIP cost.
2. Three County/Regional MTT Systems could process the manure from 86% of Pennsylvania's layer hen population.
3. In terms of equivalent animal units (EAU) and manure production, Pennsylvania's rapidly growing broiler chicken industry is more than 10 times larger than its egg layer industry, providing corresponding greater potential for additional nutrient load reductions. (40)

RESPONSE

The draft Phase 3 WIP identified Manure Treatment Technologies (MTTs), as one of the seven priority initiatives that are to be implemented in the watershed to address agriculturally sourced nutrient loadings. The final Phase 3 WIP expands on this activity as initially proposed and calls for the implementation of this practice to its full extent across the watershed to eliminate nutrient excesses in all 21 counties identified as having a nutrient excess. The current Chesapeake Bay Watershed Model provides nutrient reductions for this practice only where it is implemented to remove excess nutrients in a county, with no reduction shown for removing manure to any greater extent. Therefore, this practice is only prioritized for use in counties where there is calculated to be a nutrient excess, and only to the extent to eliminate that excess. DEP is in discussions with EPA and our partner Chesapeake Bay states to redefine how nutrient trading credits are calculated for manure treatment technologies (MTT), as suggested. This revised MTT nutrient trading credit calculation methodology is expected to be completed by the end of 2019.

Countywide Action Plans (Section 3) The Process

118. COMMENT

6. Jessica Trimble, PA DCED Center for Local Government Services -

In its current form the draft Watershed Implementation Plan (WIP) mentions some actions of state agencies to support the Chesapeake Bay Program, however, some agency efforts may not have been captured. Please know that DCED's Governor's Center for Local Government Services is pleased to support collaboration, participation, and education efforts associated with helping counties and municipalities comply with goals as outlined in DEP's WIP.

Members of our staff have participated in various Chesapeake Bay Program workgroup and committee meetings across both the federal Partnership level and the Commonwealth Program level in order to ensure we are attuned to policies and strategies impacting PA's municipalities.

We are examining some internal programs for opportunities to support water quality efforts.

We have offered Technical Assistance from our DCED Planning staff to the remaining counties working on their Countywide Action Plans under the WIP.

We are actively developing related tools and training materials to help local governments work effectively with their constituent stakeholders under this Program.

Finally, we feel it is important to celebrate the hard work and achievements that have already been happening at the local level. Hopefully, a local recognition program can be integrated into the WIP in some way.

Our Center will continue encouraging public comment on this draft WIP. If it is appropriate, please capture our agency's efforts to support the Program. (6)

RESPONSE

As part of the review process to finalize the countywide action planning process, DCED has been incorporated as a key support agency. The Planning Guide and Technical Toolbox have been modified accordingly.

119. COMMENT

9. Keith Salador, Citizens Advisory Council -

CAC commends all those involved in the Four County Pilot Project. This project shows the commitment the Commonwealth has to successfully implement the Phase 3 WIP. Instead of waiting for the WIP to be finalized before developing all Countywide Action Plans (CAPs), the four counties involved only got a head start on their own implementation but will also provide examples of CAPs that all other counties can reference when beginning their work under the WIP. When time is of the essence as it

is with the Bay TMDL, this pilot project made the most of it through early engagement of high-priority counties. CAC encourages DEP to continue to discuss with the remaining counties the local benefits that they will receive from participating in this project. CAC would be happy to assist in message delivery and outreach initiatives for the remaining counties. (9)

RESPONSE

Thank you for your support. Pennsylvania will continue to prioritize and support the development of Countywide Action Plans in the remaining counties. Pennsylvania's pilot counties are excellent examples of strong collaboration among local stakeholders. Local stakeholders are strongly encouraged to engage in the countywide planning processes as counties begin the development of their Countywide Action Plans. Local engagement is important to developing realistic and implementable plans.

120. COMMENT

21. Lisa Schaefer, County Commissioners Association of Pennsylvania -

On behalf of the County Commissioners Association of Pennsylvania, representing all 67 counties in the commonwealth, I write to share our comments on Pennsylvania's draft Phase 3 Chesapeake Bay Watershed Implementation Plan (WIP).

We appreciate the considerable amount of outreach and stakeholder input that have already gone into the process of drafting this Phase 3 WIP. Counties have had an active role in the development of the countywide goals, the toolboxes to be used for planning to meet those goals, and throughout the pilot process. The agencies have consistently demonstrated their commitment to building relationships and working collaboratively among agencies and levels of government, which is a refreshing change from previous interactions our members have experience related to the Chesapeake Bay. Moreover, the focus on improving local water quality has been a significant change to how these discussions are received in our communities.

In addition, counties appreciate that while Pennsylvania's Bay targets have been broken down into countywide goals for planning purposes, the agencies have made it explicitly clear that "the county clean water goals do NOT establish any new requirement or regulatory obligation on counties" (page 8). Counties naturally have a large role to play in this arena, of course, given the county planning office and conservation district responsibilities around storm water, nutrient management plans, dirt and gravel roads, floodplain management and more. But each of our counties is also unique in how it addresses these issues and so it is clear that within each county, the appropriate group of stakeholders to create and implement a plan, and the appropriate entity to lead such an effort, need to be individually identified.

The emphasis on resources for the planning process in the remaining counties is critical. We are encouraged by the tools, templates and technical support resources that are promised, including the agency support team and note that counties who are already stretched thin to meet existing obligations will not be able to be successful at building these plans if these resources do not remain committed throughout the

process. Further, even though the draft WIP is not a mandate on counties, it remains that resources and sufficient time will be critical to the achieving the elements of each county's plans and the state's priority initiatives – implementation is just as important as planning. (21)

RESPONSE

Thank you for your support. Pennsylvania will continue to prioritize and support the countywide planning process as outlined in the Phase 3 WIP. This includes supporting and prioritizing the resources necessary to develop Countywide Action Plans and implementation of respective plans. Pennsylvania recognizes the effort required at the local level to develop a Countywide Action Plan and will continue to assist counties in developing such plans.

121. COMMENT

24. Felicia Dell, York County Planning Commission - EXECUTIVE SUMMARY

3. Pg. 8, 3rd paragraph: It is true that “*county level planning is the most feasible in terms of size, number, existing data, and ability to organize resources.*” However, the municipalities, who are in charge of land use, need to be involved and agree to work together on a countywide basis to achieve the countywide actions. In addition, although a “bottom up” approach is a good idea, the limited amount of time allotted is insufficient to develop a countywide action plan (CAP) with realistic actions, achievable by 2025.

SECTION 1. INTRODUCTION

5. Pg. 13, last paragraph: Explains Pennsylvania’s “uniqueness” compared to the other states in the watershed. The focus is on the PA’s proportion of the watershed and its nitrogen responsibility. However, the true “uniqueness” lies in PA’s municipal form of government, which puts over 700 municipalities in charge of land use throughout PA’s share of the watershed. While this is not necessarily a bad thing, the concern is that the WIP does not sufficiently acknowledge or involve these municipalities whose land use decisions contribute to the water quality problems.

SECTION 3. COUNTYWIDE ACTIONS

- 44. Pg. 80, 2. York County’s CAP, 1st paragraph: First sentence needs revised to acknowledge that the planning process was ... *led by the York County Planning Commission and the York County Conservation District...*”
- 46. Pg. 82, 3. Franklin County’s Planning Process: The second sentence states that the summary that follows” *includes the current conditions for York County.*” This should instead say Franklin County.
- 47. Pgs. 87 -88, Sections III. & IV: the last paragraph under Section III. and the second paragraph under Section IV. are identical. This redundancy is not necessary.
- 48. Pg. 89, B. Agency Support Team: The opening paragraph should be revised to state that technical support resources will be provided not only to complete the planning process, but also for implementation of the CAPs. Additionally, it is recommended that “assistance with implementation of the State programmatic changes” be listed as a responsibility for one or more of the coordinators. These changes are the impetus for the CAP BMPs to become reality.

GENERAL COMMENTS

- 9. Even if local communities were involved in development of the Draft WIP 3 and County CAPs, as well as given flexibility and resources to implement said Plans, these local communities (municipalities) are so “hamstrung” by other State programs, policies, regulations, permits, etc., that they would struggle to accomplish the actions needed. (24)

25. Julie Cheyney, Lebanon County Clean Water Alliance (LCCWA) -
 [n.b. Concerns expressed by others similar to those expressed by this commentator are in the “Meeting PA’s nutrient targets” and “Regulatory” sections of this document.]

Implementation of the County Action Plans (CAP) for the four pilot counties is scheduled to begin July 1, 2019. At the same time, tier 2 counties are scheduled to begin the CAP development process. All of this work will take place prior to EPA approval of the draft plan. Some of the completed tier 1 plans fail to meet the required reductions, how will this be addressed? Additionally, since DEP has no regulatory authority to force the counties into participating in this voluntary process, how will DEP respond to those counties that choose not to engage in the plan development process? (25)

RESPONSE

Pennsylvania has revised the planning process for development of Countywide Action Plans. Pilot counties were originally given 4-6 months for plan development, while the remaining counties will be given 6-8 months for plan development.

Pennsylvania will analyze the role of municipalities defined in the Phase 3 WIP.

Thank you for identifying the potential errors. Pennsylvania will consider the changes recommended above for inclusion in the WIP.

Pennsylvania is providing counties with a programmatic recommendations template to identify constraints which include state programs, policies, regulations, permits, etc. Through the planning process, in partnership with county leaders, Pennsylvania can improve and further streamline processes.

122. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

[n.b. to contextualize subsequent comments, the following comment appears in three places in this document]

3. Specifics critical to WIP3 implementation should be more robust. Any plan, no matter how collaborative or detailed, is only as good as its implementation. Given the size, scale, and complexity of the issues influencing the ability of the Commonwealth to implement the WIP3, it's important to achieve specific and measurable priority near-term actions that form the platforms of success towards implementation. To that end, the plan should provide greater details pertaining to:

[n.b. this comment c. is also found under "Meeting PA's nutrient targets" and is included for clarity sake]

c. Local initiatives. For the first time the WIP3 has established an approach to localize implementation through tiered county-level planning. And although the four-county pilot planning process yielded many benefits, two critical concerns emerged:

ii. Capacity to implement. Similar to state initiatives, there is an overall lack of capacity creation/leveraging and programmatic integration at the county level to successfully carryout such a complex endeavor. For the county plans to be effective, new and revised roles, programs, and initiatives need to be created, particularly in the tier 1 and 2 counties.

Community Clean Water Guide. As was demonstrated in the pilot counties, the primary "ownership" of the plan development process can take a variety of forms (local conservation groups, county planning commissions, county conservation districts). **While the document emphasizes the "bottom-up, county-based clean water planning approach," and details building a planning team, it does not seem to**

detail the initial process of defining the point organization. This would be a valuable addition.

A note should be added that not all priority initiatives and action items need to have a direct impact on load reductions. For example, in Lancaster County's plan, a section was dedicated to data management. Items such as these will be key to the success of any plan, and it's important to make sure they're in the final plan document.

The County Resources Inventory Template does a good job of capturing, itemizing, and quantifying resources that will be critical to plan implementation. At present, it's in a word document; **it may be more beneficial to have this document in the form of a spreadsheet.** This would allow for faster calculations as the plan evolves. It would also be good to have the years extend through 2025 (full plan life), something which would be easier to do in a spreadsheet. An additional benefit would be the option of including additional sheets in the project. For example, in-kind donations/actions are extremely important resources, but are often difficult to quantify. Having access to this sort of broader inventory, particularly as the project evolves through the implementation process, could be useful.

