



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

OCT 05 2011

The Honorable Doug Domenech
Secretary of Natural Resources
1111 East Broad Street
Richmond, Virginia 23219

Dear Secretary Domenech:

Thank you for participating in the September 16 Bay State Secretaries discussion regarding Phase 5.3.2 of the Chesapeake Bay Program Watershed Model and its use as a tool for Phase II Watershed Implementation Plan (WIP) development. Our conversations and exchange of information in recent weeks have allowed EPA to better understand where our collective approach is working and where we need to adapt in order to achieve our common goal of restoring the region's waterways. As described in my letter to you dated August 1, 2011, EPA developed the Phase II WIP planning targets to represent the actions, assumptions and "level of effort" necessary to meet the final allocations established in the 2010 Chesapeake Bay total maximum daily load (TMDL). EPA agrees with your desire to ensure that work to refine model assumptions and data inputs does not distract us from the key implementation priorities at hand.

The purpose of this letter is to provide EPA's proposed path forward based on the proposal that you shared on September 16 and in follow-up exchanges. Most notably, in the Phase II WIPs, EPA does not expect the jurisdictions to express the "local area targets" in terms of Phase 5.3.2 Watershed Model inputs or outputs, such as pounds of pollutant reductions by county. Instead, Phase II WIPs could identify "targets" or actions that local and federal partners would take to fulfill their contribution toward meeting the Chesapeake Bay TMDL allocations. These targets could be expressed as programmatic actions, such as adopting ordinances. This letter also includes actions that we can take as a Partnership to address the modeling and data input concerns that you raised on September 16. I believe that this path forward will allow you to continue progress and improve confidence in your Phase II WIP and milestone commitments.

EPA also recognizes that it is the nature of environmental modeling for confidence in outputs to increase as scales become larger. With this in mind, EPA provided Phase II WIP planning targets for nitrogen, phosphorus and sediment for the major basins in each jurisdiction. The jurisdictions have considerable discretion to distribute those planning targets among the source sectors. As the jurisdictions have pointed out, there are areas in the watershed where there are limitations to the application of the Chesapeake Bay Program Watershed Model at a finer scale. EPA is, therefore, clarifying its March 2011 Phase II WIP guide to allow jurisdictions the option of submitting input decks for their Phase II WIPs that focus on meeting the major river basin planning targets in each jurisdiction rather than loading targets in each county or sub-watershed. However,



EPA continues to request the jurisdictions submit Phase II WIP narratives that clearly articulate that local partners (e.g., local governments, conservation districts, planning commissions, utilities, and watershed groups) understand their roles and responsibilities for implementing their share of the WIP strategies.

EPA is maintaining the Phase II WIP schedule provided in previous communications, but we believe that placing less emphasis on model inputs and outputs to express local area targets should make it easier to achieve these deadlines. EPA expects that the draft Phase II WIP submissions on December 15, 2011 contain:

- An explanation of how jurisdictions are working with local partners;
- Evidence that critical local partners are aware of their role in meeting the TMDL allocations and the Phase I WIP commitments;
- As appropriate, identification of targets or actions that local and federal partners would take to fulfill their role. These targets could be expressed as programmatic actions (eg, adopting ordinances) rather than model inputs or outputs (e.g., pounds reduced, pounds per acre);
- Any changes or updates to Phase I WIP strategies based on work with local partners;
- One input deck for processing through Phase 5.3.2 that meets the Phase II WIP planning targets for the major basins in each jurisdiction. This deck could be based largely on Phase I WIP input decks plus any requested changes to wasteload and load allocations.

EPA recognizes that WIP implementation will be an adaptive process that continues to change both in the final Phase II WIP submitted on March 30, 2012 and in future two-year milestones.

We must continue to work together as a Partnership to refine the modeling tools that support our decisions. EPA agrees that nutrient management is an important strategy for reducing pollutant loads to our waterways. Current model outputs demonstrate that nutrient management reduces total loads from agriculture. We are committed to continue to work with the Partnership to ensure that the more regional and local simulations of nutrient management and other model components are better informed by the latest data and scientific understanding. Based on your input, I have worked with staff to identify specific and concurrent next steps to address the following issues raised by you and your colleagues:

- Calculation of nutrient rates on acres not under nutrient management;
- Calculation of load reductions associated with the application of nutrient management plans, including the effect of manure routing sequences;
- Refinement of methods for developing and applying regional factors during model calibration;
- Development of the ability to apply multiple BMPs on urban lands and lands under continuous no-till;
- Refinement of the ability to consider submitted BMPs versus credited BMPs; and
- Refinement of the calculation regarding the amount and nutrient content of poultry manure.

