Framework for the Conowingo Watershed Implementation Plan

Objective: To obtain final PSC approval on this draft Framework for developing the Conowingo Watershed Implementation Plan.

Background: When the TMDL was established in 2010, it was estimated that Conowingo Dam would be trapping sediment and associated nutrients through 2025. New research has determined this is not the case, and that the reservoir behind Conowingo Dam has now reached dynamic equilibrium. As a result, more sediment, nitrogen, and phosphorus are now entering the Chesapeake Bay than were estimated when the TMDL was established. Even with full implementation of the seven Bay jurisdictions' WIPs, this additional pollutant loading from Conowingo reservoir reaching dynamic equilibrium will cause or contribute to water quality standards exceedances in the upper Bay. This additional pollutant load must be addressed if the Bay's water quality standards, as they are currently written and implemented, are to be met. The Chesapeake Bay Program (CBP) partnership estimates that, after fully implementing the Bay TMDL and Phase I/II WIPs, an additional reduction of 6 million pounds of nitrogen and 0.26 million pounds of phosphorus is needed in order to mitigate the water quality impacts of Conowingo Reservoir infill. Although further analysis may alter the total nitrogen and phosphorus loads needing to be reduced, these current estimates are also based on reductions occurring in the most effective sub-basins of the watershed – that is, the geographic areas with the greatest influence on Chesapeake Bay water quality. If implementation were directed watershed-wide, including less effective areas, the total pollution reduction needed would increase.

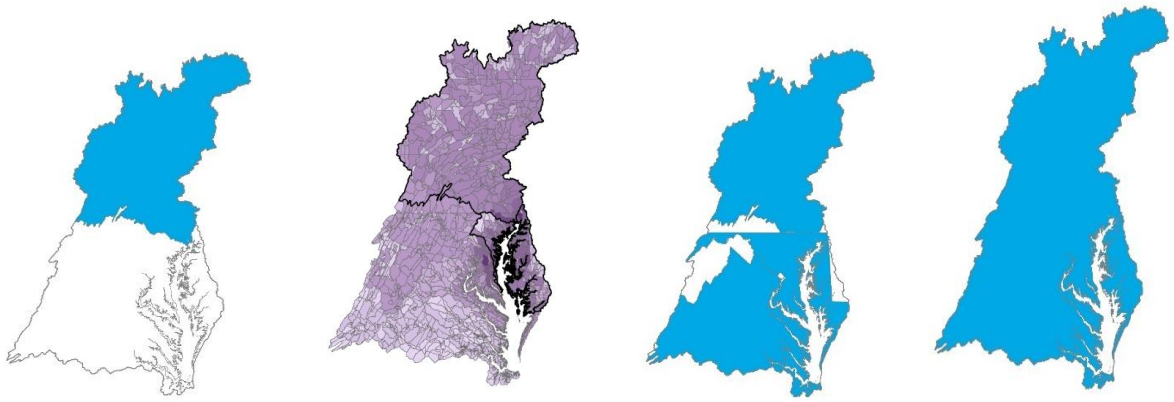
It is also important to recognize that the Conowingo Dam, a hydroelectric facility owned and operated by Exelon, is currently undergoing a Federal Energy Regulatory Commission relicensing which requires a water quality certification from the state of Maryland pursuant to Section 401 of the Clean Water Act. Maryland has indicated that it is going to review the May 2017 application from Exelon for consistency with all applicable state water quality standards. Public comments received on the application signal a need for Exelon to be a key partner in addressing the downstream water quality impacts.

The CBP Partnership has identified four options for assigning pollutant load reduction responsibility among the Bay jurisdictions and has also signaled that Exelon should be held responsible for some portion of the reduction. The four geographic options under discussion are listed below and do not yet include an assignment to Exelon, which could be impacted by the outcome of Maryland's 401 Water Quality Certification. The four options are:

1. Susquehanna Basin Only – This option includes the area within the states of New York, Pennsylvania and Maryland that are in the Susquehanna River Basin that drain directly into the Conowingo Reservoir.
2. Susquehanna Basin + Most Effective Basins – This option includes the Susquehanna Basin (i.e.

Option 1 above) plus those other basins within the Chesapeake Bay watershed within which best management practices are most effective at improving Chesapeake Bay water quality.

3. Susquehanna Basin + All of Maryland and Virginia – This option adds the Partnership states that benefitted most from the original calculation of the TMDL in 2010.
4. The Entire Chesapeake Bay Watershed – This option includes all seven jurisdictions in the Bay watershed.