County Technical Toolbox. While detailed definitions are available in associated literature, **a note on the distinctions between commodity and traditional cover crops would be worth including in the toolbox.** The nutrient reductions for each of these vary significantly, despite having names which, on their face, are very similarly. **Like our suggestion that the overall WIP3 be available in an interactive online format, so should the toolbox. Creating such a portal would allow for real-time planning and scenario-building.**

The hypothetical journey is a powerful visual as to what the plan must achieve to meet the county's reduction goals. One of its shortcomings, however, is what sits behind the numbers. **The toolbox would be improved by a breakdown as to what to what is included in the statewide recommendations and county initiatives.** Without this, it's difficult for a community to establish what opportunities are available versus which are already taken into account.

Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Template. This template would function much better as a spreadsheet than as a word document.

County WIP Detailed BMP Entry Form (Template 2). This represents a significant improvement from the initial templates distributed to Lancaster and York Counties, where there were literally thousands of BMP options on the menu. That being said, with over 300 BMP options, it is still unwieldy for the task at hand. As an example, there are nine different cover crop options, going down to which crops will be planted. While this may be applicable at the scale of a farm, it's far from ideal for county-level planning. At the level that users will be making choices as to which BMPs are implemented, this amount of specificity makes the process more difficult, not easier. In essence, users are asked to make county-level decisions based on project-scale BMPs. A significantly

reduced menu would benefit those developing the county-level WIPs. Generic options, such as “Street Cleaning” (currently in 11 different BMPs), “Waste Treatment” (currently in 12 different BMPs), and “Manure Treatment” (currently in 10 different BMPs), would be far more appropriate. While not always the case, many of these different options within a category offer nearly (if not) identical nutrient/sediment reductions. Counties are not looking at the problem as a CAST run but as broader policy. As they are the implementers and the focus of the process, the templates they are using should be designed towards their needs, not those of modelers. Table 3 (Priority BMPs and Verification Methodologies Matrix) from the Plan Verification Program would make for an ideal substitute.

Overview Template. The addition of the overview template is very beneficial to counties. Beyond the development and approval process, this provides a ready-to-use outreach document, bridging planning and implementation. Other portions of the county WIPs, by necessity, are not designed for public digestion. The narrative, on the other hand, connects with the broader community.

General Comment. A number of the impediments towards implementation are the direct result of state policy, particularly at the municipal level (municipalities planning code, Act 167, Act 537, etc.). As part of the planning process, these roadblocks should be identified and presented to DEP. This then affords DEP the opportunity to take these concerns to lawmakers. **Soliciting such information, explicitly, from each county would help to ensure such problems, at the very least, are documented.** (32)

RESPONSE

Pennsylvania is providing counties with a programmatic recommendations template to identify opportunity for program expansion or creation of new initiatives in order to meet Countywide Action Plan Goals.

Pennsylvania will consider these recommendations for inclusion in the Community Clean Water Technical Toolbox, County Resource Inventory Template, Progress and Milestones Template and the detailed BMP Entry Template. Additionally, these recommendations will be considered for inclusion in the Phase 3 WIP.

In addition, a technical coordinator will also be provided for technical assistance support. An interactive dashboard is also currently being developed by the Chesapeake Bay Program. This dashboard will provide another resource for this planning process as a supplement to the Community Clean Water Technical Toolbox. This dashboard will be released in early fall.

Finally, Pennsylvania is providing counties with a programmatic recommendations template to identify constraints which include state programs, policies, regulations, permits, etc. Through the planning process and the use of this template, in partnership with county leaders, Pennsylvania can improve and further streamline processes.

Communication and Engagement Strategy (Section 10, draft Section 4)

123. COMMENT

12. Eric Rosenbaum, PA4R Nutrient Stewardship Alliance -

6. Communications and Outreach

A key mission of the PA4R Alliance is to provide outreach and technical assistance to increase the implementation of 4R nutrient management. This includes outreach to PA farms to implement nitrogen & phosphorous management tools for the application of organic & inorganic nutrients to achieve Core NM BMP loss reduction credit as well as Supplemental NM BMPs for both manured & non-manured cropland.

We look forward to continuing to develop and implement a science-based outreach strategy & materials to educate farmers and agribusiness about the stewardship benefits (economic, environmental, and social) of 4R implementation in association with the PA WIP III and local county planning process.

We at the PA4R Alliance appreciate the great levels of effort by many parties to develop this comprehensive draft watershed implementation plan. We are happy to expand upon the points highlighted in these public comments to assist DEP in developing and incorporating modifications related to enhance nutrient management and tracking. Thank you for your consideration of these comments. (12)

RESPONSE

DEP appreciates your comment and recognizes the critical role in developing, maintaining, and supporting partnerships to provide technical assistance to the agricultural community. We will need to work cooperatively with organizations like PA4R Nutrient Stewardship Alliance to meet the goals established in the Phase 3 WIP.

124. COMMENT

24. Felicia Dell, York County Planning Commission -

SECTION 7. MILESTONES AND PROGRESS REPORTING

52. Pg. 120, 6. Section 4, Communication and Engagement Strategy: 4.1.1 is to complete the public comment period and provide a response to comments received. However, there is no mention of revising the WIP to address public comments, which may be appropriate or necessary. (24)

RESPONSE

The draft Phase 3 WIP should have been clearer in that all comments were considered as the Phase 3 WIP was finalized. As is DEP policy, this comment and response document will be provided to commenters and included as part of the final Phase 3 WIP and posted on the DEP Phase 3 WIP webpage.

125. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

2. Demonstrated collaboration among local governments, state agencies, watershed and other citizen organizations, academic institutions, agricultural sector leaders, farmers, stormwater and drinking water utilities, source water specialists, and others as partners in identifying, planning for, and implementing the agricultural, urban stormwater, and wastewater actions needed to meet Pennsylvania's 2025 Bay TMDL goals

Through the "Game Plan for Success," the workgroups and steering committee, along with participation in events/entities such as Penn State University's *PA in Balance*, an unprecedented amount of collaboration has occurred among various stakeholders. For this to continue, and adaptive management to be maximized, we recommend:

- **Continuing regular meetings of the workgroups and steering committee** to review progress, discuss milestones, and revise/update endeavors.
- Similar to the June 2017 kickoff meeting, **establish yearly summits that gather public and private stakeholders, agencies, and others** to update and strategize on collaboration, coordination, and implementation.
- **Integration of existing state advisory committees and boards of relevance and significance**, such as, but not limited to, DEP's Agriculture Advisory Board, Climate Change Advisory Committee, Water Resources Advisory Committee, Air Advisory Committee, Sewage Advisory Committee, and Environmental Justice Advisory Committee.
 - Regarding the Environmental Justice Advisory Committee, in the 2014 Chesapeake Bay Watershed Agreement, environmental justice is cited as one of the guiding principles. And DEP's Office of Environmental Justice's mission is to ensure (in part) "Pennsylvanians most at risk from pollution and other environmental impacts have a voice in the decision-making process." Within Pennsylvania's bay watershed, there are 214 environmental justice area census tracts entirely or partially in the watershed, comprising roughly 794,000 residents, and roughly 2,500 impaired stream miles. Yet the WIP3 process did not include a separate workgroup or a substantial participation in an established workgroup representation from these communities.

- **Establish regional** (i.e., southcentral; central; northcentral) centers for land and water to add professional capacity to support, coordination, education, and general assistance to watershed groups, conservancies and trusts, businesses, and landowners on land use planning, zoning, restoration, and other endeavors.
- **Expanded presentations at meetings, events, and workshops** including hosted by, but not limited to, chambers of commerce, sector specific technical and professional associations, county farm bureau meetings, and others.

Following a business model, the Keystone 10 Million Partnership is launching a strategic effort to build demand and increase supply of trees throughout the Commonwealth. **Pennsylvania should support a strategic marketing effort to increase the implementation of the top priority initiatives: agricultural compliance, soil health, forested buffers, and grass buffers.** This could be in tandem with the K10 marketing strategy to create a push and pull state marketing model. Currently, a push marketing model exists with regulatory statutes and outreach targeting landowners, farmers, and producers who may or may not be interested in conservation incentives and/or waiting for them to enter a NRCS office or conservation district office. A pull model builds a loyal following and draws consumers to the products. This is done by creating a trusted brand, ensuring services are high quality, transparent, affordable, and efficient.

Coordination among all organizations and agencies to assure that all farms in the Chesapeake Bay watershed are developing and implementing the necessary conservation and manure management plans will require collaboration among all parties working with farmers, not just conservation districts and DEP. The WIP should recommend roles and an on-going planning process bringing together on a consistent basis the Steering Committee, Committed Partners, and others.

Foster or create the necessary levels of planning and implementation assistance at the county and sub-watershed scales. This includes, but is not limited to:

- Establishing a regional Nonpoint Source Education for Municipal Officials (NEMO)⁸⁴ program, starting with the Tier 1 and 2 counties. NEMO was created in the early 1990s to provide information, education, and assistance to local land use decision makers on how they can accommodate growth while protecting their natural resources and community character. It is part of the University of Connecticut's Center for Land Use Education and Research.⁸⁵

⁸⁴ Nonpoint Source Education for Municipal Officials (NEMO). <https://nemo.uconn.edu/>

⁸⁵ University of Connecticut Center for Land Use Education and Research. <https://clear.uconn.edu/>

- Creating regional (i.e., southcentral; central; northcentral) nonprofit “Centers for Land and Water” populated by professional staff offering multidisciplinary technical, coordination, planning, implementation assistance to local watershed groups & stewards, local governments, citizens, businesses and others. Lancaster County’s Clean Water Partners endeavor serves as an example.
- Develop multidisciplinary public-private partnerships to offer “one stop” low cost fee for service assistance on planning, design, permitting, and implementation.
- Fee-for-service agreements with watershed groups & stewards, land conservancies, academia, and others for public education and outreach, public participation, water quality monitoring, and depending on capacity planning and implementation assistance.
- Establish a “Conservation Corps” job training program with Pennsylvania State System of Higher Education schools to offer recent science and engineering graduates fellowships at County Conservation Districts, wastewater treatment plants, and municipal governments.

6. Contracting out or otherwise obtaining services of a third party to perform activities central to the implementation of the Phase III WIP

This endeavor is complex, multi-faceted, and multi-scaled. Given that no agency, regulation, policy, or program covers the totality of the effort, it is more than plausible to suggest that a third-party be contracted to provide the continuous education, collaboration, communication, and coordination of the various partners and the various scales. Although no entity is currently poised to take on such a responsibility, Pennsylvania State University (PSU) has the potential to serve as an unbiased lead for this need.

Through its various existing programs, centers, and endeavors, PSU serves a critical, positive role already. Its Lower Susquehanna Land and Water Initiative created the collaborative and integrated multi-level, multi-sector partnership with the Conewago Creek Collaborative Conservation Initiative and Chiques Creek Reenvisioned partnership. Also, PSU has established the PA in Balance Conferences and Partnership Council, Center for Green Infrastructure and Stormwater Management, and Center for Integrated Multi-Scale Nutrient Pollution Solutions which leverage the collective expertise of researchers, planners, scientists, engineers, architects, local decision-makers, landowners, and others. It also is the host, along with the Commonwealth and the National Oceanic and Atmospheric Administration, of the Pennsylvania Sea Grant College Program. PSU also has established in select counties the Master Watershed Stewards Academy. Penn State Extension plays a vital role in assisting farmers, families, and communities with education on agricultural conservation, soil health, forestry, water quality, and other issues.

