Phase 6 Model Review

MWG Presentation to AGWG

May 18, 2017

Review Document

- Final (we think) version 5/9/2017
- http://www.chesapeakebay.net/channel_files/25066/phase_6_approval_process_final_5-9-17.pdf
- Incorporates input from CBPO, Modeling Workgroup, WQGIT, others (January 25, 2017 – May 9, 2017)
- Key Components
  - Background – MPA, MWG values, P6 advances
  - Fatal Flaw Definition
  - MWG webinars
  - CBPO new /enhanced review tools
  - Review Responsibilities – Jurisdictions, Partnership Workgroups
  - Issue Resolution Process
  - Links Page
  - Schedule

Model Review Schedule

Phase 6 Watershed Model Inputs Review	April 1 – July 31, 2017
Phase 6 Watershed Model Calibration	April 1 – May 30, 2017
Phase 6 WQSTM Calibration	June 1 – June 30, 2017
Fatal Flaw Review of the P 6 Modeling Tools	June 1 – July 31, 2017
Resolution of Fatal Flaws	August 1 – August 30, 2017
WQGIT Revisits Midpoint Assessment Schedule	August 14, 2017

Product Delivery Schedule

- Inputs

April 2017

- Webinars

May/June 2017

- Watershed Model calibrated to April inputs
- Enhanced Review Tools
- Phase 6 watershed model documentation

June 1, 2017

- Ranging Scenarios (E3, All Forest, …….)

June 15, 2017

- WQSTM calibrated to DP6 Watershed Model loads
- WQSTM documentation

July 1, 2017

Webinars

- Sediment simulation – Gary, 4/19/17
- Overview, MPA issues, Decision Framework - Gary and Lew, 5/9/17
- Poultry Data – Matt and Curt, 5/24/17
- Inputs – Matt, 5/25/17
- Loads – Gary, 6/1/17
- Physical Transport - Gary and Gopal, 6/20/17

Past webinars are taped and available on MWG page and CBP Meeting Calendar

STAC Reviews

- Inputs – Review and Partnership Response completed
- Watershed Model – Review to be completed prior to July 31 and Partnership response in August
- Estuarine Model – Review to be completed prior to July 31 and Partnership response in August

- Contemporary information about relevant STAC workshops and reviews will be provided in the documentation (Chapters 1 and 12)

Fatal Flaw Definition

A fatal flaw may be the basis for the implementation of changes to the draft Phase 6 models. A fatal flaw is defined as a significant impediment, based on a weight of evidence approach, of the ability of the partnership to establish reasonable planning targets or evaluate progress toward achieving the planning targets or meet the conditions of EPA's "Interim Expectations for the Phase III Watershed Implementations Plans," dated January 19, 2017 (Expectations Document) due to:

- A calculation or method that does not follow the documented final decisions of the CBP partnership
- A calculation or method, or combinations thereof, that produce illogical results that result in significant impediment
- The omission of data submitted by the CBP partnership subject to established deadlines
- The overall failure of the model calibration to match observed flows and loads when compared to the level of performance in previous models

Disagreement with a final decision that has been made by the partnership or with a scientific or technical method or product in favor of another method or product are not fatal flaws. Nor are failures to match loads for particular monitoring stations or constituent nutrients fatal flaws unless they create a significant impediment to planning target development or progress evaluation.

Fatal Flaw Review Scale

- Primarily at State-Basin scale
- Secondarily at impaired segment scale
- Comments at all scales are welcome. Small scale model limitations might not be characterized as “fatal” but instead inform WIP 3 development (ex. EPA expectations or local area goals)

MWG/CBPO Modeling Team Responsibilities

- Review and document everything
- Coordinate responses STAC Workshops and Reviews
- Develop and host Webinars
- Develop new/enhanced review tools (WSM and WQSTM)
- Support and review results of scenario output analyses and sensitivity analyses performed by jurisdictions and sector workgroups
- Primary reviewer of Airshed and WQSTM for concurrence with Partnership decisions and consistency with current scientific understanding
- Catalog, route, address comments, coordinate w/ Sector Workgroups

AGWG (and other source WG) Responsibilities

- General
  - Ensure the collective partnership-based decisions have been fully carried out (omissions review)
  - Evaluate model calibration inputs and outputs specific to their respective land uses or larger source categories. (evaluate illogical outcomes or unintended consequences)
- Specific
  - Read watershed model documentation Chapter 1 for an overview of the work
  - Review Chapter 2 on how their sector loads compare with other sectors and evaluate P5 vs. P6 differences
  - Review Chapter 3 for inputs of interest (AMS)
  - Request and review scenarios showing the effects of BMPs. Coordinate with Modeling Workgroup on requests for specific sensitivity analysis through the scheduled interactive webinars or through other means

Jurisdiction Responsibilities

- Evaluate how well the model simulates watershed loads at key stations and watersheds within their respective jurisdictions
- Review results from the early versions of a suite of management ranging scenarios comparing a change in outputs from Phase 5.3.2 scenarios and Phase 6 scenarios, specific to their jurisdiction
- Maryland, Virginia, Delaware, and the District
  - Evaluate how well the model simulates tidal water quality conditions over time at key stations and segments within their jurisdiction's tidal waters
  - Review results from a suite of ranging scenarios comparing outputs from the Phase 5.3.2 and Phase 6 versions of the Bay Water Quality and Sediment Transport Model relevant to their jurisdiction.

Issue Cataloging and Resolution

- Watershed Model – Gary Shenk
- Airshed Model – Lew Linker
- Water Quality and Sediment Transport Model – Lew Linker

Points of Contact

- Gary/Lew to assign to appropriate workgroup
- Coordinator/Chair of workgroup has lead
- If no consensus at WG level, up the management chain it goes
- CBPO documents decisions