(a) (b) (c) (d)

Figure 1 – Four options currently under consideration by the Bay Partnership for assigning responsibility for the additional reduction needed as a result of Conowingo infill. a) Susquehanna Basin, b) Susquehanna Basin + Most–Effective Basins (darker shades of purple = more effective basins within the watershed), c) Susquehanna Basin + All of Maryland and Virginia and d) Entire Chesapeake Bay Watershed.

There are also three options with respect to timing to account for these additional load reductions:

1. Now – The loading is incorporated now into the Phase 3 WIP and must be addressed by 2025.
2. Beyond 2025 – The loading is recognized as something that must begin to be addressed now, but the actual implementation will continue beyond 2025.
3. Post-2025 – The loading is not something that can be addressed now and will be re-visited once implementation of the Phase 3 WIPs is assessed post 2025.

After careful and extensive discussion of these options, the following conceptual approach was offered and agreed to by the CBP Partnership's Principals' Staff Committee (PSC) at its December 2017 meeting:

Conceptual Approach: Develop a separate and collaborative Conowingo Watershed Implementation Plan that provides details on how to reduce adverse water quality

impacts to the Chesapeake Bay resulting from Conowingo Reservoir infill and provides a timeline at which it can be accomplished.

The recommended approach is in response to the recognition by all Bay jurisdictions that:

A. Trapping of pollutants by the Conowingo reservoir over the past 80+ years has benefited the water quality of the Bay, and it has also benefitted states to varying degrees by lessening load reduction responsibilities, but now those benefits are greatly diminished; and,

B. No reservoir maintenance to restore trapping capacity has occurred over the life of the dam and the reservoir is now near full capacity; and

C. The most cost-effective approach to mitigate current adverse water quality impacts, of the Conowingo reservoir at dynamic equilibrium, are realized by pooling resources to pay for pollutant reduction practices in the most effective locations (i.e., the locations with the most influence on Bay water quality). Pollutant reduction practices placed in the most effective areas (Figure 2) will limit the overall load reductions needed.

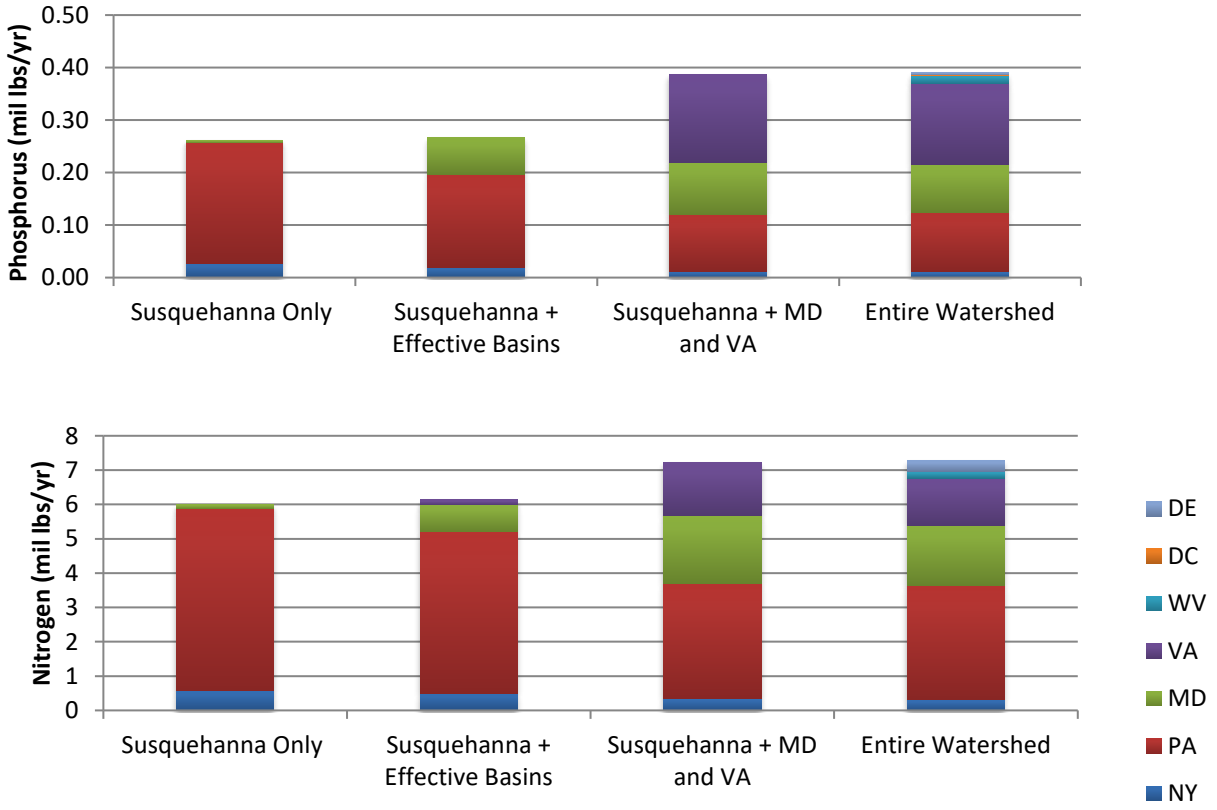


Figure 2 – Basinwide Conowingo targets developed using four different allocation options.