Cumulatively, by **formalizing PSU's role to collectively leverage the myriad of existing efforts, coupled with those of external stakeholders, holds significant promise towards rapidly scaling up education, collaboration, communication, design and implementation.**

Quite frankly, it's hard to underestimate the need and opportunity in leveraging PSU in such a fashion.

Engaging stakeholders at all levels and at all corners of the Bay watershed before and during implementation of the WIP3 is a monumental Communications, Engagement, and Outreach undertaking. Optimal understanding and buy-in of the value, actions, and processes of WIP3 success should be the goal of messaging to those within conservation communities charged with making it happen, and to the public as well.

The Communications plan entails an extensive suite of tools, that include newsletters, handouts, webinars, social media, public meetings and more. **Messaging, timing, and delivery of Communications, Engagement and Outreach opportunities will need to be nimble to the ebb and flow of public feedback,** and success or lack thereof from now to 2025.

As recommended in the WIP3, **key messaging of health, economic, and environmental benefits tend to resonate in local communities and statewide,** as it does in many instances where cleaner rivers and streams are at stake. As for key messages as suggested in the WIP3, urban/suburban stormwater is lacking. **Messaging should contain benefits of reduced flooding, pollution reduction, local tips, and the regulated relationship to MS4 communities.** Messaging about the importance of urban/suburban stormwater management has been waning in many communities working on local solutions that include authorities and stormwater fees. As the WIP3 addresses stormwater, adding it as key messaging further educates local and legislators that they all have a stake in finding solutions to this polluted runoff. **A significant conduit will be the rollout and maintenance of a user-friendly and intuitive "Healthy Waters, Healthy Communities" StoryMap** as it enhances Communications, Engagement and Outreach. It may also have potential for tracking progress at the local level, which can attract greater local buy-in and participation of the WIP3 because of its attribute of a working site. Emphasis should be on the site being user-friendly.

Within the April 10, 2019 Listening Session, **a suggestion on creating an online interactive WIP was mentioned that would identify priorities, timelines, and responsible parties.** This is necessary if engagement and dedication is expected from the public and conservation community on the implementation of the WIP.

The Forestry Workgroup also outlined an action plan through 2025, identifying common outcomes, goals, and actions as a first draft of achieving the necessary reductions. **This was not seen or attached as a supplement** within the WIP3. These are important guidelines and pathways that should be seen by the public. (32)

RESPONSE

DEP agrees that to be successful in implementing the Phase 3 WIP, DEP and its sister agencies will need to continue to rely heavily on input from key stakeholders and partners. Recognizing the positive reception of our planning efforts, it is our intention to continue in a manner that is both transparent and fully informed by our partners and stakeholders. Maintaining the Steering Committee and Workgroups is fundamental to that effort. The final Phase 3 WIP includes the transformation of the Steering Committee into an Action Team with all the original members. The meetings of this Action Team will be less frequent, but the need for input and value we receive from that input is more critical than ever. DEP will also consider holding other meetings with key stakeholders, similar to the June 2017 kick-off and the April 2018 charette as needed. Both provided extremely valuable insight and helped shape the draft Phase 3 WIP. DEP also hopes that our partners continue to hold semi-annual conferences like PA in the Balance as they too provide tremendous opportunities for stakeholder engagement and information sharing.

The ability to implement the Phase 3 WIP will necessitate the plan becoming a part of the day to day business of DEP, our sister agencies and organizations such as the Chesapeake Bay Foundation. DEP and our sister agencies look forward to working with the Chesapeake Bay Foundation and other organizations such as yours as the Phase 3 WIP is implemented to ensure its success. To that end, DEP will also work to implement your suggestion to integrate it into our existing advisory boards, especially the Agriculture Advisory Board, the Water Resources Advisory Committee and the Climate Change Advisory Board.

The final Phase 3 WIP describes the piloting of a Center for Water Quality Excellence, such as what you have described in your comments. This Center is an expansion of the “One-Stop Concept” that was first identified in the draft Phase 3 WIP. The goal of this center is to provide the technical support and education described in your comments and develop the local connections so critical for the successful implementation of the Phase 3 WIP. There is clearly a need for technical support, education, coordination, etc. and the idea of a Center is one that would allow that to be provided from someone that can be a local resource with more understanding of local conditions.

Recognizing the importance of education and outreach to the success of the Phase 3 WIP; DEP, its sister agencies and the Communications and Engagement Workgroup have gone to an extensive amount of effort in this arena for the draft Phase 3 WIP and will continue to do so with the final version. A coordinated marketing effort for key practices will be implemented by the Communications and Engagement Workgroup in coordination with the DEP contractor Water Words That Works and the respective agency Communications Offices. The completion of the DEP Storymap will be a

priority for the DEP Communications Office in the coming months with the goal of ensuring it is user-friendly and addresses key communications needs.

As you note, communication is both critical and can be a challenge to implementation. Efforts must be adaptable and prompt action. Numerous discussions have taken place within the Communications and Engagement workgroup focused on these concepts. Your comments have been provided to the work group and the group, along with DEP, will continue to focus on benefits that impact our key constituents personally.

Finally, in future permutations of the Phase 3 WIP and the DEP Storymap, DEP will look at ways to develop and expand the capability to deliver an online and interactive tool that tells Pennsylvania's story while also providing a resource for tracking and noting progress as suggested.

Existing and Needed Resources (Section 5)

126. COMMENT

2. R John Dawes, Foundation for PA Watersheds -

Regarding funding, of all the BMPs listed in the earlier draft WIPs, mine reclamation actually has a secured source of funding through the mandatory spending provision in the 2006 re-authorization of the Abandoned Mine Lands Fund with approximately \$59m coming to PA annually. Secondly, a federal program called PILOT has provided an additional \$105m through the general budget passage with Hal Rogers KY and Glenn Thompson PA as the leads on this program. PILOT logically means the funding of pilot mine reclamation projects that include job creation in coalfield communities (<http://pennsylvaniawatersheds.org/wp-content/uploads/2018/12/Little-Conemaugh-River-AMD-Cleanup-Economic-Impact-Analysis-with-report-1-1.pdf>), in preparation for a larger sum coming through potential passage of RECLAIM Act (HR2156) introduced in April of this year. With passage, PA would receive a portion of \$1b spent from the AML fund and would be approximately \$55m in additional funding for this purpose for each of five years. (attach HR 2156). (2)

RESPONSE

Abandoned Mine Lands (AMLs) were discussed early in the Phase 3 WIP process, but due to oversights in potential reduction opportunities, AML restoration was not initially considered as a high priority for Pennsylvania's Phase 3 WIP. However, due to recent reconsiderations of how AMLs are classified based on current land use, the final Phase 3 WIP was revised to include AML restoration/reforestation as a priority. Pennsylvania also will continue to support work to improve streams impacted by Abandoned Mine Drainage to continue to improve the nutrient processing capability of fully-functional and restored stream habitats.

127. COMMENT

10. Kristopher Troup, North Londonderry Township -

Plan implementation will require significant increases in financial and staffing resources for PA DEP and external support agencies. Legislative approval of the additional funding necessary to make these investments is certainly not guaranteed, and a portion of these resources are targeted to assist with the County Action Plans, which are scheduled to begin in earnest on July 1, 2019. (10)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Recognizing Pennsylvania's ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all

levels and branches of government as well as private-sector partners, DEP and sister agencies will continue to proactively explore all existing and potential funding opportunities.

DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to working with local governments like North Londonderry Township and other partners to ensure successful implementation of the Phase 3 WIP.

128. COMMENT

17. Jennifer Reed-Harry, PennAg Industries Association -

6. In regards to funding the various conservation activities needed throughout all the source sectors, has DEP and others considered:

a. Packaging funds - such as a Conservation allocation from the PA Legislature with Federal dollars such as those available via NRCS which could use a ranking system to allocate funds to those areas/sectors most impaired?

b. Has due consideration been given to the cost savings conservation practices provide? For example: farmers voluntarily implementing 4R practices on their farms is not costing the Commonwealth instead it is private dollars being spent on water quality to net local improvements which yield statewide improvements- is this included in the Phase 3 WIP? (17)

RESPONSE

This is one of the major recommendations of the Phase 3 WIP Funding Workgroup and incorporated into the Phase 3 WIP.

129. COMMENT

24. Felicia Dell, York County Planning Commission -

SECTION 2. STATE ACTIONS

22. Pg. 41, Table 2.2: Contains various BMP costs totaling about \$50 million associated with planting trees/vegetation. Encouraging or providing incentives to landowners to stop mowing along riparian corridors could significantly offset this cost. There are thousands of miles of forested buffers within our state forests, state parks, and our

steep riparian hillsides that no one physically planted? Left alone, trees/buffers will grow along riparian corridors for free. According to a report by the Three Rivers Habitat Partnership in Pittsburgh, *a lawn mowed to the edge of the stream can be created into a buffer by merely not mowing a strip along the streambank. Plants will begin to grow once the area is left alone. If you would like to modify what is there, buy any plant that is native to the western Pennsylvania region, they will be good for the soil and weather. Even small buffers are important to the water quality and local wildlife.*

SECTION 5. EXISTING AND NEEDED RESOURCES

49. Pg. 101, Table 5.2 Summary of Priority Initiative Costs: This table does not appear to reflect all the recommendations made by the Workgroups per the templates presented at the Steering Committee meetings and posted on DEPs website.
50. Pgs. 105-106, Table 5.4 Summary of Resources, Priority Initiatives, Programmatic and Narrative Commitments: From a “Programmatic” standpoint, this table does not address the programmatic changes recommended in York County’s CAP, which are key elements of implementation to meet the targets. (24)

RESPONSE

22. Thank you for recognizing the value of grass and forest buffers as a critical BMP for improving water quality and a host of co-benefits in Pennsylvania. While grass buffers may sometimes be able to be successfully developed through letting existing grassy plants grow taller along streamsides with intensive management for encroaching invasive plants, forests unfortunately cannot successfully regenerate where they do not currently exist without human intervention in current environmental conditions. This is especially true in streamside and other deforested areas in the southern portion of the Commonwealth.

Existing PA State Forests and other forestlands were created or regenerated many decades ago, when regular trans-continental shipping and travel had not yet brought numerous invasive plants and insects to Pennsylvania from overseas, and when past deer populations did not exert the same pressure as those existing on the landscape today. When the current mature forests were developing, the existing vegetation had been cleared in such ways that created quality mineral soil that supported the growth of new trees, and current circumstances do not mirror those of when our existing forests began their development. The abundant presence of invasive species in Pennsylvania is one of the major threats to all forests in our Commonwealth but is especially threatening to the development of new forests as invasive species are often “pioneers” and will be the first plants to grow in an area, preventing the later and slower growth of native Pennsylvania trees, shrubs, and grasses. This creates a completely non-native environment, which initiates severe problems when it comes to crediting forestry practices for

water quality improvements. Native tree leaves and debris are required to obtain fully functional stream ecosystems, as they are the basis of the food web in Pennsylvania freshwater environments. Without native Pennsylvania tree and shrub leaves falling into the water from streamside native plants, aquatic insects do not have a food source. Without a food source, aquatic insects cannot inhabit a stream, even if it is shaded by invasive (non-native) vegetation and not otherwise significantly impacted by pollutants. Without aquatic insects, there would be no fish or other wildlife populations in this area, nullifying co-benefits that make forested buffers such a desirable BMP. The same lack of a functional food web and corresponding wildlife populations is true of terrestrial environments forested with invasive species instead of native species. Worse yet, in freshwater ecosystems, the lack of a functional food web means the stream forested by invasive species instead of native plants does not process nutrients in the correct way. The function through which streams process nutrients, such as nitrogen and phosphorus, is a portion of what leads to accreditation of afforestation practices such as riparian forest buffers in the Chesapeake Bay Model and it is dependent on the existence of a fully functional food web. This cannot be achieved if native trees and shrubs are replaced by invasive trees and shrubs, which would almost certainly be the case in any riparian or upland area left to “naturally regenerate” in the southern portions of Pennsylvania.

