

## **AGENDA NOTE – HRPDC EXECUTIVE COMMITTEE MEETING**

### **ITEM #12: CHESAPEAKE BAY TOTAL MAXIMUM DAILY LOAD (TMDL)**

#### **SUBJECT:**

In light of recent communications between EPA, Virginia, and HRPDC, the Hampton Roads Regional Chesapeake Bay Phase II WIP Steering Committee recommends that local governments only submit program level strategies to Virginia rather than a prescriptive list of individual BMPs as previously requested by Virginia.

#### **BACKGROUND:**

In September 2011, Virginia sent a letter to the EPA (attached), stating, “It is clear that the model, as currently constructed, is not capable of producing meaningful, realistic loading targets for use at the local level and that our time is better spent working with local governments on implementation of the suite of practices described in our Phase I WIP or equivalent measures.” EPA responded to the State’s letter (attached) in October 2011 stating, “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.”

At its October 20, 2011 meeting, the HRPDC approved sending a letter (attached) to Virginia requesting: 1) more information about local governments’ role in the “Path Forward” proposed in Virginia’s letter to the EPA; and 2) a commitment from the state to actively participate in the Hampton Roads Chesapeake Bay TMDL Steering Committee process.

Since the requested response from Virginia was not received prior to the November 3, 2011 meeting of the Hampton Roads Chesapeake Bay Steering Committee, the Committee discussed what level of local government participation was feasible given the February 2012 deadline to submit information to the State. The Steering Committee recommended that local governments focus on program level strategies that would be equivalent to the strategies identified in the Phase I WIP rather than use the State provided tool to estimate the pounds removed by specific practices. The Committee recommended that a letter be sent to Secretary Domenech informing Virginia of the Region’s intent. HRPDC staff has been informed that a guidance letter from Virginia to local governments should be sent the week of November 7, 2011.

Jennifer Tribo, Senior Water Resources Planner, will provide a presentation summarizing strategies for localities to consider in the next few months in light of the unresolved issues between Virginia and EPA.

Attachments:

- A. Letter from Virginia to EPA – September 28, 2011
- B. Letter from EPA to Virginia – October 5, 2011
- C. Letter from HRPDC to Virginia Secretary of Natural Resources – October 20, 2011

**RECOMMENDED ACTION:**

- 1) Approve recommendation of Regional Chesapeake Bay Steering Committee to only include narrative program level strategies in local government Phase II WIP submissions to Virginia.
- 2) Authorize the Executive Director to send a response letter to Virginia upon receipt of expected letter to local governments and PDCs.



# COMMONWEALTH of VIRGINIA

## Office of the Governor

Doug Domenech  
Secretary of Natural Resources

September 28, 2011

Mr. Shawn Garvin  
Regional Administrator  
U.S. Environmental Protection Agency  
1650 Arch Street  
Philadelphia, PA 19103-2029

Dear Mr. Garvin:

The purpose of this letter is to follow-up on our discussions concerning the reduced accuracy of the Phase 5.3.2 Watershed Model. Virginia's concerns echo those you received last July from the Commonwealth of Pennsylvania.

Virginia remains committed to do our share of the watershed wide effort to restore the Chesapeake Bay. We will continue to implement practices that reduce nutrient and sediment pollution as outlined in the Virginia Watershed Implementation Plan and will dedicated millions of dollars to the effort this year. Unfortunately, as explained below, we have discovered that the model contains inexplicable inaccuracies that must be corrected. The current watershed model is undermining the credibility of our collective efforts. Virginia proposes several adjustments to the current process so the clean-up efforts can stay on track and continue moving forward.

Virginia has significant concerns with several aspects of the Phase 5.3.2 Watershed Model. As explained in our presentation to you on September 16<sup>th</sup> (see attached), the most notable problem exists with the lack of adequate nutrient reduction credit applied to nutrient management plans. This is a problem not only in Virginia but covers numerous counties across the entire Bay watershed as illustrated on slide 4 in the presentation. This serious shortcoming alone renders one of our most effective and commonly used BMPs useless in meeting nutrient reduction goals.

