

Modeling Workgroup Schedule Update

Modeling Workgroup Quarterly Review
February 14, 2017

Lew Linker and the Modeling
Management Team



Chesapeake Bay Program
Science, Restoration, Partnership



Challenges and Implications of Delayed Phase 6 Model Inputs

The Phase 6 fine-scale land use/land cover* (LU/LC) input will be available on or around March 1, 2017. The last revised PSC schedule had fine-scale LU/LC completed by October 2016, but the deadline was subsequently moved back to December 2016, then to January 2017, and (LU/LC) is now expected by the beginning of March. At least eight weeks are required for a sufficient calibration of the Phase 6 Watershed Model once all inputs are in. Nevertheless, a calibration could be completed by April 1 as currently scheduled, but the quality of the calibration would be degraded. Ultimately the PSC has the scheduling decision and will take up the issue at their March meeting. Consequently, the original schedule is maintained below in black font and a schedule that allows for eight weeks of Phase 6 calibration are in red in parentheses.



Challenges and Implications of Delayed Phase 6 Model Inputs

* It's important to note that the Phase 6 Model calibration needs land use/land cover (LU/LC), a more evolved product than simple land cover which is the description of the cover of the land like trees, grass, impervious cover, or water. Land use, however, includes necessary modeling information like crop type, applied fertilizer, and manure loads by land use, pasture stocking rates, atmospheric deposition loads, etc. Chesapeake watershed land cover data has recently been released to the CBP, but the associated land use is unavailable for Phase 6 calibration until about March 1.



January to March 2017

- January Key final Phase 6 inputs from the partnership due on 12/31.
(Note: fine-scale land cover data is unavailable until on or around March 1, 2017.)
- January 31 All nutrient inputs from Scenario Builder needed for Phase 6 land uses complete. ***(Note: As of February 14, 2017 fine-scale land cover data are unavailable making this task incomplete.)***
- Feb 6 – Feb 28 Expanding on the December 13-14 work on estuarine geographic efficiency scenarios, ensure estuarine *Beta 4* geographic efficiency scenarios are equivalent to estuarine *Beta 3* geographic efficiency scenarios. If so begin estuarine geographic efficiency scenarios.
- Feb 6 – Feb 28 Run Key scenarios of No Action, WIP2, and E3 scenarios on Phase 6 *Beta 4* watershed and estuarine models. (This task will likely be delayed because the SB Team will be occupied with LU/LC inputs for Phase 6 during this period and unable to develop scenarios.)
- February 14-15 Quarterly Review
- February 23 WQSTM Peer Review
- March (TBD) Conowingo infill and climate change simulation peer review.



April 2017

April 1 **(May 1)** Sendoff final Phase 6 Version for WQSTM calibration.

April 3 **(May 1)** Release of Phase 6 for fatal error review.

April 4-5 Quarterly Review. **(Move to May?)**

April 17 **(May 15)** Key scenarios of WIP2 Level of Effort, E3, Recent Progress Scenarios, No Action, All Forest and 1985 delivered.

April 30 **(June 1)** WQSTM calibration to final Phase 6 Version complete.



May 2017 to December 2018

May - June **(June-July)** Consistent with the timing of the PSC meeting, complete draft planning targets for PSC deliberation.

May-June PSC meeting on climate change, Conowingo infill, and draft planning targets findings and decisions.

June 4, 2017 **(July 1)** Fatal flaw review completed.

June – December 2017 Modeling Workgroup assists CBP partners in draft planning target development.

July 2017 Modeling Quarterly Meeting.

October 2017 Modeling Quarterly Meeting.

December 2017 Planning targets final.

2018 Modeling Workgroup assists CBP partners on WIP development.



Phase 6 Model Application in 2017

May-June 2017 Principals' Staff Committee Retreat

Based on recommendations from the WQGIT and the Management Board at their March and April 2017 meetings,

DECISIONS from the PSC members on:

1) Management Board's proposed **draft Phase III WIP planning targets**; 2) **Approval of the Phase 6 suite of Partnership models** and other decision support tools for management application by the Partnership; 3) How to fully **offset the additional nutrient and sediment loads coming over Conowingo Dam** due to the Conowingo Reservoir reaching its capacity to trap nutrients and sediments; and 4) **When and how to incorporate climate change considerations into the Phase III WIPs.**



Phase 6 Model Application in 2017

December 2017 Principals' Staff Committee Meeting:

The Partnership will have about six months to review the draft Phase III WIP planning targets between when they are released in June 2017 and when they are finalized in December 2017. During this 6-month period, the Partnership will have an ongoing opportunity to request and see the results of model scenarios and programmatic analyses that will inform the development of the final planning targets.