Additionally, to get credit for implementing BMPs in the Chesapeake Bay Watershed Model, minimum stocking requirements of 150-300 trees/acre (depending on the specific BMP) must be met. These stocking requirements are hard to guarantee even in the best natural conditions when all factors are considered. Further, verification of BMPs is required at different points in the lifespan of each BMP, making it challenging to certify BMPs that weren't intentionally created according to set standards. Pennsylvania strongly encourages anyone interested in implementing a riparian forest buffer to seek technical assistance from an experienced state or local organization or agency that can provide individual landowners with the best options available for riparian forest buffer establishment on their properties.

The publication cited by the Three Rivers Habitat Partnership was created specifically for southwestern Pennsylvania, which is outside of the Chesapeake Bay Watershed, may be out-of-date, and may not take into consideration the latest advances in knowledge surrounding riparian forest buffers and afforestation (the referenced publication, entitled “Streamside Buffers For Your Backyard,” is no longer available online, the organization's website no longer exists, and their published phone number is defunct). Many advances in the science surrounding afforestation of riparian forest buffers have been made in recent years. Both Pennsylvania and the EPA Chesapeake Bay Program have considered these advances when specifying practice standards and recommendations for water quality improvement.

In some areas of Pennsylvania, largely in the northern portions of the State less impacted by invasive species threats and challenges associated with high deer populations, the approach to let a forest buffer or other forest naturally generate could potentially have some utility under the guidance of a professional such as a DCNR Service Forester, or a technical assistance provider from a non-governmental organization or private business.

The Phase 3 WIP Forestry Workgroup discussed options for creating guidance for a “DIY” or “grow-your-own” buffer guide, which DCNR Bureau of Forestry hopes to pursue in the near future. However, this approach would still require a large amount of hands-on work by the landowner to keep deer, weeds, and invasive species out of their establishing buffer area to give trees a chance to survive and thrive.

49. DEP recognizes and sincerely appreciates the thoughtfulness, hard work, and commitment that the members of each workgroup put into the development of the workgroup recommendations for the Phase 3 WIP. The steadfast engagement of the workgroup members is one of a few key pillars on which the Phase 3 WIP stands. Without the sustained participation of the workgroups, the Phase 3 WIP would not have anywhere near the level of buy-in, support, or realistic detail that it does. Although DEP was unable to incorporate some recommendations due to legal constraints, administrative issues, or conflicts with other initiatives, DEP made every effort to include as many of the workgroup recommendations as possible in the state priority initiatives in the Phase 3 WIP. Moreover, the Phase 3 WIP is a living, adaptive plan that will be updated every two years, so it may be possible for workgroup recommendations that were not included in this initial iteration of the Phase 3 WIP to be worked in through future updates.
50. DEP recognizes and sincerely appreciates the thoughtfulness, hard work, and commitment that the members of each of the four pilot counties’ county planning team – including York County’s team – put into the development of the Countywide Action Plans (CAPs). The steadfast engagement of the county planning teams is one of a few key pillars on which the Phase 3 WIP stands. Without the sustained participation of the county planning teams, the Phase 3 WIP would not have anywhere near the level of buy-in, support, or realistic detail that it does. DEP made every effort to include as many of the recommendations from the pilot counties’ CAPs in the Phase 3 WIP as possible, but DEP was unable to incorporate some recommendations due to legal constraints, administrative issues, or conflicts with other initiatives. However, the Phase 3 WIP is a living, adaptive plan that will be updated every two years, so it may be possible for county recommendations that were not included in this initial iteration of the Phase 3 WIP to be worked in through future updates and as the CAPs are implemented.

130. COMMENT

25. Julie Cheyney, Lebanon County Clean Water Alliance (LCCWA) -

The paragraphs following Table 5.2: "Summary of Priority Initiative Costs" make admissions that inflation was not accounted for in the cost estimates that the CAST model used to create the estimates has inherent sources of variability. It would be prudent to adjust these cost estimates for inflation and to include a contingency factor that may help cover the various sources of variability identified in the report. (25)

RESPONSE

The Phase 3 WIP Funding Workgroup discussed this issue and elected to dismiss accounting for inflation in calculating **forward looking** costs because it would likely be something under 2% and therefore would have been inconsequential in the context of uncertainty.

However, relative to the comment regarding inflation – which raises a valid point – the estimates developed now **look backwards to** and are rooted in cost data from a decade or so ago. The Phase 3 WIP Funding Workgroup did not and cannot really account for the lack of more current cost data. The numbers are what they are. At this point, the best we can do is acknowledge that these cost estimates are understated and that any attempt to develop a multiplier to account for the change in costs over the elapsed time would require gross assumptions that would be difficult to defend.

131. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

[n.b. To provide context, three specific comments include this prefatory comment.]

3. Specifics critical to WIP3 implementation should be more robust. Any plan, no matter how collaborative or detailed, is only as good as its implementation. Given the size, scale, and complexity of the issues influencing the ability of the Commonwealth to implement the WIP3, it's important to achieve specific and measurable priority near-term actions that form the platforms of success towards implementation. To that end, the plan should provide greater details pertaining to:

- a. *Investment of resources, existing and new.* Although existing resources (i.e., technical and financial assistance in its various forms) were summarized, the draft does not specify steps to leverage those resources to achieve maximum benefit at least cost. More information regarding how to leverage federal and state resources for maximum benefit is necessary. Secondly, despite laying forth potential sources of additional resources through legislative endeavors, the plan does not adequately detail the potential impact of those options or the critical steps necessary to acquire

them. It also does not include a strategy to implement the WIP3 if these additional funds are not obtained.

[n.b. The following comment appears in other sections of this document, but is included here to provide context.]

1. Local planning goals, showing how the Phase III WIP goals will be achieved through action at county, municipal, and/or sub-watershed scales — especially in priority areas in the Susquehanna and Potomac River watersheds where the most impact to the Bay and local water quality can be achieved.

CBF sees great opportunity in tapping into EPA’s Nonpoint Source Program (Clean Water Act Section 319) as a significant source of funding for implementing nonpoint agricultural BMPs with new and updated watershed management plans eligible for Section 319 implementation funding. Of the 791 HUC-12 watersheds in the Bay watershed portion of Pennsylvania, only 39 are currently covered under an approved WIP, leaving about 95% of sub-watersheds unable to receive funding. Currently, the Commonwealth annually grants about \$3 million in federal Section 319 funds to watershed groups to support BMP implementation.

However, in order to maximize benefits, **the plan development process must incorporate advanced quantitative watershed modeling and prioritization techniques, including cost-efficiency analysis, coupled with qualitative methods of engaging local stakeholders in identifying local conservation needs and priorities, capacity building, and local outreach and education.** Cumulatively, this approach will allow the plan to identify cost-efficient, targeted implementation along with meaningful local engagement and support. The plans will also serve as a tangible and replicable model for local plan development that can be used to inform and facilitate the county WIPs and WIP3.

Once in place, these plans would also offer access to millions of federal dollars that could be leveraged with other public and private funds to implement priority pollution control projects.

A robust state agricultural cost share program is needed to assist farmers in implementing priority agricultural conservation practices. The Pennsylvania Farm Bill proposal to increase REAP tax credits from \$10 million to \$13 million, and to create a Conservation Excellence Grant Program, funded at \$2.5 million, to provide financial and technical assistance to farmers, is a small step in right direction. However, this bill doesn’t come close to the \$313 million cost of the priority initiatives identified in the WIP3, even if the legislation passes. Pennsylvania requires a much more substantial

package of financial and technical assistance to farms, especially for practices that improve soil health.

Although the WIP3 includes significant reductions from manure treatment and transport, as recommended by EPA in its expectations letter, there is no plan or identified source of funding. Manure systems that provide additional ecosystem services, such as products for abandoned mine land reclamation, or commercially viable products that require minimal public investment, should be prioritized. CBF supports the development of innovative technologies that hold potential for significant, cost-effective nutrient reductions, but also recommends strong emphasis on “tried and true” cost-effective nutrient reduction methods, with testing of promising new innovations. Moreover, the need for alternative uses for excess manure is most urgent for small dairies with high animal density. DEP’s program for innovative technologies should focus research and assistance to this sector.

Funding assistance for Act 167 planning, which has been eliminated in recent Pennsylvania budgets, **must be restored to a meaningful level**, such as approximately \$10-20 million a year. Funding, whether through state administered grants and/or loans, should be aligned to assist with the implementation of new or updated Act 167 plans.

4. Commitment to the level of staff, partnerships, and financial resources needed to fully implement the practices, treatments, and technologies necessary to achieve Pennsylvania’s Phase III WIP planning targets, including maximizing capacity between the Pennsylvania state agencies to fund and implement grant commitments.

Simply stated, a plan is only as good as it is implemented. Historically, Pennsylvania has created a variety of plans with increasing levels of detail (e.g., Tributary Strategy, WIP1, and WIP2) that if fully implemented would have met commitments. The draft WIP3 estimates that the current investments by the Commonwealth in clean water are approximately \$229 million per year. However, the total investment needed to achieve the 2025 goals is estimated to be \$485 million per year; thus, a shortfall of \$257 million. Included in this is a significant number of staff to assist with administration, design, and implementation of BMPs.

The coordination and harmonization of existing and new programs, technical and financial resources, and initiatives should be explored for incorporation into the WIP3. Such an approach can take numerous forms and functions, depending upon the local needs, but could include, in no particular order:

- **Synchronized federal and state financial assistance opportunities.** Such an endeavor would establish a standardized application, deadlines, scoring criteria, and other factors to streamline the application process and increase collaboration among local stakeholders. Inherently, this process would facilitate greater leveraging of existing state, federal, and potential private resources towards water quality initiatives.
- **Targeted and coordinated federal, state, and private technical and financial assistance in high priority local subwatersheds, areas with existing backlogs, regions with high levels of non-compliance with existing applicable regulations,** particularly agricultural and MS4 areas, and where opportunities exist such as in areas with highly restorable impaired streams, willing landowners, low land use pressures, and where critical practices, such as forested buffers, have higher opportunities for implementation.
 - Starting with Tier 1 and 2 counties, establish temporary detail assignments of USDA Natural Resource Conservation Service from other states/regions and County Conservation District staff from other counties. The enhanced capacity will allow for rapid increases in the ability to provide logical and technical assistance to farmers for conservation practices, particularly those eligible for Farm Bill cost-share.
- **Integration of plans and initiatives.** In addition to harmonized resource delivery, the incorporation of the myriad of water pollution plans including, but not limited to, local source water protection plans, existing and updated section 319 nonpoint source watershed plans, MS4 TMDL plans and/or Chesapeake Bay Pollution Reduction Plans, Long Term Control Plans for combined sewer overflows, and existing, updated, and new Act 167 stormwater management plans will allow for increased opportunities for “stacked benefits,” and program integration and delivery, thus furthering cost-effective use of technical and financial resources.
- **Public-Private Partnerships.** Increasingly, interest has been expressed in leveraging private resources towards water quality initiatives. Approaches such as “Pay-for-Success” and social impact bonds employed to water quality challenges have been offered as potential avenues. (CBF is piloting a Pay-for-Success model in Pennsylvania, via a recently awarded USDA NRCS Conservation Innovation Grant. An Environmental Impact Bond is being employed by D. C. Water in the District of Columbia to jumpstart implementation of their green infrastructure program.)
 - Agricultural lenders should be verifying that their clients are implementing the necessary plans, to reduce the financial risks of farms with serious pollution problems.

