

## **Critical Information for Developing Phase II Strategies**

1. The loading rates (pounds/acre) can be calculated by dividing the loads (pounds) by the land use (acres). These figures vary by land-river segment, the finest segmentation in the model, so there will be variability based on physiographic region, segmentshed and county.
2. In the revised data set for Phase 5.3.2. the urban loads and BMPs will allow differentiation between regulated and unregulated, pervious and impervious data.
3. The State is working through the Bay Program's Urban Workgroup and Water Quality Goal Implementation Team to resolve the differences. The timeline for completing this important task is not yet clear.

## **Concerns about Target Loads**

1. EPA has dictated using the 2009 Progress model run as the baseline when accounting for new reductions toward meeting the TMDL. We recognize the BMP data in this scenario is imperfect and have asked localities to provide an improved accounting of the BMPs currently on the ground as part of the Phase II Process. The BMP implementation targets used in developing the Phase I WIP and the TMDL were based on consistent statewide treatment of the various landuses with BMPs. There was no distinction made for Bay Act areas in that process. Bay Act localities should actually be advantaged in this process because they have a much longer record of BMP implementation that can be accounted for through the Phase II process, thereby moving them closer to the TMDL implementation levels.
2. The local targets and reduction goals have been provided as edge of stream loads, so the delivery factors that the model uses to adjust loads for in-stream processes through delivery to tidal waters do not influence them.
3. The Phase I process applied a percent treatment for a BMP on the applicable landuse. So, variations in landuses between localities will produce a different mix of BMPs. Additionally, because the loading rates vary by land-river segment, the load reduction per unit of BMP will also vary at that scale.
4. The details of how the model will credit the fertilizer restriction have not been finalized. It is anticipated that it will be accounted for on a state wide basis and will produce a reduced loading rate in the urban pervious landuse that would be evident to localities in future progress runs of the model.
  - a. There will not be an input for this in the initial version of the VAST.
  - b. This is not related to Nutrient Management plan requirements, except that it is possible that a lawn with a nutrient management plan and soil tests that call for application of phosphorus could do so.
    - i. If there is a local program that promotes, tracks and verifies that fertilizer is not being applied to lawns, this should be documented as a Phase II strategy. We could then work with EPA to include a BMP in the model that would give credit similar to the loads from hay without nutrients (unmanaged grass).

5. The Phase I WIP was run on the 5.3.0. model that did not have a breakout of federal lands, so it was not possible to apply the different treatment levels. The Phase II WIP will use the 5.3.2. model which does include the federal landuse breakout, so the higher treatment level could be modeled.
6. The specifics of the Phase I actions identified for agriculture and information on current programs and funding are in the WIP I document, Section 5.  
<http://www.dcr.virginia.gov/vabaytml/documents/vatmdlwip.pdf>

## Issues on

### **Issues on cataloging and documenting nutrient reductions**

1. Localities can provide information on pre-2006 BMPs at any time. The information needed are the specifics of the BMP type, the amount of the BMP (linear feet, acres, systems or acres treated as appropriate), the date the BMP was installed and the location of the BMP. The VAST will not work for estimating the effects of these BMPs as their effects are already accounted for in the Phase 5.3.2 model calibration process. A locality could use the VAST to estimate the loads, but the loads would not be representative of what would be produced through a recalibrated model in 2017.
2. The state reports all BMPs for which we have the necessary information. (What BMP, How Much, Where, and When). Generally, the agricultural BMP data collected through Federal and State cost-share programs is very reliable. New efforts to track voluntarily installed BMPs in agriculture are currently being assessed. The urban and septic BMP data are less reliable. Generally, we have tried to use information reported through existing regulatory programs and permits for these sectors. Unfortunately, this data often lacks one or more of the required elements which results in under reporting. The Phase II process will allow localities to report BMPs on the ground through the VAST. The VAST may also serve as a tool that localities may choose to use to report annual implementation progress in the future, until better tracking systems can be developed.
3. The state is working with EPA to address agricultural nutrient management, the ability to stack other BMPs with continuous no-till, septic denitrification practices with 25% and 75% efficiencies, and a capture/reuse BMP for nurseries. These will be available for Phase II planning using the VAST. Additionally, we are working on the efficiency of stream restoration and the urban BMP efficiency differences discussed earlier. If you have other priorities that you think are critical, please communicate those as part of the Phase II process.
4. Acres under E&S are reported to the state by DCR regional offices that compiled locality data. The E&S practice is an annual practice, so the 2025 acres treated are for that year only. The E&S BMP is applied to the construction landuse in the model. This landuse is changed based on the models assumptions on growth rates, and may not be representative of current conditions. If the models construction landuse area is significantly different than what is on the ground, a locality may benefit from reporting E&S as a % of the landuse treated. So if the locality's E&S program has a 95% compliance rate, they could apply the BMP to 95% of the available landuse.
5. Urban tree planting is planting trees on urban pervious areas at a rate that would produce a forest-like condition over time. The tree planting BMP includes any tree plantings on any site except those along rivers and streams. Plantings along rivers and streams are considered riparian buffers and are treated differently. The definition of tree planting does not include reforestation. Reforestation replaces trees removed during timber

harvest and does not result in an additional nutrient reduction or an increase in the forest acreage. The intent of urban tree planting is to eventually convert the urban area to forest. If the trees are planted as part of the urban landscape, with no intention to convert the area to forest, then this would not count as urban tree planting.

6. Septic pumpouts are currently only tracked in Chesapeake Bay Act localities as part of the Bay Act Annual Reports from localities. The Department of Health is working to improve the accounting of septic pumpouts in non-Bay Act localities. Virginia is the only Bay state that currently reports biosolids applications into the Bay Model. Biosolids are applied in the model to the localities where the application is made based on the permits. The model treats biosolids similarly to other organic nutrient sources (manures and poultry litter).
7. The spreadsheet reports street sweeping as the acres of streets swept annually.
8. The acres under agricultural Nutrient management plans are reported based on the acres with a current nutrient management plan based on the effective dates in the plans. Urban nutrient management is tracked annually.
9. Yes. Local/State initiatives and programs that exceed the actions required by the national air standards can be reported to the bay program for credit.
10. Yes. Major storm events cause significant water quality impacts. BMPs to address these extreme storms are generally cost prohibitive, but if there are some effective and affordable solutions, they should be considered.