



Modeling Quarterly Review Meeting **Watershed Modeling**

August 9, 2016

CBPO Conference Room - The Fish Shack
410 Severn Avenue Annapolis, MD 21403

For Remote Access:

Adobe Connect: <https://epawebconferencing.acms.com/modeling> (enter as guest)

Conference Line: (866)-299-3188 code 267-5715#

Event webpage: <http://www.chesapeakebay.net/calendar/event/24232/>

10:00 Announcements and Amendments to the Agenda – Dave Montali, WVDEP and Lee Currey, MDE

10:05 Phase 6 Watershed Model Schedule Update – Lee Currey, MDE and Dave Montali, WVDEP

Lee and Dave will present an updated Phase 6 development schedule with links to the 2017 Midpoint Assessment schedule. Upcoming *Beta* releases of Phase 6 with their schedules, as well as the scheduled peer review of the Phase 6 Model, will be discussed.

10:30 Summary of Phase 6 Progress Over Last Quarter - Gary Shenk, USGS and Gopal Bhatt, PSU

The overall progress of the Phase 6 Model including the schedule of the *Beta* 3 comment and review period and webinar will be described.

10:40 Phase 6, Beta 3 Calibration – Gopal Bhatt, PSU and Gary Shenk, USGS

The completed Phase 6 *Beta* 3 version will be reviewed. Improved representation of land use targets, automated water quality calibration in HSPF reaches, rSAS representation, and first application of Phase 6 in scenario mode are all features of the *Beta* 3 version. The next step in the *Beta* 3 release is a webinar planned for the week of August 15.

11:45 Climate Workgroup Recommendations on Climate Change Impacts on Sea Level Rise and Tidal Wetland Loss – Mark Bennett, USGS

Key Climate Change Workgroup recommendations relevant to the Modeling Workgroup's simulation of climate change will be discussed.

12:00 LUNCH

1:00 Climate Change Simulation Approach – Gopal Bhatt, PSU and Kyle Hinson, CRC

Estimated watershed responses under 2025 and 2050 climate change conditions will be examined based on an ensemble of 63 general circulation models (GCMs) from the Coupled Model Intercomparison Project, Phase 5 (CMIP5).

1:45 Mass Balance Estimate for Ammonia Emission Controls – Gary Shenk, USGS-CBPO and Lew Linker, EPA-CBPO

An approach to decrement the captured ammonia emission loads applied to the landscape for avoided air nitrogen loads to tidal Chesapeake waters will be described

2:15 Capping Potential Load Reductions in the Phase 6 Model – Matt Johnston, University of Maryland and Gary Shenk, USGS

Matt will describe how combinations of BMPs can occasionally reduce pollutant runoff to zero or near zero for agricultural and urban land uses. Per a previous request from the Watershed Technical Workgroup, Matt will ask the Modeling Workgroup to approve a method for capping potential load reductions at some minimal level for each land use in each land-river segment.

2:30 Modeling Workgroup Membership Update – Lew Linker, EPA-CBPO

A suggested list of Modeling Workgroup members will be discussed.

2:30 ADJOURN



Chesapeake Bay Program
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10:00 Announcements and Amendments to the Agenda – Lee Currey, MDE and Dave Montali, WVDEP

10:05 WQSTM Calibration to the Phase 6 *Beta* 2 Loads – Carl Cerco, U.S. CoE ERDC

The Water Quality and Sediment Transport Model (WQSTM) calibration to the Phase 6 *Beta* 2 loads will be examined in detail. Sensitivity studies of organic (G1, G2, and G3) reactivity rates will be discussed and insights into how the information from Conowingo research and monitoring program, particularly the improved G1, G2, and G3 estimates can be utilized by the WQSTM will also be offered.

11:00 Progress in the Simulation Shallow Water Processes and Tidal Wetlands – Carl Cerco, U.S. CoE ERDC

Progress in developing an improved representation of shallow water in the Water Quality and Sediment Transport Model (WQSTM) will be presented as well as progress in the simulation of tidal marsh attenuation of nitrogen, phosphorus, and sediment.

11:30 WQSTM Sensitivity Scenarios – Lew Linker, EPA - Ping Wang, VIMS - Richard Tian, UMCES

Sensitivity scenarios roughly representing the high load condition of 1985, the low load condition of all-forest, and the intermediate loads of 2009 and the Phase II WIPs will be reviewed for relative differences in the response to nutrient loads between the 2010 WQSTM and the current WQSTM calibration under development.

11:45 Nutrient Limitation Assessment – Richard Tian, UMCES – Ping Wang, VIMS

An initial assessment of tidal Chesapeake nutrient limitation based on observed data, the 2010 version of the QWSTM, and the latest version of the WQSTM will be presented. Time series and seasonal nutrient and light limitation data will be presented from 1991 to 2000 for each of the three sources.

12:30 LUNCH

1:30 Lower Susquehanna River Impoundment Modeling Studies – Jim Fitzpatrick and Mark Velleux (HDR)

Final outputs from a sediment and nutrient mass balance model of Conowingo Pool called the Conowingo Pool Mass Balance Model (CPMBM) will be presented and the integration with the Phase 6 Watershed Model will be discussed.

2:00 Expanded and Improved Estimates of Nitrogen Wet Deposition Loads – Jeff Grimm, PSU

Jeff will review the final refined assessment of hourly wet deposition estimates from 1985 to the present and provide a schedule for the final report.

2:30 ADJOURN