We have found that the model, as currently constructed, is not appropriate for use in assigning loads in permits, developing local load targets, or measuring reduction progress. It is especially not appropriate for imposing any consequences. Attempting to use the model in these ways negatively impacts our planning for the Phase II WIP, along with the credibility of the EPA, and of most concern, exposes Virginia to potential litigation. We ask for your help to resolve these matters through what we believe are reasonable steps.

Attachment 12A

We are aware that modeling of a watershed as large and complex as the Chesapeake Bay is a monumental task. The current model may be an adequate tool for predicting overall pollution loadings on a watershed basis. However, as we demonstrated in our discussion and presentation on September 16<sup>th</sup>, and the Maryland presentation sent by Jim Edwards on September 12, when used on a local government level outrageous anomalies occur in the model that are inconsistent with current scientific knowledge.

As a consequence of these discussions, we have developed the attached "Path Forward" document that outlines needed changes and adjusts the schedule. A commitment from EPA to correct these concerns is needed as a precursor to continued Phase II WIP planning efforts.

It is clear that the model, as currently constructed, is not capable of producing meaningful, realistic loading targets for use at the local level and that our time is better spent working with local governments on implementation of the suite of practices described in our Phase I WIP or equivalent measures. Our modified approach to meet our commitments for Phase II and the 2012-2013 Milestones is also described in the attached "Path Forward" document.

Virginia is ready to move forward with the Phase II planning process and development of milestones. However, recognition from EPA of the current problems and limitations of the model, along with a commitment to work together to address them will be key to our success.

I look forward to further discussions on our proposed path forward.

Sincerely,  


Doug Domenech

cc: Jeff Corbin, Senior Advisor to the Administrator for Chesapeake Bay and Anacostia River  
Jim Edwards, Deputy Director, Chesapeake Bay Program

# Path Forward

## Proposed Approach for Phase II WIP Development

9/21/11

### Three-Track Approach to Implement Phase I WIPs and develop Phase II WIPs

#### Overview:

- The Chesapeake Bay jurisdictions have expressed serious concerns about using 5.3.2 watershed model output for localities nutrient and sediment reduction targets under the framework of the Chesapeake Bay TMDL and the approved Phase I Watershed Implementation Plans (WIP).
- While useful as a planning and evaluation tool at the watershed scale, the model was not constructed for use at the local scale and its output raises serious questions and concerns among state agencies and our local partners.
- Anomalies present in the output are difficult to explain and in many ways do not represent the “real world” of local watershed management and water quality planning and implementation.
- In order to ensure that these identified issues do not divert attention from the more important task of implementation of the Phase I WIPs and meeting associated TMDL targets, the following approach is proposed that would result in model revisions and ongoing implementation using Phase I WIP practices as the basis for the Phase II WIPs.

The following tracks are proposed to take place simultaneously:

#### Track 1

EPA continues to work on correcting identified model issues so that it can be used with greater confidence in setting local (sub-segment shed) target loads for N, P and S. The following steps are recommended:

- Holistic review of the following issues:
  - How to model Agricultural Nutrient Management (efficiency or Land Use Change)
  - Calculation of nutrient rates on acres not under nutrient management
  - Load reductions associated with application of nutrient management plans
  - Changes in manure routing preferences through time
  - Amount and nutrient content of poultry manure
  - Biosolids application (include all states or exclude all states)
  - Regional factors due to Phase 5.3.2. Watershed Model calibration

- Submitted versus credited BMPs
- BMP stacking (Urban and Continuous No-till)
- Modify Scenario Builder code
- Test Model to determine if modifications produce expected results.
- Re-calibrate watershed model
- Run scenarios
- Review outputs to evaluate other concerns and check for unintended consequences
- Upon agreement by EPA and the jurisdictions, use refined model to establish loading targets at the local level.

