



Chesapeake Bay Program Developments

WRTC Meeting - January 10, 2013

TMDL/WIP Schedules

The recommended schedule for Mid-point Assessment is shown (see *Att. 1, Proposed CBP Mid-point Assessment Schedule*). The key change is to **move back the deadlines for Phase III WIP submissions by one year - to June 2018 (draft) and December 2018 (final)**, in response to comments made at the Oct. 22-23 WQGIT meeting.

This extension will allow the states and EPA to evaluate the results of the 2017 Watershed Model Progress Run (using the existing 5.3.2 version) against the 60-percent interim reduction target before having to issue their draft WIPs. It also will give the Bay Program an extra year to complete work on a new version of the model (Version 6.x), which will be used for the Phase III WIPs and for progress accounting going forward from 2018. Working backward from the WIP III deadlines, Bay Program staff has developed a provisional schedule with interim deadlines for various modeling development tasks. This includes development of a final calibrated Version 6 model by December 2016. **Note: EPA has not yet committed to modifying the TMDL based on the revised model output.** Virginia continues to indicate its view that revisions are necessary, at least to address individual wasteload allocations in Phase I MS4 jurisdictions that ignore embedded Phase II permittees.

Model Enhancements

The CBP modeling staff has developed an initial schedule for model refinements that focuses on a potential conversion of the main nutrient processing technique from the current Ag Chem module to PQUAL (see *Att. 2, Refinements to the Phase 6 Prototype PQUAL Model.*) There is also a huge amount of technical work that is assumed to be occurring simultaneously among different CBP workgroups (identification and quantification of new land uses, for example, and new land use loading rates). Also, the CBP expert panel process continues to issue new or revised nutrient and sediment reduction efficiencies for various BMPs.

According to Gary Shenk of EPA's modeling staff, **the Bay Program hopes that changing to PQUAL will provide a clearer way of addressing loading differences among watersheds than the current model's controversial use of regionalization factors in calibration.** The modeling team hopes to develop "input load/export sensitivities" that can be used in PQUAL at the scale of major physiographic regions in the watershed and, potentially, as further divided within regions by state TMDL basins.

COG staff will also be attending a **STAC workshop in late February that will address Multiple Models for Management in the Chesapeake Bay.** The focus of the workshop is to discuss and address the use of multiple models in a regulatory context, and consider how multiple models could be used within the Chesapeake Bay Program. An outcome will be written recommendations to the Bay Program.

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Tanya Spano, 202-962-3776, tspano@mwkog.org (Wastewater Work Group, & application of multiple models)

BMP Expert Panels

Two urban-related expert panels recently issued draft reports: 1) Urban Nutrient Management and 2) Stream Restoration. Copies of the full report and other details are available at: <http://www.chesapeakebay.net/calendar/event/18983/>

These reports still have several layers of review to go through before their recommendations on BMP nutrient reduction efficiencies would be incorporated into the Bay Program's watershed model. Highlights of these two reports include:

Urban Nutrient Management Report

The expert panel has proposed a suite of reduction efficiencies that would replace the current urban nutrient management BMP efficiencies (17 % for N and 22% for P) on pervious urban land (essentially the same as turfgrass) in the model. The various credits divide into (1) those that would be applied statewide based either on state actions to directly restrict the use or nutrient content of turfgrass fertilizers or state data on lower product sales or new product formulations that reduce nutrient use that are being implemented voluntarily by product manufacturers; and (2) actions by individual home owners, commercial property owners, lawn care companies and others to implement nutrient management plans whose component practices can reduce the potential for nutrient loss from turfgrass.

Statewide P credits should result in about a 25-percent load reduction on pervious urban land in the model for states with some form of P fertilizer restrictions and a 20-percent credit for states without such restrictions. The panel envisions that statewide N reduction credits also could materialize -- if states can accurately track the tonnage of nutrients being sold in turfgrass fertilizer - as it appears that the total amount of nitrogen applied to lawns is declining.

Adoption of urban nutrient management plans also would provide reduction credits that would vary depending on the site's inherent risk of nutrient loss: on an average basis, the panel has proposed this credit be set at 9 percent for Nitrogen and 4.5 percent for Phosphorus.

The panel also has proposed that, at least on a temporary basis, a 3-percent reduction credit be available for certain types of public outreach efforts designed to get homeowners to follow nutrient management practices, but this proposal is controversial and may not be approved.

Stream Restoration Report

The expert panel has proposed a set of three different protocols - prevented sediment, instream denitrification, and stormflow floodplain reconnection -- for assessing stream restoration credits depending on project type and location. (A fourth protocol, for regenerative stream conveyance systems, was reclassified as an upland practice whose credits would be determined by the parameters developed by the urban retrofit panel.) Within each of these protocols, the actual credits would be determined by measuring the appropriate individual site conditions, such as bank erosion rate, dimensions of hyporheic box, and annual runoff volume going to wetlands.

One key aspect of the panel's recommendations is that these practices must have at least 3 - 5 years of post-practice monitoring results to meet their verification requirements. The panel did not comment on the issue of permitting requirements for such projects, but CBP stormwater coordinator Tom Schueler noted that EPA and the Corps of Engineers recently established a task force to address this issue.

Septic/Off-site Systems

A septic/off-site systems expert panel report is pending and is expected to be reviewed by the wastewater management work group in the next few months.

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BMP Verification Process

The Bay Program's Principals' Staff Committee approved a set of five Verification Principles at its December 5th meeting. (see *Att. 3, Final draft CBP BMP Verification Principles for PSC*). The Verification Principles address:

- a. Practice reporting
- b. Scientific rigor
- c. Public confidence
- d. Adaptive management, and
- e. Sector equity.

Note that the overall purpose of these principles and the subsequent work that is being done is to address concerns that have been raised by numerous parties over the years that various practices continue to be 'counted' toward meeting the Bay reduction goals without adequate verification that the practices are fully implemented and/or continue to perform over time as they are portrayed in the Bay modeling suites. Naturally this notion is generally of greater concern for urban and agricultural practices versus wastewater treatment plant performance. Various groups in the Bay Program's committee structure continue to work on a more detailed verification "framework," which is expected to have specific recommendations for how to verify the various types of BMPs.

For instance, the Urban Stormwater Workgroup has developed a draft verification framework as outlined in the attached presentation by Chair Norm Goulet (see *Att. 4, N. Goulet Urban BMP Verification Presentation*.) Among the Urban Stormwater Workgroup's recommendations is that state and local governments be given up to two full permit cycles (app. 10 years) to complete an inventory of existing practices to document their performance using the new verification criteria. Without such verification, existing practices eventually would no longer receive credit for pollution reduction in the Bay model.

In the Wastewater Workgroup, the discussions to-date have focused on exploring how best to capture septic/off-site loads and conversions (details and varying options still under discussion), and confirming that that existing CSO long-term control plan obligations will suffice to 'verify' those resulting load reductions.

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List of Attachments:

- Att. 1 Proposed CBP Mid-point Assessment Schedule*
- Att. 2 Refinements to the Phase 6 Prototype PQUAL Model*
- Att. 3 Final Draft CBP BMP Verification Principles for PSC*
- Att. 4 N. Goulet - Urban BMP Verification Presentation*

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