- Insurance providers could verify the implementation of plans, to reduce their liability.
- Milk inspectors could inform farms of their requirements, as a way to ensure that the farms remain in production and, in some cases, produce higher quality milk, such as when cows are no longer standing in muddy animal concentration areas that contribute runoff to local streams and increase mastitis risks.
- Municipal governments could ensure that farms are meeting all state and federal requirements, such as when farms need building permits. An even better approach would be a comprehensive strategy to ensure that all farms are meeting requirements, such as those used by several Lancaster County municipalities.
- County tax offices could require that farms receiving preferential tax assessments under the Clean and Green program verify that they have and are following the required soil erosion control and manure management plans.
- All entities throughout the agriculture industry could adopt criteria that normalize an expectation that participating farms practice environmental stewardship. For example, the Turkey Hill Clean Water Partnership is currently working with dairy farmers to acquire an updated conservation plan and implement the included conservation practices.⁸⁶

Adopting a deliberate approach to programmatic integration as part of the WIP3 will allow for an increased efficiency in the utilization of limited existing resources and establish the framework for more cost-effective use of critically needed new resources acquired at the federal, state, or private level.

We propose the creation of a fixed price offset requirement for new or reconstructed septic systems. Under such a requirement, the EPA load assumptions per system per household would be used to calculate the total anticipated load over the course of the expected lifespan of the system (e.g., 30 years) and a fixed price per pound of nutrient (e.g., \$5/pounds) would be applied to determine the total cost of offsets required for the system. The cost of the offset would simply be added to the total cost of construction or reconstruction. Funds generated by the offsets would go into a newly established revolving fund that would assure that BMPs would be implemented to completely offset loads from the systems. Individual homeowners, developers, or contractors would not have to seek out and acquire individual contracts for offsets under

⁸⁶ Mitchell, Jenna. September 5, 2018. "Turkey Hill Dairy leads way on Lancaster County, PA, farms." Bay Journal. https://www.bayjournal.com/article/turkey_hill_dairy_leads_way_on_lancaster_county_pa_farms

this system. They would simply pay a onetime fee into an established fund. All funds collected would remain in the county of origin and be used exclusively for structural nonpoint source pollution reduction projects by County Conservation Districts. (32)

RESPONSE

DEP agrees that many of the elements listed above are critical components if Pennsylvania is going to be successful in achieving the nutrient reduction planning targets by 2025. As a result, these elements are included in the final Phase 3 WIP.

Pennsylvania, in conjunction with the Partnership, will also utilize an adaptive management approach to achieve our shared desired outcome. The two-year milestones and six month progress reporting described in Section 7 of the final Phase 3 WIP will allow Pennsylvania to assess implementation progress and adjust programs and priorities to ensure sufficient practices are in place by 2025 to achieve the nutrient reduction planning targets.

Moreover, Pennsylvania expects to achieve additional reductions through the countywide planning process described in Section 3, Countywide Actions. The Phase 3 WIP is a flexible document that will be updated every two years as DEP and its sister agencies continue to work with county planning teams to implement the Countywide Action Plans (CAPs). Adaptive management of the CAPs will enable Pennsylvania to overcome challenges and barriers in achieving the targeted pollutant reductions. The four remaining Tier 2 counties will be next to complete their CAPs. The seven Tier 1 and Tier 2 counties collectively account for roughly 54% of Pennsylvania's nitrogen goal and 42% of Pennsylvania's phosphorus goal. With Adams County's CAP completed, 30 of the remaining 35 Tier 3 and 4 counties will complete their CAPs following the priority counties in Tier 2. These final CAPs will target the remaining 46% of Pennsylvania's nitrogen goal and 58% of Pennsylvania's phosphorus goal. For nine counties whose impact to the Chesapeake Bay is relatively minimal, complete CAPs will likely not be needed and planning goals can be addressed by continuing existing state initiatives described in Section 2, State Actions. In the future, additional practices identified in the CAPs will be added to the Phase 3 WIP to create additional reasonable assurance that Pennsylvania will meet its goals.

At present, Pennsylvania does not receive full credit for many currently implemented practices, particularly practices implemented through permit programs and practices implemented without public assistance from grants or cost-share awards. These are described in more detail in Section 4, Federal Actions, under the subsection describing additional coordination efforts needed. Improved data collection around these practices will be addressed during implementation of the Phase 3 WIP at both the state and local level through the additional documenting, tracking, and verification efforts described in Section 6 of the Phase 3 WIP. DEP is currently evaluating and quantifying additional practices which Pennsylvania has previously implemented and will implement in the future to assure Pennsylvania will achieve its nutrient reduction planning targets. Pennsylvania will continue to work to receive full credit for implemented practices across the Chesapeake Bay watershed.

Collectively, these efforts will help ensure that Pennsylvania meets its nutrient reduction planning targets.

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Pennsylvania's ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners.

However, DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. Many of the ideas expressed in these comments are incorporated in the final Phase 3 WIP. DEP and its sister agencies look forward to working with Chesapeake Bay Foundation and other partners to ensure successful implementation of the Phase 3 WIP.

132. COMMENT

34. Jessica Blackburn, Chesapeake Executive Council, CAC -

Lastly, we encourage you to take advantage of funding sources for restoring abandoned mine lands to help meet sediment and nutrient pollution targets. We recommend you to consider including in the final WIP the secured source of funding through the mandatory spending provision in the 2006 re-authorization of the Abandoned Mine Lands (AML) Fund with as much as \$59 million coming to Pennsylvania annually. Also, a federal program called PILOT has provided an additional \$105 million through the general budget. PILOT will fund pilot mine reclamation projects that include job creation in coalfield communities in preparation for a larger sum coming through potential passage of RECLAIM Act introduced in April of this year. With passage, Pennsylvania would receive a portion of \$1 billion spent from the AML Fund and would be approximately \$55 million in additional funding for this purpose for each of five years.

Given the magnitude of this problem of huge acreages of toxic pollution from acid mine drainage, it is unwise to leave mineland reclamation out of the Phase III WIP document. The funds are there for reclamation and Pennsylvania should be credited with the reductions in sediment and the opportunity for nitrogen processing this practice produces. (34)

RESPONSE

Abandoned Mine Lands (AMLs) were discussed early in the Phase 3 WIP process, but due to oversights in potential reduction opportunities, AML restoration was not initially considered as a high priority for Pennsylvania's Phase 3 WIP. However, due to recent

reconsiderations of how AMLs are classified based on current land use, the final Phase 3 WIP was revised to include AML restoration/reforestation as a priority. Pennsylvania also will continue to support work to improve streams impacted by Abandoned Mine Drainage to continue to improve the nutrient processing capability of fully-functional and restored stream habitats.

133. COMMENT

35. Allyson Gibson, Lancaster Clean Water Partners -

From Lancaster's engineers group:

Funding

- State and federal
- Deferring to local projects
- Prioritizing work
- Starting at headwaters
- Biggest bang for your buck
- Use the regional watershed action plans (LandStudies)
- Act 167 on steroids tied to the prioritizing

In several places throughout the draft WIP, cost estimates are listed with a note that costs associated with technical assistance, engineering, and design are not included. Why would those very substantial up-front costs NOT be included?

Are costs for loss of agricultural production value included in the cost estimates? For instance, the removal of 83K acres of farmland for creation of forested riparian buffers means that those crops will no longer be cultivated.

Page 102 of the draft Phase 3 WIP describes a “variability in the underlying data” that is masked in the CAST estimates. How/when will the variability be resolved and unmasked? (35)

RESPONSE

Costs associated with technical assistance, engineering and design, as well as the soft skills needed for non-structural practice implementation, are included in the workload analysis and staffing resource needs, specific to the implementation of the sector priority initiatives. CAST does not provide those costs, so as such DEP in cooperation with the Phase 3 WIP Workgroups developed an objective and reasonable analysis to incorporate these additional costs for implementation.

“Opportunity costs” such as the loss of agriculture production due to land use conversion from cropland/hayland/pastureland to riparian buffers are included in the cost estimates calculated by the CAST model.

134. COMMENT

36. Renee Reber, American Rivers [for Pennsylvania Stormwater Workgroup for Clean Water] -

Phase 3 WIP implementation will depend on funding and legislative actions.

Solution: Pennsylvania must provide adequate funding for the implementation of the WIP.

Every plan needs adequate funding to be implemented. The success of implementing the Phase 3 WIP is dependent upon legislative support for funding to implement the policies and practices of the WIP. The draft Phase 3 WIP includes analysis of the implementation costs, including staffing needs at the Department. (36)

RESPONSE

The Phase 3 WIP identifies the resources needed to achieve its goals, including funding from public and private sources. Cost-share programs, for example, often involve a mix of public and private funds. While the Phase 3 WIP identifies funding needs, DEP and its sister agencies do not have control over funding from the General Assembly or other sources. Pennsylvania’s ability to achieve the goals of the Phase 3 WIP is subject to the availability of funding and requires collaboration and support from all levels and branches of government as well as private-sector partners.

However, DEP believes the Phase 3 WIP is – given sufficient funding support – realistic and implementable due primarily to the collaborative approach taken to develop the plan and to the steadfast participation of many diverse partners. DEP and its sister agencies look forward to working with American Rivers and other partners to ensure successful implementation of the Phase 3 WIP.

135. COMMENT

37. James Wheeler, Pa. State Assoc. of Township Supervisors -

As part of any future funding plans, we suggest that the governor fully embrace the offer of assistance to find federal funding for this effort that was relayed by the Maryland Governor Hogan, who is also the current chair of the Chesapeake Executive Council. In his May 28, 2019 letter to Gov. Wolf, Mr. Hogan pledged that he is committed to rallying all the necessary financial and regulatory support Pennsylvania needs to fully implement and complete our WIP.

We would be remiss in not mentioning that the Chesapeake Executive Council, at its 2016 meeting, adopted a resolution, endorsed by PSATS, to support and collaborate with local governments to evaluate and pursue opportunities to increase public funding and private investment for local implementation of conservation and restoration activities that achieve local healthy streams, rivers and a vibrant Chesapeake Bay,

particularly activities that reduce pollutants from stormwater runoff and address the problem of recurrent flooding. We therefore request that this commitment to find alternative funding sources be implemented promptly. (37)

RESPONSE

Pennsylvania certainly welcomes any assistance from other Bay states, from the Chesapeake Executive Council, or other partners in securing funding to support the Phase 3 WIP and other initiatives to conserve and restore the waters of the Commonwealth. DEP and its sister agencies welcome the support and collaboration of PSATS and other local government organizations in implementing the numerous initiatives in the Phase 3 WIP that would help local governments in Pennsylvania increase investments in projects to restore and protect local water quality.

Federal Role (Section 4, draft Section 6)

136. COMMENT

20. Sarah Diebel, DoD Chesapeake Bay Program Coordinator -

1.1 Federal Roles

Section Reference: Executive Summary, Section 6, Federal Role, Page 10

Comment: Submitting a federal agency plan is an expectation, not a requirement.