The Conowingo Watershed Implementation Plan (WIP) would include consideration of the following innovative components:

1. Establishing the Conowingo WIP Steering Committee as a subcommittee of the PSC. The

Conowingo WIP Steering Committee will be composed of a representative from each Bay jurisdiction and the Chesapeake Bay Commission (CBC). This committee will be responsible for developing and implementing the Conowingo WIP with assistance from a third party.

2. Creating a fund that members of the Conowingo WIP Steering Committee can use to work with the third-party awardee and install the most cost-effective practices in the most effective locations.
3. Incorporating the outcome of the Exelon CWA S. 401 water quality certification.
4. Developing a financing strategy to support development and implementation of the Conowingo WIP.
5. Developing a process by which preferred practices, targeted geographic locations and implementation projects will be selected and deployed.
6. Managing reservoir sediment through dredging and innovative and/or beneficial re-use based upon information from the Maryland pilot project.
7. Determining achievability and in what timeframe the needed load reductions will occur.

Although there are many specifics to this approach that remain to be discussed and agreed-upon, the PSC requested that more detail be provided on the following:

1. **<u>Pollutant Load Targets</u>: The total pollutant load targets attributed to Conowingo Reservoir infill would be assigned to a separate Conowingo Planning Target which all Bay jurisdictions would work collaboratively to achieve.**

   For the reasons described above, rather than adding those individual pollutant reduction targets to jurisdictions' existing Phase III planning targets, the recommendation is that the total pollutant reduction targets for nitrogen and phosphorus be assigned to the Conowingo WIP Steering Committee (i.e., the CBP Partnership will now have eight Targets: the seven Bay jurisdictions + Conowingo) with the latter to be achieved collaboratively by all relevant parties in a separate WIP. In other words, although the PSC may expect that reductions to meet the Conowingo pollutant reduction targets will come from the most effective areas in a subset of Bay jurisdictions, all Bay jurisdictions recognize the benefits of Conowingo's past pollutant trapping and, therefore, all agree to work together in implementing the agreed upon plan.

2. **<u>Funding options</u>: Partners would agree to contribute resources (e.g. funding, technical assistance, in-kind services, etc) into a pool to be managed collaboratively to achieve the necessary pollutant load reductions.**
   The unique and critical component to this proposed Conowingo WIP is pooling resources and the collaborative application of those pooled resources in the most cost-effective manners possible. Pooled resources would be phased in over a period of time. Key sources of initial funding are anticipated to be realized through the Exelon Water Quality Certification (anticipated May 2018) and additional federal funding sources (e.g., USDA , CWA 117 Innovative Nutrient and Sediment and Small Watershed Grants, Army Corps, USFW, NFWF Chesapeake Stewardship Fund, etc.) that can

supplement current state WIP efforts. A financial strategy will be developed by the third party awardee and Steering Committee that identifies these initial sources of funding, as well as medium and longer range funding sources that can be phased in over time as necessary to achieve the Conowingo pollution reduction targets. The strategy will consider leveraging state, local and private dollars and in-kind services or technical resources as well as reallocation of existing federal funds to the jurisdictions (e.g., CBIG, CBRAP, 319, WIP assistance funds) for Chesapeake Bay restoration. EPA will work with the partnership to help ensure that any reallocation of federal funds will not adversely impact state WIP efforts. The Conowingo WIP Steering Committee will also work with a third party (see below) to enlist other federal and non-federal funding sources or voluntary partnerships as well as define associated roles and responsibilities, including consideration of "pay for success" approaches.

3. **Implementing the Plan: Pooled resources would be managed by a third party, following RFP issuance by EPA's CBP Office, with guidance from the WIP Steering Committee to implement pollutant reducing practices in the most cost-effective manners possible independent of jurisdictional boundaries.**

   A third party would be charged with applying the pooled resources in the most cost-effective and pollutant load reduction-efficient locations in order to achieve the required Conowingo pollutant load reductions for the least cost. Reductions would come from existing CBP partnership-approved BMPs and other innovative components such as those listed above. Geographic targeting of BMP locations would be consistent with CBP partnership-approved models and watershed loading rates. Additionally, the third party would be charged with verifying and tracking all reductions following CBP partnership-approved protocols and pursuing or leveraging additional funding sources to implement the Conowingo WIP.