My staff will be sending additional materials to the jurisdictions in the coming days that outline the specific immediate, near, medium and long term steps that we can take to address these issues.

We have committed resources to support and expedite the Chesapeake Bay Program Partnership's expert panels in their review of the latest science supporting BMP definitions and efficiencies that have already been approved by the Partnership. These panel reviews will maintain the integrity of a collaborative review and continue to follow the priorities established by the



Partnership's source sector workgroups. They will provide recommendations for interim placeholder BMPs that can be used in the Phase II WIPs in the near term, as well as approved BMP values that can be used for reporting progress in advance of 2017. Finally, I expect that these expert panels will yield valuable recommendations for the midterm evaluation that will be completed in advance of the Phase III WIPs. While these panels are underway, I strongly encourage your submission of interim placeholder BMPs that can be reviewed by the Chesapeake Bay Program *immediately* for use in your draft Phase II WIPs.

We also recognize that, even with less emphasis on model inputs and outputs in Phase II, it is important for partners to understand and be able to access the Chesapeake Bay Program modeling tools. In response to this need, we have recently completed a series of Scenario Builder Workshops in all seven jurisdictions and are now focused on scheduling training for user-friendly, web-based tools such as the Chesapeake Assessment and Scenario Tool (CAST) to help your staff and local partners have the capability to assess alternative approaches to meeting your Phase II commitments.

In addition, we heard your strong concerns about how EPA would proceed with assessing progress by each jurisdiction in developing Phase II WIPs and achieving milestone commitments. We will use common sense in approaching these assessments. As was stated in the milestone guide, our evaluations will first assess whether jurisdictions have achieved nitrogen, phosphorous and sediment reduction targets *for their state as a whole*, rather than within particular sectors or localities. The models are not the only tool for assessing milestones. We will ensure implementation is proceeding forward by also considering programmatic milestones. Our review of progress will take into consideration all available data and information, recognizing we will be continually working to credit new practices, factor in new scientific understanding, and account for previously underreported implementation actions.

EPA is committed to working with you to develop your Phase II WIP for implementing the TMDL. The adaptations our respective agencies have made to date and those described here will result in a more flexible Phase II process and improve our measure of progress in the future. Thank you for your commitment to work on parallel tracks that involve engaging local partners in shaping your next generation WIP, investing resources to meet your milestone commitments, continuously improving data inputs, and participating in the Partnership review of the suite of the Chesapeake Bay Program models in advance of the 2017 mid-course evaluation.

We appreciate your efforts and cooperation in moving forward with the implementation of WIP and milestone commitments and the restoration of the Chesapeake Bay. If you have any questions, please do not hesitate to contact me or have your staff contact Mr. Jeffrey Corbin, EPA's Senior Advisor on the Chesapeake Bay, at 215-667-9304.