Discussion: Pennsylvania's Phase III WIP states "Each of these federal facilities have nutrient reduction goals assigned and are required to submit a plan to the Commonwealth for how they will achieve these reduction goals. The WIP suggests the information is required vice expected, according to EPA's Phase III WIP Expectations for Federal Agencies.

Recommendation: DoD recommends revising the WIP to " ... and are *expected* to submit a plan to the Commonwealth for how they will achieve these reduction goals."

1.5 Nutrient Reduction Priorities Table

Section Reference: Section 5, Anticipated Reductions from CAP Development and Implementation.... Table 2.4, Page 60

Comment: It is unclear if Table 2.4 incorporates DoD owned lands.

Discussion: The current methodology for setting federal agency planning goals segregates DoD owned facilities from the counties. It is unclear if the referenced table includes DoD and other federal owned properties.

Recommendation: DoD recommends to add a reference to the table that indicates 1) Federal agency loads and reductions are separate from county reductions or 2) Federal agency loads and reductions are included.

1.6 Local Area Planning Goals

Section Reference: Section 6, Federal Role, Page 114

Comment: The DoD Regional Environmental Coordination Office provided comments to the Commonwealth on our Federal Agency Planning Goals on January 10, 2019 (enclosed), but has not received a response.

Discussion: The letter contains a number of comments related to the methodology and supporting materials and applies to the Phase III WIP discussion on the Federal Agency Planning Goals within Section 6.

Recommendation: DoD recommends the review of those comments as they relate to the Phase III WIP; individual recommendations are provided in those comments. (20)

RESPONSE

Regarding comment 1.1, DEP agrees that this change in language is appropriate based on the August 16, 2018 document; “U. S. Environmental Protection Agency’s Expectations for Federal Lands and Facilities in Supporting Chesapeake Bay Watershed Jurisdictions’ Phase III Watershed Implementation Plans”.

Regarding comment 1.5, Table 2.4 includes loads from federal facilities that reside within the counties with the understanding that federal facilities would complete an equivalent level of effort as the host county. Because land uses on federal facilities are predominantly “Natural” in the case of the National Park Service or partially “Developed” in the case of DoD, there is little opportunity to address nutrient sources beyond meeting state stormwater permitting requirements. DEP is working with the Federal Facilities leads within DoD and EPA to develop appropriate planning targets for these facilities. Of the state-wide load reductions needed from federal facilities (97,358 lbs), over 90% are located on DoD facilities and the DoD nitrogen load is estimated at 0.3% of Pennsylvania’s entire nitrogen load. The planning goals and loads from the federal facilities have separated from the county loads and the local planning goals for these counties.

Regarding comment 1.6, DEP, DoD and EPA program leads worked together to finalize the appropriate planning targets for these federal facilities and to address the comments related to the methodology submitted by the DoD Regional Environmental Coordination Office. These planning targets are reflected in the final Phase 3 WIP in Tables 4.1 and 4.2.

Data Reporting, Tracking, Verifying (Sections 6 and 7, draft Section 7)

137. COMMENT

10. Kristopher Troup, North Londonderry Township -

The new requirement for bi-annual tracking and reporting of implementation for evaluation of milestone progress will significantly reduce the time and resources spent on plan implementation and actual pollutant reduction. Remember, the plan also states that Pennsylvania has been working on this issue since 1985, and we are still unable to accurately identify, track and report the BMP's presently on the ground. (10)

RESPONSE

DEP acknowledges your concern as well as the need to prioritize available resources. Please note that this new six-month tracking and reporting requirement was established by EPA in its final expectations document, "U. S. Environmental Protection Agency's Expectations for the Phase III Watershed Implementation Plans", dated June 19, 2018. This reporting requirement is specific to Pennsylvania and refers to DEP's responsibility to track and report Phase 3 WIP Action Step progress to EPA. DEP intends to provide technical coordinators at the County level to assist with coordinating implementation and the collection of required information for tracking and reporting purposes. This progress reporting by the county will be done on an annual basis.

138. COMMENT

12. Eric Rosenbaum, PA4R Nutrient Stewardship Alliance -

WIP 3 Considerations:

2. Improved tracking of practices
 - a. The PA 4R Alliance advocates that a process be developed that allows PA farmers to voluntarily self-report, while protecting their data integrity, their implementation of enhanced nutrient use efficiency practices (4Rs) for credit as Supplemental NM best management practices (BMPs) towards meeting 2025 PA Chesapeake Bay water quality goals.
 - b. We welcome our continued partnerships with USDA NRCS, Soil Conservation Districts, State Conservation Commission, PA Dept. of Agriculture, Penn State and DEP to support the development of a process that allows PA farmers to voluntarily self-report their implementation of enhanced nutrient use efficiency practices (4Rs).
3. Agricultural Compliance
 - a. We welcome the opportunity to work with DEP to align the Phase 2 compliance inspection criteria (as the verification protocol) with our survey questions and recommendations for farmers to voluntarily self-report their implementation of

enhanced nutrient use efficiency practices (expected to be completed by Dec. 2019). (12)

RESPONSE

Engaging with the PA4R Nutrient Stewardship Alliance and others to ensure proper documenting, tracking and reporting as well as consistent messaging of the importance of compliance with existing regulations is key to the success of the Phase 3 WIP implementation.

139. COMMENT

16. Robin Getz, Director of Public Works-City of Lebanon -

3. This report contains a requirement for bi-annual tracking. There appears to be an assumption that local governments have staff to accommodate this function when in fact many offices at the local level continue to be one person operations. Further, this issue has been ongoing since 1985 and we are still unable to identify, track and report on what is currently in the ground. On top of that there was never a pre-established baseline to work off of adding to the difficult task of tracking and assessing improvements. (16)

RESPONSE

DEP acknowledges your concern as well as the need to prioritize available resources. Please note that this new six-month tracking and reporting requirement was established by EPA in its final expectations document, "U. S. Environmental Protection Agency's Expectations for the Phase III Watershed Implementation Plans", dated June 19, 2018. This reporting requirement is specific to Pennsylvania and refers to DEP's responsibility to track and report Phase 3 WIP Action Step progress to EPA. DEP intends to provide technical coordinators at the County level to assist with coordinating implementation and the collection of required information for tracking and reporting purposes. This progress reporting by the county will be done on an annual basis.

140. COMMENT

17. Jennifer Reed-Harry, PennAg Industries Association -

2. A lot of discussion has occurred on "verification". If a system was designed to allow for basic transparency which is equitable among the Bay States could we then stop focusing on programmatic goals and instead only need a verification process for Best Management Practices (BMP's)/reporting only when written contracts for local, state or federal funds are involved?
3. The "Model" has been the focus of Phase 1, Phase 2 and Phase 3 WIP development. What is being considered by DEP and others within the Principal

Stakeholder Group to replace a "model" approach with real data for 2025-2050 projections? Would the use of USGS data better serve the Commonwealth to tell the story of water quality improvements and/or impairments?

4. If real data was used (as referenced in comment #3 above); the limited resources available within the Commonwealth could be focused on Conservation - which does result in water quality improvements instead of the current system we have of generating data to feed the model. Is this something DEP is willing to consider?
5. In regard to the current Phase 3 WIP available for public comment; additional items for consideration to collect and report data to the model would include:
 - a. The Poultry Manure Study conducted by Penn State (Dr. Paul Patterson, et.al). This study gathered valuable information from the PA Poultry Sector on both manure/litter generation but also where the manure was transported to and applied. This is data is imperative to be included to reflect the accurate story of poultry manure in the Commonwealth. Will DEP be using this in Phase 3 WIP?
 - b. The Swine Industry has compiled data on the use of Swine Phytase in feed rations. This is valuable data to telling the story of swine manure and the phosphorus actually in the manure rather than the model defaulting to book values of said manures. Will DEP be using this data in the final Phase 3 WIP?
 - c. Manure Transport is a robust sector of animal agriculture with numerous records available at the State level to document manure leaving the watershed and at what application rates it is being applied to croplands. This would be valuable information to show Pennsylvania is not over applying manure. Is DEP planning to include this in the Phase 3 WIP?
 - d. Has DEP considered an "Annual Implementation Report" from the agriculture sector? If so, is DEP agreeable to working on the issue of confidentiality of said Annual Implementation Reports to protect to the agriculture sectors private information? Would DEP be agreeable to developing a mechanism to aggregate this data on a County or Watershed level? (17)

RESPONSE

The current BMP Verification Plan is focused on using Chesapeake Bay Program approved protocols for the verification of BMPs, regardless of the funding source. There is no requirement to verify programmatic goals. However, the periodic tracking and reporting of these programmatic goals allows the state to demonstrate progress and adaptively manage the program to effectively utilize resources.

The current "model" approach depends on real data such as the USGS surface water quality monitoring data to assess actual water conditions and to calibrate the model. There are not enough resources to monitor everywhere, thus the "model" approach can be used to fill in the gaps to demonstrate watershed conditions. The real benefit of the "model" approach is for planning purposes to predict future watershed conditions based on different implementation strategies and approaches. Without "real" data combined with the "model" approach, projections for 2025-2050 cannot be made.

The Poultry and Swine studies referenced were used to inform the Phase 6 Watershed Model.

“Development of integrated systems for elimination of excess manure,” which includes manure transport, has been identified in the Phase 3 WIP as a priority initiative. Manure transport information is provided to state agencies (DEP and the State Conservation Commission) only for those operations regulated under the Act 38 Nutrient Management Program, as they are required by law to submit Nutrient Balance Sheets, Broker, and Importer/Exporter Agreements. Manure Haulers and Brokers may be contacted to provide records of their exports; however, they are not required by law to submit transport records.

DEP, along with the Department of Agriculture and the State Conservation Commission, are amenable to an annual implementation report submitted by farmers or their consultants for data collection and reporting. However, with over 30,000 farms within the Chesapeake Bay watershed, input from the agriculture sector and others regarding the method by which the sector would report as well as the information contained in those reports would need to be agreed upon by all parties, including the federal partners such as NRCS, EPA, and the Chesapeake Bay Program Partnership.

141. COMMENT

20. Sarah Diebel, DoD Chesapeake Bay Program Coordinator -

1.2 Six-month Progress Reporting Frequency

Section Reference: Section V. EPA Expectations for the Phase 3 WIP, Page 24

Comment: The DoD Chesapeake Bay Program reports progress on an annual basis.

Discussion: According to the Phase III WIP, since Pennsylvania has not demonstrated adequate progress, "EPA requested that Pennsylvania report progress on a six-month basis." The DoD Chesapeake Bay Program reports implementation progress on an annual basis for all of the DoD installations located in Pennsylvania. It is not clear if local partners who report progress will need to change their reporting frequencies to meet EPA's request. DoD is currently funded to report on an annual basis and is not able to report on a six-month frequency.

Recommendation: DoD recommends providing clarity for those who report on an annual basis whether the reporting frequency will change. (20)

RESPONSE

Please note that the six-month tracking and reporting refers to the responsibility of the DEP to track and report Phase 3 WIP progress to EPA. This will not change the

reporting frequency for the other agencies/partners that report progress for the annual progress run.

142. COMMENT

24. Felicia Dell, York County Planning Commission -

EXECUTIVE SUMMARY

4. Pg. 12, last paragraph: States how Pennsylvania will ensure sufficient progress to achieve the WIP targets. It references evaluating technical issues and implementation rates, but it does not identify who, specifically, is going to do the evaluations.