## **Track 2**

States develop Phase II WIPs based upon the existing practices identified in the Phase I WIP/TMDL input deck and submit these interim plans to EPA by June 1, 2012. These plans will focus on achieving the 2017 goals.

- Continue current local engagement efforts to collect improved land use, BMP implementation and local implementation strategies as the Phase II WIP is developed. Local engagement efforts will shift focus from meeting local target loads to maintaining implementation levels consistent with the Phase I WIPs.
- The Phase II WIP would provide a mix of BMPs at the segment-shed level.
- States refine the interim BMP targets once the model is deemed sufficient to assign target loads and corresponding levels of BMP implementation needed at the local level as part of the next milestone cycle or the Phase III WIP development.

## **Track 3**

States develop 2012-2013 Milestone implementation actions and strategies and submit these plans to EPA in accordance with the current schedule.



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,



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Attachment 12B

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





October 20, 2011

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VIRGINIA BEACH

WILLIAMSBURG

YORK

The Honorable Doug Domenech  
Secretary of Natural Resources  
Commonwealth of Virginia  
P.O. Box 1475  
Richmond, VA 23218

RE: Virginia's Chesapeake Bay TMDL Phase II WIP Development

Dear Secretary Domenech:

The Hampton Roads Planning District Commission (HRPDC) has recently become aware of correspondence between you and Mr. Shawn Garvin, EPA Region 3 Administrator. While we generally agree with the content of these letters, we are concerned about their timing and the impact they will have on localities' involvement in the Phase II WIP development process. We request that Virginia communicate its expectations to local governments regarding their role in the Phase II WIP process and become actively involved in the Regional process being led by the HRPDC and other PDCs throughout the Bay Watershed.

At your request, the HRPDC agreed to coordinate the Hampton Roads localities' involvement in the Phase II WIP development process. Our letter to you on June 21, 2011 outlined our approach. Since that time, the HRPDC has held four Regional meetings to discuss issues related to the Chesapeake Bay TMDL and outline the steps forward for the Region. Our represented local governments have formed local workgroups and have been working to gather local data on land use and BMPs to groundtruth the model input data provided to us in May 2011. They have also been anxiously awaiting their revised local targets that were supposed to be delivered by August 1, 2011. Our local government representatives have been disappointed in the level of participation by Virginia in the Regional process. We are also concerned that EPA and Virginia have not delivered information in a timely manner.

We find it confusing that on the same day that Virginia launched the anticipated Virginia Assessment Scenario Tool (VAST) that contains the revised local targets, the Commonwealth also announced that locality targets would no longer be based on pounds of pollutants as estimated by the Bay Model. While we agree with the Commonwealth that the Chesapeake Bay Watershed Model is "not appropriate for use in assigning loads in permits, developing local load targets, or measuring reduction progress," the PDC and local governments need advice and guidance on how this decision impacts their roles in the Phase II WIP development process.

**MAILED**

**OCT 20 2011**

**HRPDC**

The Honorable Doug Domenech  
October 20, 2011  
Page 2

The HRPDC and its member localities expect that Virginia's realization that the Chesapeake Bay Model is not appropriate for assigning loads in permits means: 1) the individual waste load allocations for Virginia Phase I MS4s in the final TMDL will be removed when the TMDL is revised in July 2012; and 2) Virginia will refrain from issuing any Phase I MS4 permits until the TMDL has been revised. In order for the Regional process to continue to move forward in a timely fashion, the Hampton Roads Planning District Commission respectfully requests your written response by November 3, 2011.

Thank you for considering our request.

Sincerely,



Stan D. Clark  
Chair

JLT/fh

Copies Mr. Anthony Moore  
Mr. Dave Johnson  
Mr. Reese Peck  
Ms. Joan Salvati