Sincerely,



Shawn M. Garvin
Regional Administrator



**Addressing Jurisdictions’ Issues on Phase 5.3.2:
Timeframe for Implementing Near, Medium and Long Term Actions**

<u>Jurisdictions’ Issues with Phase 5.3.2</u>	<u>Next Steps to Address Jurisdictions’ Issues</u>	<u>Timeframe</u>
<p>Near term actions would occur within 0-6 months for assistance in the development of Phase II WIPs and milestone commitments. Medium term actions within 6 – 18 months to enable credit for 2-year milestones between 2012 and 2017. Long term actions will be completed as part of the midpoint evaluation to be completed in advance of the Phase III WIPs in 2017.</p>		
<p>1. Calculation of nutrient application rates on acres not under nutrient management – concern that rates on acres that are not under nutrient management are too low.</p>	<p>Phase 5.3.2 assumes higher nutrient application on lands not under nutrient management than previous model versions.</p> <p>Both Ag and Urban workgroups are convening official BMP Panels on nutrient management to revisit nutrient rates. Preliminary and final recommendations are expected this year and next year.</p>	<ul style="list-style-type: none"> - Near Term: <ul style="list-style-type: none"> o States may propose interim BMPs for Phase II WIP Planning to CBPO at any time o Ask Panel to recommend interim BMPs for Phase II WIP Planning (October) - Medium Term: BMP values recommended by Panel and approved by the Partnership may be used for progress runs and milestones as early as 2012 - Long Term: Panel recommendations that relate to model assumptions will be included in the 2017 midpoint evaluation
<p>2. Load reductions associated with application of nutrient management plans: in some counties, per-acre loads are higher on lands under nutrient management than acres not under nutrient management. This results from 1) acres under nutrient management receiving a greater portion of nutrients from manure and biosolids than from inorganic fertilizers compared to acres not under nutrient management, and 2) the portion of manure nutrients available for plant uptake.</p>	<p>Scenario Builder and the CBP Watershed Model decrease total agricultural loads within a state, watershed, and, in the majority of cases, county when nutrient management is applied. Total loads are the sum of nutrient loads from land under nutrient management and land not under nutrient management.</p> <p>The agricultural nutrient management BMP Panel will consider manure and biosolids application sequencing and mineralization as part of its holistic review of nutrient management. Preliminary and final recommendations are expected this year and next year.</p>	<ul style="list-style-type: none"> - Near Term: <ul style="list-style-type: none"> o Demonstrate nutrient management reduces pollution according to the current model o States may propose interim BMPs for Phase II WIP Planning to CBPO at any time o Ask Panel to recommend interim BMPs for Phase II WIP Planning (October) - Medium Term: BMP values recommended by Panel and approved by the Partnership may be used for progress runs and milestones as early as 2012 - Long Term: Panel recommendations that relate to model assumptions will be included in the 2017 midpoint evaluation

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<p>Near term actions would occur within 0-6 months for assistance in the development of Phase II WIPs and milestone commitments. Medium term actions within 6 – 18 months to enable credit for 2-year milestones between 2012 and 2017. Long term actions will be completed as part of the midpoint evaluation to be completed in advance of the Phase III WIPs in 2017.</p>		
<p>3. Jurisdictions want to apply multiple BMPs, or “Stack BMPs,” on the same land use to get full credit for multiple management actions. Specifically interested in ability to stack “continuous no-till” (CNT) with nutrient management and cover crops and ability to stack urban BMPs.</p>	<p>The Ag Workgroup is convening an expert BMP panel to reassess the Partnership-approved CNT definition, which includes the benefits of nutrient management plans and cover crops, in order to assess whether additional BMPs can be “stacked” without double-counting pollution-reduction benefits.</p> <p>The Urban Workgroup has convened an expert panel to adopt a “performance standard” approach that simulates the total effect of multiple urban BMPs.</p>	<ul style="list-style-type: none"> - Near Term: <ul style="list-style-type: none"> o States may separately report conservation tillage, cover crops and nutrient management, rather than CNT, in their WIPs, milestones and progress runs. o States may propose interim BMPs for Phase II WIP Planning to CBPO at any time. CBPO is evaluating interim BMP submission for CNT submitted by PA and VA. NY and DC already used performance standard approach for stormwater in their Phase I WIPs. o Ask Panel to recommend interim BMPs for Phase II WIP Planning (Urban: September; Ag: October/November) - Medium Term: BMP values recommended by Panel and approved by the Partnership may be used for progress runs and milestones as early as 2012 - Long Term: Panel recommendations that relate to model assumptions will be considered as part of the 2017 midpoint evaluation
<p>4. Regional factors that are used to calibrate Phase 5.3.2 Watershed Model outputs to monitored loads can cause unit loads for urban and agriculture to vary highly across regions. This creates difficulties for trading or when comparing loads across regions.</p>	<p>Methods to apply regional factors were developed by the Partnership. CBPO will work with jurisdictions on ways to communicate calibration process and resulting unit loads to local partners. The Partnership will consider any changes to regional factors prior to the next calibration.</p>	<ul style="list-style-type: none"> - Near Term: <ul style="list-style-type: none"> o CBPO works with jurisdictions on ways to focus communication on implementation goals rather than pounds per acre, unit loads o Jurisdictions may focus on loads at the state-basin scale, where regional factors are less apparent - Long Term: Consider regional factor methods for 2017 midpoint evaluation