SECTION 1. INTRODUCTION

16. Pg. 26, last paragraph: Are the progress reports bi-annual, or semi-annual?

SECTION 2. STATE ACTIONS

17. Pg. 31, last paragraph: It states that the Conservancy project will give local Phase 3 WIP planners a tool to track progress, generate local BMP reports, and provide a platform for BMP verification. Who are the “local planners” that are going to locate, track, report, and verify the local BMPs? Did volunteering to develop a “CAP” automatically commit those planners to “voluntary” implementation actions? Additionally, if “local planners?” do enter all the necessary data into this data management and tracking system, assurance must be provided that DEP can access the data in the system and use it to report progress to EPA. “Local planners?” should not have to voluntarily expend additional time and money to submit separate progress reports to DEP.

19. Pg. 33, last paragraph, last sentence: States that data collection improvements, for agricultural field practices, are being addressed in the Phase 3 WIP. Will DEP commit to addressing data collection improvements for unreported stormwater practices as well?

20. Pg. 34, Table 2.1: Under the Urban Stormwater sector, why isn't the MS4 program included in the Agency/Program column? MS4 permittees submit annual progress reports to DEP.

23. Pg. 42, 1. Agricultural Compliance: The proposed action is to ensure farmers are implementing their state required plans and the goal is to continue the compliance, inspection, and enforcement programs. However, the first and most important action should be to ensure that farmers have the applicable required plans. With regard to the goal, it appears that DEP needs to not only continue but also needs to improve or increase its compliance/inspection/enforcement efforts.

35. Pg. 67, 1. Farmland Preservation Program: This section is under the category "VI. Accounting for State Actions Not Currently Credited to Pennsylvania." While it states the requirements of county farmland preservation programs, it does not mention whether or how this information will be collected so that it can be credited.

37. Pg. 68, B. Act 537 Sewage Facilities Program: Notes that septic denitrification, secondary treatment, and pumping will be tracked for crediting purposes. However, there is no mention of who is going to report and track the information. Will CAPs or MS4s be able to report these activities for credit?

38. Pg. 69, 3. Redevelopment and Brownfields Post Construction Stormwater Management: Notes net reductions resulting from "retrofit" stormwater runoff requirements will be tracked to ensure credit toward PA's Bay goals. However, there is no mention of who is going to report and track the information.

SECTION 7. MILESTONES AND PROGRESS REPORTING

53. Pg. 122, Section ii. Forestry, 2.3.5F: This is an excellent example of "Integrated Planning" that should be applauded and pursued across all departments/programs/and levels of government. It is needed, practicable, and accomplishable!

54. Pg. 124, Section iii. Stormwater, 2.4.1S: Collecting MS4 BMP data through a new electronic reporting system is a welcome tool; but, more importantly, there needs to be assurance that the data is entered into the model.

55. Pg. 126, 1st paragraph: States that the Progress and Reporting Template includes details as to responsible parties. However, the only actions assigned to individuals are the newly created positions to help “counties” implement their CAPs (Internal/external coordinators, technical coordinators). Most actions list multiple entities ownership (DEP, Department, agencies, partners, counties, etc.) as the responsible parties. In such cases, who will take ownership or the lead role to implement the action? Since there are many divisions within the state agencies/departments, more specificity would be beneficial. In the end, who is going to be held accountable for implementation of this Plan...the State? (24)

RESPONSE

4. Progress will be reported every six months to EPA and the Chesapeake Bay Program Partnership. EPA does an evaluation of progress made against the two-year milestones.
16. The progress reports on the Action Steps identified in the Milestone and Reporting Template linked to the progress of the Phase 3 WIP will be submitted to EPA every six months. These reports are DEP’s responsibility to submit.
17. Thank you for your comments. “Local planners” will consist of the county planning team involved in the development of the CAPs and the internal/external county coordinators. The Conservancy Tool will be able to report BMP implementation directly to DEP/EPA.
19. DEP is presently working to develop an RFP for a LiDAR study to identify historical and/or undocumented Post-Construction Stormwater Management and other Stormwater BMPs.
20. To date, DEP has not reported MS4 annual reporting information. The MS4 annual reporting system is just coming online now. DEP plans to collect and report Stormwater BMP implementation for progress from the reporting system in the near future.
23. The Chesapeake Bay Agriculture Inspection Program is identified in the Phase 3 WIP. The current initiative ensures all agricultural operations are meeting their planning obligations. The Standard Operating Procedure for this inspection program is cited and goes into further depth about what the program is and how it is implemented. These procedures can be found on the DEP website.
35. DEP intends to work with the Pennsylvania Department of Agriculture and the Farmland Preservation Program to document, track, and report the outputs of the program annually.
37. Currently, municipalities submit annual reports on sewage management program activities (septic tank pumping, permitting activities, etc). DEP will be updating the

annual reporting form to include issuance of construction permits for secondary, advanced secondary and denitrification treatment systems. Submission of this report has not been monitored by DEP in more recent years; however, DEP will also pursue 100% compliance with the annual reporting requirement through outreach and enforcement. The Act 537 Sewage Facilities Program will track this information and provide the information to PA's Chesapeake Bay Program annually. CAP's and MS4s will not be able to report these activities for credit.

38. This information will be reported through the Chapter 102 permitting process by the remediator/property owner.

53. Thank you for your comment and support.

54. The MS4 reporting tool was designed with BMP reporting in mind and will be capable of providing data for EPA reporting.

55. The State is responsible for the overall accomplishment of the Phase 3 WIP and meeting the TMDL. The Countywide Action Plans are based on local planning goals derived from the state nutrient reduction targets. These Action Plans focus on local priority initiatives to achieve these local planning goals. The internal/external coordinators will help facilitate plan implementation in instances of shared project responsibilities.

143. COMMENT

25. Julie Cheyney, Lebanon County Clean Water Alliance (LCCWA) -

Many of the action steps presented in Section 7 of the plan are so open-ended that tracking progress on any individual action step will be challenging. These action steps could generally be improved by identifying the party or parties responsible for the action step, what metrics will be used to track progress on the action step, and a target implementation date for each action step. (25)

RESPONSE

Detailed information can be found in the Progress and Reporting Template regarding responsible parties, deliverables, and timeline. Additional details about the schedule for reporting progress was also added to the final Phase 3 WIP.

144. COMMENT

31. Grant Gulibon, Pennsylvania Farm Bureau -

Finally, farmers need to know that the information they provide about what they are doing on their land to improve the health of their local waters, and by extension that of the Bay, is being accurately reported, properly credited, and confidentially handled. More work is needed to develop a system of reporting, collection and analyzing data that is acceptable to Pennsylvania farmers, EPA and the other Bay jurisdictions, and will ensure Pennsylvania receives full credit from EPA for conservation practices implemented currently and in the future.

The development and use of a voluntary system that encourages Pennsylvania producers to share information about their conservation practices and fully captures and credits the effectiveness of those practices performed will likely increase the level of participation among farmers that is needed for Pennsylvania to attain significant progress toward achievement of the Commonwealth’s nutrient pollution reduction goals.

None of these issues are insurmountable—but a clear understanding of the current situation and the magnitude of the challenges Pennsylvania will continue to face in these areas is the first step in crafting lasting solutions that Pennsylvania’s farmers and communities believe can realistically be put into place. (31)

RESPONSE

DEP, along with the Department of Agriculture and the State Conservation Commission, is amenable to an annual implementation report, submitted by farmers or their consultants for data collection and reporting. However, with over 30,000 farms within the Chesapeake Bay watershed, input from the agriculture sector and others regarding the method by which the sector would report as well as the information contained in those reports should be agreed upon by all parties, including the federal partners such as NRCS, EPA, and the Chesapeake Bay Program Partnership.

145. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

The Agricultural Compliance and Enforcement Strategy must go beyond verification of Erosion and Sediment Control and Manure/Nutrient Management plan development. It should also include determination of whether the plan is being implemented according to schedule, limits erosion to the soil loss tolerance rate (T), prevents manure application within setbacks, etc. The process should also verify that farm operators understand the plans, and that the plans are compatible with their long-term goals, to increase the likelihood that they will be adopted. This will require significantly more staff than exist currently, and probably even more than are identified (but unfunded) in the WIP3.

Penn State University’s 2016 farm survey and Tetra Tech Inc’s review of USDA NRCS’s remote sensing pilot in the Potomac River Basin of Pennsylvania found substantial undocumented agricultural conservation practices.^{87,88} We are hopeful that the **new tracking methodologies** will reveal even more progress made by producers that has

⁸⁷ Royer, M., J. Shortle, and A. Cook. An Analysis of the Pennsylvania Farm Conservation Practices Inventory for Purposes of Reporting Practices to the Chesapeake Bay Program. Penn State University College of Agricultural Sciences. Prepared for the Commonwealth of Pennsylvania, Department of Environmental Protection, December 15, 2016 Final Report.

⁸⁸ Tetra Tech, Inc. Assessment of NRCS Remote Sensing Pilot in Potomac River Basin of Pennsylvania. Prepared for USEPA Chesapeake Bay Program Office and Pennsylvania Department of Environmental Protection. Final Report December 13, 2016

not yet been credited to the agricultural community. Efforts to track undocumented conservation practices to include in the CBWM should also include verifying that previously established practices are still functioning. For example, previously recorded buffers should still have adequate cover and manure storage structures should still in good condition and in use. It should be noted, however, that while it's critical to identify unaccounted for practices, depending on when the practice was installed and the last calibration of the CBWM with monitoring data, the practice may be implicitly, reflected and thus accounted for, in the model. And, importantly, agriculture remains a leading source of stream impairment in Pennsylvania.

SUPPLEMENTS

BMP Verification Program Plan. In the area of tillage practices and cover crops, verification relies primarily on labor-intensive field verification. The United State Geological Survey (USGS) has developed methodologies to utilize remote sensing to capture BMP implementation. And, as noted above, NRCS's pilot, with updates, can serve as alternates for a myriad of BMPs. **Research within the watershed has indicated accuracy rates meet or exceed those of tillage surveys, not only limits inaccuracies owing to human error, it reduces the staff time needed to make determinations.**⁸⁹ The document should reflect a transition from transect studies to this approach.

The verification of **urban BMPs relies heavily upon MS4 reporting.** As a large share of urban mitigations will be captured by this, it is a logical place to start. However, for a variety of reasons (e.g., incompatible match funding sources, or projects outside of MS4 areas), individual projects may not be represented in MS4 reporting. **Secondary verification techniques should be identified.** (32)

RESPONSE

While the focus of the existing Chesapeake Bay Agriculture Inspection Program is to ensure that all agricultural operations are meeting their planning obligations, per the Standard Operating Procedures, implementation of Agriculture Erosion and Sediment Control and Manure Management Plans (to include record keeping and BMP implementation) has also begun on a voluntary basis in order to report BMPs implemented for Chesapeake Bay Program reporting and verification. The agriculture workload analysis provided in the Phase 3 WIP accounts for a "ramping up" of the inspection program to include checking for plan implementation as a compliance metric.

DEP is presently working to develop an RFP for a LiDAR study to identify historical and/or undocumented Post Construction Stormwater Management and other Stormwater BMPs. DEP supports developments in other remote sensing technologies;

⁸⁹ U.S. Geological Survey. 2017. Remote Sensing of Conservation Tillage. <https://eros.usgs.gov/doi-remote-sensing-activities/2017/usgs/remote-sensing-conservation-tillage>

however, we are limited by methods approved by the Chesapeake Bay Program Partnership.

146. COMMENT

36. Renee Reber, American Rivers [for Pennsylvania Stormwater Workgroup for Clean Water] -

Credit for Best Management Practices (BMPs) may not be double counted.

Solution: Verify unreported BMPs are properly functioning and ensure they have not been accounted for more than once through the various reporting processes.

