Modeling Workgroup July Quarterly Review

Day 1 – July 8, 2025

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This meeting will be recorded for internal use only to assure the accuracy of meeting notes.

9:00   **Announcements and Amendments to the Agenda – Mark Bennett, USGS and Dave Montali, Tetra Tech**

9:05   **Proposed New Timeline for Phase 7 Model Suite Development – Lew Linker, EPA-CBPO**
A new timeline for Phase 7 Model Suite development that accounts for delays in model input data sets will be discussed.

9:35   **Discussion of Proposed New Phase 7 Suite Timeline**

9:45   **Plans for the 2026 Year of Phase 7 Model Review – Lew Linker, EPA-CBPO**
The Phase 7 Model review year done with both a STAC led technical peer review and a policy review by CBP decision makers will be discussed.

10:00 **Discussion of Year of Review Plans**

10:10 **Phase 7 Watershed Model Overview – Gopal Bhatt, Penn State-CBPO**
Gopal will provide an updated timeline for completion of the Phase 7 Model in time for the 2026 partnership review.

10:25 **Discussion of the Phase 7 Model Overview**

10:35   **Progress in Phase 7 WSM Development – Gopal Bhatt, Penn State-CBPO**
A key theme for the last quarter was an emphasis on the completeness of the Dynamic Watershed Model (DWSM). Gopal will describe key progress areas in completion of the April beta version including incorporation of newly developed beta-parameters describing discharge-concentration relationships, and testing of changes in calibration methods of riverine water quality parameters.

11:05 **Discussion of Phase 7 WSM Development Progress**

11:15   Progress on Phase 7 Nutrient Inputs and Sensitivities – Joseph Delesantro, ORISE-CBPO with Conor Keitzer and Rosh Nair-Gonzalez, UMCES

A discussion of the load sensitivity to input values and methods for agricultural fertilizer, manure, and atmospheric deposition to forest will be presented. Also, updates on the sanitary sewer exfiltration estimate method and results will be discussed. This Phase 7 addition will be decided by the Wastewater Treatment Workgroup in July.

12:15   Discussion of Phase 7 Nutrient Inputs and Sensitivity Progress

12:25   LUNCH

1:00   Future Environmental Conditions and CBP BMP Efficiencies – Michelle Miro and Krista Grocholski, RAND

Progress will be presented on application of the APEX and SWMM public domain watershed and stormwater models, respectively, under different future climate hydrologic conditions to determine potential change in relative pollutant removal efficiency of current CBP-approved NPS and stormwater management BMPs.

1:20   Discussion of CBP BMP Efficiencies Under Changing Environmental Conditions

1:30   Development of Efficient Multi-Objective Optimization Procedures – Kalyan Deb, Pouyan Nejadhashemi, Ritam Guha, and Auden Garrard, MSU

Progress on the CBP optimization project and plans for upcoming webinars will be presented.

1:40   Optimization Discussion

1:50   Progress in Phase 7 Atmospheric Deposition Loads – Gopal Bhatt, Penn State-CBPO

Phase 7 atmospheric deposition loads are being developed to leverage newly available information from CMAQ and GCAM models while considering previously developed estimates of wet deposition from a statistical model and PRISM precipitation. Gopal will provide a progress update on the work for developing atmospheric deposition loads to the WSM and MBM domains.

2:20   Discussion of the Merged Atmospheric Deposition Data Set

2:40   ADJOURN

10:00   Announcements and Amendments to the Agenda – Dave Montali, Tetra Tech and Mark Bennett, USGS

10:05   Update on Main Bay Model (MBM) Progress – Zhengui Wang, Joseph Zhang, and Jian Shen, VIMS
Progress in development of the MBM will be presented. The MBM is being readied for initial climate and management sensitivity scenario testing in the coming quarter.

10:45   Discussion of the Main Bay Model (MBM) Progress

10:55   Improving MBM Simulation With Physically Based Calibration Approaches – Wenfan Wu, Zhengui Wang, Joseph Zhang, and Jian Shen, VIMS
An innovative calibration approach to incrementally improve the salinity calibration by assigning roughness to observed bottom types of clay, sand, and gravel and also improving calibration of temperature throughout the water column though the interaction of shortwave radiation and turbidity will be presented.

11:15   Discussion of Physically Based Calibration Approaches

11:25   Test of Attainment Procedures – Richard Tian, UMCES-CBPO
A preliminary, initial assessment of water quality attainment in the Chesapeake using the Phase 7 MBM will be presented as a test of criteria assessment procedures.

11:45   Discussion Attainment Procedures Test

11:55   Conowingo Model Development – Earl Hayter, Jodi Ryder, CoE-ERDC and Matt Rowe, MDE
Progress in development of the Conowingo Model will be presented.

12:15   Discussion of the Conowingo Model Development and Application

12:25   LUNCH

1:00   **Progress on Patapsco/Back MTM – Harry Wang, Breanna Maldonado, VIMS and Jeremy Testa, UMCES**
Progress on the Patapsco/Back MTM water quality calibration will be discussed.

1:20   **Discussion of Patapsco/Back MTM Progress.**

1:30   **ADJOURN**