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<p>Near term actions would occur within 0-6 months for assistance in the development of Phase II WIPs and milestone commitments. Medium term actions within 6 – 18 months to enable credit for 2-year milestones between 2012 and 2017. Long term actions will be completed as part of the midpoint evaluation to be completed in advance of the Phase III WIPs in 2017.</p>		
<p>5. Although urban acres increase in Phase 5.3.2, phosphorus loads from urban lands sometimes decrease. In contrast, sediment loads sometimes increase.</p>	<p>Sediment and phosphorus are not constrained to move in the same direction during Watershed Model calibration in order to optimize these constituents to observed, in-stream water quality data.</p> <p>CBPO will work with jurisdictions on ways to communicate the calibration process and resulting loads to local partners. The Partnership will consider any changes to these methods prior to the next model calibration.</p>	<ul style="list-style-type: none"> - Near Term: <ul style="list-style-type: none"> o CBPO will work with jurisdictions on ways to focus communication on implementation goals rather than pounds per acre, unit loads o Jurisdictions may focus on achieving Phase II WIP Planning Target loads at the state-basin scale, where phosphorus and sediment loads are more likely to move in the same direction - Long Term: Consider urban land use estimates and calibration methods for 2017 midpoint evaluation
<p>6. Not all BMPs submitted to CBPO using the National Environmental Information Exchange Network (NEIEN) are credited in the CBP models' assessment of annual pollution reduction progress. This is due to how data are submitted and processed and/or historic data inputs that indicate BMPs are already in place. Jurisdictions want to ensure credit for additional implementation of pollutant controls.</p>	<p>This is the first year that NEIEN was used to submit progress run data. CBPO will work with jurisdictions to explore why cutoffs are occurring, options for cleaning up historic data submissions, and defensible ways to credit BMPs in the model that are being implemented on the ground.</p>	<ul style="list-style-type: none"> - Near Term: <ul style="list-style-type: none"> o CBPO reran the 2010 progress run based on state resubmissions. The latest run further reduced cutoffs based on better reporting. o States may propose at any time to CBPO interim BMPs for Phase II WIP Planning that involve increasing the number of land uses that can receive BMPs. This change would increase opportunities for crediting BMPs. o Through Watershed Technical Workgroup, work with jurisdictions to improve NEIEN reporting and processing in support of the 2011 progress run submissions (October) - Medium Term: Seek Partnership approval to credit BMPs on additional land uses for progress runs and milestones as early as 2012 - Long Term: Cleaned up, historic BMP submissions will be taken into account in the next model calibration

<u>Jurisdictions' Issues with Phase 5.3.2</u>	<u>Next Steps to Address Jurisdictions' Issues</u>	<u>Timeframe</u>
<p>Near term actions would occur within 0-6 months for assistance in the development of Phase II WIPs and milestone commitments. Medium term actions within 6 – 18 months to enable credit for 2-year milestones between 2012 and 2017. Long term actions will be completed as part of the midpoint evaluation to be completed in advance of the Phase III WIPs in 2017.</p>		
<p>7. Amount and nutrient content of poultry manure: USDA data is dated and the total tonnage of manure may be much less than what is calculated by the CBP Watershed Model and Scenario Builder. <i>(discussed at technical meeting on 9/13, but not at Secretaries' meeting on 9/16)</i></p>	<p>The Ag Workgroup has formed a Subcommittee to address this issue in both the near- and long-term. Subcommittee recommendations are expected this year.</p>	<ul style="list-style-type: none"> - Near Term: <ul style="list-style-type: none"> o States may propose interim BMPs for Phase II WIP Planning at any time o Ask Subcommittee to recommend any interim BMPs for Phase II WIP Planning (October) - Medium Term: Ask Subcommittee to recommend any BMPs or other steps for Partnership approval that could be used for progress runs and milestones as early as 2012 - Long Term: Subcommittee recommendations that relate to model assumptions will be considered as part of the 2017 midpoint evaluation
<p>8. Partners request assistance in understanding and more easily using the suite of Chesapeake Bay Program models, particularly the CBP Watershed Model and Scenario Builder.</p>	<p>Starting in summer 2011, CBPO held a series of Scenario Builder Workshops and has assisted in the development of the Maryland Assessment and Scenario Tool (MAST) and the Chesapeake Assessment and Scenario Tool (CAST) to help partners a) better understand the Chesapeake Bay Program decision support tools; b) quickly estimate load reductions; and c) prepare inputs for full model analysis.</p>	<ul style="list-style-type: none"> - Near Term: <ul style="list-style-type: none"> o Final Scenario Builder workshop was on October 5. Presentations from previous workshops are available online. o CBPO made CAST available to jurisdictions on September 21 and hosted a demonstration for the jurisdictions and the interested public on September 27. o EPA has provided contractor resources to support CAST trainings in each interested jurisdiction. All jurisdictions except Maryland, which hosted a series of MAST trainings, have requested these trainings.