We agree that the Commonwealth should receive credit for BMPs that have previously not been reported to the Chesapeake Bay Program. The draft Phase 3 WIP purposes to use LIDAR and remote sensing data to find such BMPs. We remind the Department that BMPs should be verified on-the-ground to make sure they are properly functioning and performing a stormwater management benefit before they receive credit. The Department must also demonstrate that credits for any BMP is not double counted. (36)

RESPONSE

Any remote sensing or other survey methodology comes with it a requirement for on-the-ground “spot-checking” a certain percentage of that which is verified from the survey.

Climate Change (Section 9)

147. COMMENT

30. Ronald Ramsey, The Nature Conservancy -

Climate Change and Resiliency:

TNC-PA commends the Department for including a discussion of climate change impacts in the WIP3. By assessing the climate-related challenges to achieving our water quality goals and incorporating these considerations into the WIP3 process, Pennsylvania will be better prepared to deal with the effects of a changing climate and better positioned to adjust strategies as needed to improve the resiliency of our communities and our freshwater systems. (30)

RESPONSE

Thank you for your support for Pennsylvania's strategy for Climate Change and the Climate Action Plan.

148. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

Climate Change

Pennsylvania's climate is changing. And the potential impacts will be broad and significant to our economy, our culture, and our quality of life.

Section 9 of the draft WIP3 presents the latest Chesapeake Bay modeled data on nitrogen and phosphorous increases due to climate change impacts. It then provides the process for updating WIPs set out by the Bay Program. Also, in Subsection II of the draft WIP3 it describes the impacts already being felt in the Commonwealth, including average higher temperatures and precipitation, as well as potential impacts on the ground.

To account for these changes, that is, to help reduce green house gases (GHGs) and to create more resiliency, the draft WIP3 describes the 2019 Executive Order, an updated (2019) Climate Action Plan, and other actions being implemented or recommended for implementation. The Penn State Climate study update is also mentioned, particularly concerning implications for TMDL-related activities such as seeking resilient BMPs.

Overall, the draft WIP3 and Wolf Administration should be commended for their commitment to this issue and the Commonwealth appears to be undertaking work at the

state level to deal with it. It recommended that this stays the course and that the Climate Action Plan is properly implemented and funded. (32)

RESPONSE

Thank you for your support for Pennsylvania's strategy for Climate Change and the Climate Action Plan.

Sector Growth (Section 8)

149. COMMENT

20. Sarah Diebel, DoD Chesapeake Bay Program Coordinator -

1.7 Unit Error in Figure

Section Reference: Section 8, Accounting for Growth, Page 128

Comment: Figure 8.2 and the discussion that follows appears to be changes in acres among the specific source sector land uses vice changes in nitrogen loads.

Discussion: The title of Figure 8.2 is "Specific Sector Land Use Change Breakdown" and the Phase III WIP states "Figure 8.2 above shows the projected change in load source growth between 2017 and 2025...Pasture land is projected to decrease by 69,562 acres..." The x-axis uses 'lbs of Nitrogen' unit, but the description that follows the figure discusses the change in acres.

Recommendation: DoD recommends revising the figure and using the appropriate unit of measure. (20)

RESPONSE

Thank you for your thorough review of the figures. We will make the appropriate adjustments to make sure the narratives, titles, and captions reflect the information in the figure.

150. COMMENT

32. H L Campbell, PA Chesapeake Bay Foundation -

Accounting for Growth

According to the Chesapeake Assessment Scenario Tool (CAST), **Pennsylvania's total nitrogen loads from stormwater to the Bay increased by 29 percent (4,403,483 pounds/year) to 15,306,153 pounds/year between 1985 to 2018.** Whether within or outside an MS4, new rural, suburban, and urban growth threatens to undermine nutrient and sediment load reductions achieved from other sources.

The very concept of the Bay TMDL, together with EPA's Expectations document, reflects the necessity of Chesapeake Bay partner states fully accounting for any growth and development on the land that displaces less polluting resource land cover or land uses – through 2025 and beyond.

Pennsylvania has not developed a direct method to account for growth, which would require offsets to be provided, verified and recorded as new development or land use change occurs. Instead, Pennsylvania has opted to: (1) use a method offered by the Chesapeake Bay Program whereby 2025 forecasted land use will be compared against 2025 conditions on the ground, to determine whether state and local policies have successfully prevented predicted adverse change from occurring; and/or (2) “offset” new loads through accelerated pollution reductions in the wastewater and agricultural sectors.

While it is possible for either of these methods to offset or account for growth in the broadest sense, the more direct method of accounting for growth is a more efficient and accurate one, which would avoid using a complex modeling exercise or adding more financial and performance burdens to other sectors.

Given that new greenfield development rarely, if ever, occurs in isolation and often causes a “train” of development and services that follow, the cumulative impacts of these development patterns far outweigh the impacts on a per site basis.

In the WIP1, DEP stated that a no net increase in pollutant loads is achieved by managing for the 2-year 24-hour storm event. The conventional thinking at that time was that if flows were held below the 2-year level that erosion would be minimized. However, some research has indicated that this criterion frequently does not protect channels from downstream erosion and may actually exacerbate erosion since banks are exposed to a longer duration of erosive bankfull and sub-bankfull events.^{90,91,92,93} And, as development continues within a watershed that is managed under 2-year 24 hour storm event criteria, the bankfull event that causes streambed and bank erosion actually can decrease below the 2-year threshold. If such is the case, then a no net increase is not achieved due to erosive flows causing increased sediment and phosphorus loads downstream.

Furthermore, in section 3.5 of DEP’s stormwater BMP Manual⁹⁴ a control guideline for total water quality of an 85 percent reduction in post-development total suspended solids (TSS) and total phosphorus loads and a 50 percent reduction in post-development solute (as nitrate nitrogen) is recommended, but not required. Under such

⁹⁰ MacRae, C. 1993. An alternate design approach for the control of instream erosion potential in urbanizing watersheds. pp. 1086-1091. In proceedings of the Sixth International Conference on Urban Storm Drainage. Niagara Falls, Ontario. Marsalek and Torno (eds.)

⁹¹ MacRae, C. 1996. Experience from morphological research on Canadian streams: is control of the two-year frequency runoff event the best basis for stream channel protection? In Effects of Watershed development and Management on Aquatic Systems. L. Roesner (ed.) Engineering Foundation Conference. Proceedings. Snowbird, UT. August 4-9, 1996. pp. 144-160.

⁹² McCuen R. and G. Moglen. 1988. Multicriterion stormwater management methods. Journal of Water Resources Planning and Management. (114) 4.

⁹³ Brown, T and D. Caraco. 2001. Channel Protection. Water Resources IMPACT. American Water Resources Association, Volume 3, Number 6, pp 16-19.

⁹⁴ Pennsylvania Department of Environmental Protection. 2006. Pennsylvania Stormwater Best Management Practices Manual. Document number: 363-0300-002.

a design approach, each new development which meets the control guidance and guidelines established in the Manual represents an allowable 15 percent increase in TSS and total phosphorus load and a 50 percent increase in nitrate nitrogen load. This does not equate to a no net increase. In actuality, it represents a decrease in the increase of pollutant loads from new development.

To ameliorate this deficiency, **we strongly recommend Pennsylvania’s draft WIP3 include a no-net increase offsets/exchange provision for new development requiring an NPDES permit, or, alternatively as part of new or updated Act 167 plans and ordinances.** In order to encourage infill and discourage greenfield development, under such an approach proposed developments would use different degrees of offsets/exchanges based three different types of places: a. Areas with sewer service and higher density of homes and jobs, served by state-of-the-art sewage treatment, would have lower offset/exchange thresholds. Conversely, areas with low density development would tend to have higher offset/exchange thresholds.

Regardless of whether an offsets/exchange approach is acceptable, it is imperative that given the sprawling trend of land development in Pennsylvania over the last several decades, that a full cost accounting and offsetting of new stormwater loads be fully negated through a program which addresses post-construction stormwater management loads. Such a program should also abandon the “meadow or better” baseline condition to a more appropriate for the watershed baseline—forest. (32)

RESPONSE

Managing growth relative to nutrient loading is a complicated endeavor considering projected population, resulting residential and commercial development, and associated changes in agriculture and community responses and preferences. Additionally, most land use planning and decisions are made locally within the context of the Pennsylvania Municipalities Planning Code, which enables local planning, zoning, ordinances, and other measures that affect growth and development. Planning for growth also needs to consider impacts to future business activity and economic development opportunities, historical land uses, and the many benefits of conserving natural resources. As such, Pennsylvania chose to follow the Chesapeake Bay Program’s framework for sector growth. Goals were established for forest and natural area conservation, as well as farmland preservation based on the highly popular and successful Farmland Preservation Program.

While our intent was to also address sector growth locally with the four pilot counties, this did not happen due to data and analyses not being available until the end of the planning process. To address this deficiency, the Phase 3 WIP Local Area Goals Workgroup and DEP developed enhancements to the Community Clean Water Planning Guide and county-specific Technical Toolbox with additional information relating to Sector Growth to facilitate more-purposeful conversations with the remaining Counties, and revisit the issue with the four pilot counties with the goal of producing locally-driven plans for conservation and managing growth.

151. COMMENT:

33. Michael Sachs, Resource Environmental Solutions, LLC (RES) -

Given the importance of responsibly encouraging future development across the state to facilitate new jobs, new business, higher wages, and positive economic outcomes, we appreciate the challenges and opportunities presented in Section 8: Accounting For Growth. We strongly believe responsible growth can be achieved when coupled with sound environmental policy. The overall goals of any policy initiative aimed at improving water quality should be focused on creating greater consistency, transparency, and equivalency through the regulatory regime while allowing the private sector to develop innovative solutions. With these elements in place, the state should realize greater private sector capital investment in water quality improvement projects, consistent progress toward achieving nutrient reduction targets, and increased economic development. (33)

RESPONSE

Balancing economic development opportunities, nutrient reductions, and land conservation is a complicated endeavor. While the current strategy for sector growth focuses primarily at the watershed level (forest and farmland conservation), many land use decisions are made locally within the context of the Pennsylvania Municipalities Planning Code. The Phase 3 WIP Local Area Goals Workgroup and DEP-developed enhancements to the Community Clean Water Planning Guide and county-specific Technical Toolbox with additional information relating to Sector Growth to facilitate more-purposeful conversations with the remaining Counties and revisit the issue with the four pilot counties with the goal of producing locally-driven plans for conservation and managing growth. As we move into implementation, we will engage partners and agencies like the Department of Community and Economic Development to pursue avenues to work toward greater consistency, transparency, and equivalency as you suggest.

152. COMMENT:

38. Katlyn Schmitt, Waterkeepers Chesapeake -

Another area that lacks accountability in the draft WIP is planning for growth in the agricultural sector. Since the United States Department of Agriculture does not keep pace with dynamics of regional agriculture, Pennsylvania should collect and maintain its own census of agriculture data – as other states in the region do. Failure to collect this data will cause significant errors in tracking and decision making for 2025 and beyond. As an example, dairy operations are declining and poultry operations are growing at rates that cannot be inferred from USDA data. Reliance on inaccurate USDA animal census data may undermine the validity of many of the plan’s assumptions and conclusions. (38)

RESPONSE

The 2017 USDA Agriculture Census relates a decrease in pasture acres (due to a decrease in dairy related cattle) and an increase in poultry, as noted by the commenter. DEP agrees that it is of utmost importance to ensure the most accurate and reliable data is incorporated and will take this comment under advisement.