Modeling Quarterly Review Meeting
Estuarine & Ecosystem Modeling

April 26, 2016

CBPO Conference Room - The Fishshack
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 410-267-5731#
Event webpage: http://www.chesapeakebay.net/calendar/event/23598/

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

10:05 WQSTM Calibration to the Phase 6 *Beta* 1 Loads – Carl Cerco, U.S. CoE ERDC

The Water Quality and Sediment Transport Model (WQSTM) calibration to the Phase 6 *Beta* 1 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.

12:00 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.

12:20 Update on Shallow Water Modeling Workshop – Marjy Friedrichs, VIMS

A recent STAC workshop held at VIMS on April 20-21 examining water quality simulations of Chester River shallow water will be summarized. Findings from the workshop will help guide processes and approaches to simulating all shallow tidal water in the Chesapeake in future simulations.

12:30 LUNCH

1:30 Chester River Shallow Water Multiple Models – Richard Tian, UMCES
Richard will describe the application of FVCOM, an unstructured grid model, in the Chester River. The shallow water quality simulation will be discussed with regards to insights the current simulation, as well as simulations from other shallow water modeling teams, has for future work in shallow water representation throughout the Chesapeake.

2:10 Refinements to the Shallow Water Criteria Assessment – Ping Wang, VIMS
Ping will describe the development of new approaches that utilize shallow water monitoring program observations for the first time in a comprehensive assessment of water quality standards of SAV/clarity, DO, and chlorophyll in shallow water.

2:30 ADJOURN

Modeling Quarterly Review Meeting
Watershed Modeling

April 27, 2016
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10:00 Announcements and Amendments to the Agenda – Dave Montali, WVDEP-Lee Currey, MDE

10:05 Phase 6 Watershed Model Schedule Update – Lee Currey, MDE - 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* 2 comment and review period and webinar will be described.

10:40 Phase 6, Beta 2 Calibration – Gopal Bhatt, PSU and Gary Shenk, USGS
The completed Phase 6 *Beta* 2 version will be reviewed. Improved representation of extreme flow events, the inclusion of new tree canopy land uses, an improved representation of water diversions, improved sediment targets, rSAS lag times, and sediment simulation improvements at multiple scales are all features of *Beta* 2. The next step in the *Beta* 2 release is a webinar planned for the week of May 1.

11:50 Water Supply Diversions – Kyle Hinson, Chesapeake Research Consortium
An expanded and refined time series of estimated water supply diversions will be discussed. The inclusion of water supply withdraws from reservoirs in the coastal plain that do not have simulated Phase 6 river reaches is a refinement of Phase 6.

12:05 Assessment of Bank and Flood Plain Nutrient and Sediment Loads – Greg Noe and Peter Claggett, USGS
Progress in the assessment of bank and flood plain nutrient and sediment loads will be described and the schedule for including the bank and flood plain estimates into the Phase 6 Model will be discussed.

12:20 Expanded and Improved Estimates of Nitrogen Wet Deposition Loads – Jeff Grimm, PSU
Jeff will review the schedule and status of hourly wet deposition estimates from 1985 to the present.

12:30 LUNCH

1:30 A HEC-RAS Representation of Lakes Clark and Allred – Marty Teal and Jon Viducich (WEST Consultants)
The final HEC-RAS application to the Lake Clarke and Lake Aldred reaches of the Lower Susquehanna for the development of sediment-flow rating curves will be reviewed and approved for application in the Phase 6 Watershed Model.

1:50 Sediment Composition and Diagenesis – Jeff Cornwell, UMCES
Progress on characterizing the composition of Conowingo sediments in long and short cores, the estimated reactivity of their organic material, and their estimated biogeochemical fate in tidal water deposition will be described. Measured sediment nutrient flux rates of Conowingo sediment will be discussed.

2:05 Lower Susquehanna River Impoundment Modeling Studies – Jim Fitzpatrick and Mark Velleux (HDR)
A sediment and nutrient mass balance model of Conowingo Pool called the Conowingo Pool Mass Balance Model (CPMBM) will be presented. The plans and schedule for completing the model, its current state, and potential for integrating with the Phase 6 Watershed Model will be discussed. The Modeling Workgroup will review the proposal and recommend the degree and type of integration of CPMBM into the Phase 6 modeling system.

2:30 ADJOURN