Mid-Point Assessment Modeling Priorities as Defined by the Water Quality GIT

Chesapeake Bay Program's Scientific and Technical Advisory Committee

December 4, 2012

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Midpoint Assessment Process

- The Chesapeake Bay Program's sector workgroups and jurisdictions were asked to identify priorities for changes to the TMDL tracking, reporting, monitoring and modeling process prior to the 2017 midpoint assessment of the TMDL.
- The Water Quality Goal Implementation Team discussed the copious volume (38 pages or so) of suggestions, and prioritized the following suggested changes to Scenario Builder and the Watershed Model prior to 2017.

Improving Input Data

- Land uses – Land use workgroup is working with sector workgroups to develop a list of base land uses for the Phase 6 model. Sector workgroups will also be helping to define base loading rates for each new land use.
- Animals, septics, crops, manure, fertilizer, etc. – Sector workgroups are working with the Scenario Builder Team to develop better datasets for these inputs, and options for projecting data for years in which data is not provided.

Improving Fate and Transport of Phosphorus and Sediment

- Phosphorus – STAC is currently working with the Modeling Team to assess how phosphorus is simulated in the current model.
- Sediment – STAC recently held a lag times workshop in which sediment transport and retention was widely discussed. The Water Quality GIT also asked STAR to investigate sediment trapping by dams, impoundments and reservoirs.

Improving Scenario Builder Processing

- Fertilizer and manure application - The Agriculture Workgroup will soon begin collaborating with the Scenario Builder Team to assess the current Scenario Builder simulations of fertilizer and manure, and will recommend changes for the next version of Scenario Builder.
- BMPs – The Agriculture Workgroup and the Scenario Builder Team will soon begin analyzing the processing order of “stackable” BMPs in the tool.

Improving Regional Factors

- Regional factors can occasionally result in large differences in loading rates from one land river segment to another within the same county. Re-calibrating the next version of the model will result in new regional factors, and these factors will be reviewed by the Modeling Team and Partnership.

Revise Modeling System to Improve Transparency, Accuracy and Confidence

- The Modeling Team is recommending a transition in from an AGCHEM simulation to a PQUAL simulation for the Phase 6 Model. More on this from Gary in a moment!
- This transition to a PQUAL version will also allow quicker calibration and a more extensive review period following each new development version of the Model.