4. **Crediting Implementation**

   Practices funded with pooled dollars are credited to the Conowingo WIP pollutant reduction targets, regardless of where the practices were implemented or where the funding originated. The Conowingo WIP Steering Committee, with technical support from EPA's CBP and the third party, will develop a Conowingo credit calculation and tracking protocol that simultaneously considers opportunities to advance other state WIP efforts.

5. **Plan Development Schedule**

December 2017	Receive PSC Approval on Conowingo WIP framework and the first cut of the Conowingo pollutant reduction targets to address this additional load.
March 2018	Send letter from PSC to Exelon emphasizing the importance of Exelon's continued involvement in this effort to address the water quality impact from Conowingo Dam.
March 2018	EPA prepares a draft RFP for an award of a cooperative agreement or contract to manage and oversee the pooled resources and to facilitate the development and

	implementation of the Conowingo WIP, as guided by the Conowing WIP Steering Committee.
March - June 2018	The Conowingo WIP Steering Committee, including a representative from each jurisdiction and the Chesapeake Bay Commission work collaboratively to begin development of the Conowingo WIP to include: 1) finalizing the Conowingo WIP framework, pollution reduction target(s), and resource sharing commitments; and, 2) working with EPA, other federal partners, and the third party to develop a financing strategy that leverages technical assistance, in-kind services, and federal, state, local and potential private sector funding sources..
May 2018	Determine the role of Exelon in the implementation of the Conowingo WIP based on Maryland's decisions regarding 401 certification.
June – Oct 2018	EPA selects the RFP awardee and, building on the decisions made between March and June 2018, the Conowingo WIP Steering Committee continues drafting theConowingo WIP with support of the awardee to include local government and public engagement strategies, identifying specific reduction practices and a timeline, funding sources, the methodology for addressing any identified gaps and provisions for contingencies.
October 2018	Begin utilizing any FY19 federal funding allocated to implementing the Conowingo WIP and other funds, as available.
Oct-Nov 2018	The CBP partnership will make the Conowingo WIP available for a 30-45-day public review and comment period on its website. The Conowingo WIP Steering Committee will finalize the Conowingo WIP based on public comments.
March-2019	The Conowingo WIP Steering Committee will submit the final draft Conowingo WIP for EPA and partnership review as part of the Phase III WIP review process.
June 2019	The CBP partnership will post the final Conowingo WIP on its website.
October 2019	The Conowingo Steering Committee and the third party will begin full plan implementation utilizing funding allocated to the plan for federal FY 2020.
Biennially	EPA to evaluate the effectiveness and progress of the Conowingo WIP, pursue additional funding sources to help with implementation, identify additional mitigation options and recommend options to the PSC, as necessary.
Summer 2023	The PSC will reevaluate and make any necessary corrections based on EPA's biennial evaluations of the Conowingo WIP implementation, recommendations from the Conowingo WIP Steering Committee and any other factors.

6. Roles and Responsibilities

I. EPA will:
   a. Evaluate the Conowingo WIP and provide biennial evaluations of the progress toward attaining the goals in the Conowingo WIP. EPA's evaluations, in consultation with the PSC, and any needed improvement will be used to determine if corrections or adjustments are necessary to attain the goals of the Conowingo WIP (e.g., whether the targets need to be re-evaluated or assigned to specific jurisdictions).
   b. Issue a Request for Proposal (RFP) for the third party and administer the subsequently awarded contract, grant or cooperative agreement. Because EPA will be issuing the RFP, it cannot act as a third party.
   c. Provide technical staff and contractor support such as modeling or GIS analysis to the Conowingo WIP Steering Committee.

II. The Conowingo WIP Steering Committee will:
   a. Consist of a representative from each jurisdiction and the Chesapeake Bay Commission (CBC). Each Bay jurisdiction and the CBC may also solicit comments on the Conowingo WIP framework from key stakeholders. EPA will not participate on this committee due to its oversight role as part of the Bay TMDL accountability framework
   b. Develop the Conowingo WIP with EPA staff and contractor support.
   c. Guide the development of a financing strategy and implementation of the Conowingo WIP, working with the third party.

III. The Third Party will:
   a. Provide facilitation, programmatic and technical assistance to the Conowingo WIP Steering Committee in the implementation of the Conowingo WIP.
   b. Develop a financing strategy with guidance from the Steering Committee and act as a fund manager, either using the shared dollars directly and/or awarding the funding to other parties to implement cost-effective pollution reduction technologies in areas having the most impact on Chesapeake Bay's water quality.
   c. Track/ verify progress made in the implementation of the Conowingo WIP and report to EPA on an annual basis.
   d. Pursue additional funding sources to sustain the Conowingo WIP and help meet associated pollution reduction targets.