QUESTIONS & ANSWERS: PHASE II WIPS

What is the primary purpose of the Phase II Watershed Implementation Plans?

The primary purpose of the Phase II Watershed Implementation Plans (WIPs) is to ensure that local partners who play a key role in cleaning up our waterways are engaged and ready to help implement the WIPs. As articulated in the [Guide for Chesapeake Bay Jurisdictions for the Development of Phase II Watershed Implementation Plans](#) released on March 30, 2011, Phase II provides the Chesapeake Bay jurisdictions with the opportunity to facilitate implementation and refine their WIP strategies and commitments through local partner engagement. Although it varies by jurisdiction, “local partners” could include local governments, conservation districts, planning commissions, federal agencies, utilities, and watershed groups.

The most important element of the Phase II WIP is the narrative, which explains how jurisdictions will work with key partners to get the necessary practices in place by 2025, with practices in place by 2017 that would achieve 60% of the necessary reductions between 2009 and 2025. Jurisdictions are expected to demonstrate in their WIP narratives that local partners (1) are aware of the WIP strategies; (2) understand their contribution to meeting the TMDL allocations; and (3) have been provided with the opportunity to suggest any refinements to the WIP strategies.

What are different ways that jurisdictions could express “local area targets” in their Phase II WIPs?

The purpose of “local area targets” is to provide local partners with specific actions or goals that represent their contribution toward meeting the Chesapeake Bay TMDL allocations. Jurisdictions can decide how to define and set local area targets based upon what makes the most sense to their key partners. Examples of ways to express local targets could include:

- Implementation goals, such as:
 - The number of BMPs that need to be implemented (e.g. 5,000 animal waste management systems compared to 1,000 in place today) or the number of acres receiving BMPs (e.g. cover crops on 500,000 acres compared to 300,000 today).
 - The percent of sources with BMPs (e.g. 100% of dairy on feed management compared to 10% today or non-commodity cover crops on 80% of lands compared to 20% today).
- Phase 5.3.2 Watershed Model inputs or outputs, such as pounds of pollutant reductions to be achieved by individual counties.
- Programmatic actions, such as adopting ordinances that will help municipalities meet Bay TMDL allocations for stormwater.

How many input decks that identify nutrient and sediment controls for model analysis does EPA expect the 7 Bay jurisdictions to submit as part of their Phase II WIPs? What level of detail is required for these input decks?

EPA is asking for two input decks from each jurisdiction as part of its Phase II WIP: the first would meet the Phase II WIP planning targets in each major basin by 2025, and the second would include actions in place by 2017 to get 60% of the reductions. Each jurisdiction can decide to what extent they involve local partners in the development of these input decks. EPA has provided Scenario Builder workshops and the CAST tool to help jurisdictions and/or local partners create these input decks.

The Phase II WIP input decks for 2017 and 2025 can focus on meeting the major river basin planning targets in each jurisdiction, or jurisdictions may choose to create input decks that meet finer scale local area targets in each county or sub-watershed. Either way, EPA expects the jurisdictions to submit Phase II WIP narratives that clearly articulate local partners' roles and responsibilities for implementing their share of the WIP strategies. For example, if jurisdictions target input decks so that some areas are expected to implement more BMPs than others, the WIP narrative strategy would demonstrate how resources and strategies are being targeted to high implementation areas. Alternatively, if input decks do not target BMP implementation to particular areas, the WIP narrative would explain how localities throughout the jurisdiction are prepared to meet implementation goals.

How will EPA decide if federal actions are necessary?

Any federal actions in response to the Phase II WIPs or 2-year milestones will be guided by common sense, the best available information, and a shared goal to clean up our waterways. EPA's review will take into consideration all available data and information, including load reductions associated with pollution controls and programmatic actions that jurisdictions and local partners are taking to build capacity for additional, future reductions. EPA recognizes that the Chesapeake Bay Program Partnership will continually work to credit new practices, factor in new scientific understanding, and account for previously underreported implementation actions.

EPA has full discretion to determine whether federal actions are appropriate based on the degree to which reduction goals are missed, the reasons why, and additional actions that jurisdictions are taking to ensure that load reductions will remain on track to meet the Partnership's goal of all practices in place by 2025 to meet applicable water quality standards. EPA has already demonstrated this discretionary authority when deciding whether to establish backstop allocations and adjustments in the Chesapeake Bay TMDL.