

# Water Quality Goal Implementation Team Meeting

## October 25 – 26, 2021

<p><b>Purpose:</b> To <b>discuss</b> an initial set of <b>Phase 7 Model update priorities</b> that pertain to supporting and advancing the Chesapeake Bay Program partnership’s water quality goals.</p>		
<p><b>Objectives for Day 1 and Day 2:</b></p> <ol style="list-style-type: none"> <li>(1) <b>Understanding</b> of planned and proposed updates to the <b>Phase 7 suite of modeling tools</b></li> <li>(2) <b>Consensus</b> on <b>initial prioritized list of updates</b> to inform development and application of Phase 7</li> <li>(3) Initial <b>feedback</b> on partnership <b>direction post-2025</b></li> </ol>		
<p><b>Questions for WQGIT Consideration</b></p>		
<ul style="list-style-type: none"> <li>• What are the planned and proposed Phase 7 suite of modeling tool updates?</li> <li>• What is the initial prioritized list of updates for developing and applying Phase 7?</li> <li>• What other priorities do we need to consider for these updates?</li> <li>• What are our initial thoughts about water quality and our direction post the 2025 goal? What do we need to do now in anticipation of that 2025 deadline?</li> <li>• What are our initial thoughts about our direction post-2025?</li> <li>• Do we agree with the updated list of priorities? If not, how do we tweak these priorities?</li> </ul>		
<p><b>Day 1 (October 25, 2021)</b></p>		
<p><b>Meeting Kick-off and Setting the Stage</b></p>		
<p><b>9:00 AM</b></p>	<ul style="list-style-type: none"> <li>• <b>Welcoming remarks and roll call</b> <ul style="list-style-type: none"> <li>○ Why are we updating the models again?</li> <li>○ What are the drivers for these updates?</li> </ul> </li> </ul>	<p>James Martin and Ed Dunne, WQGIT Co-chairs</p>
	<ul style="list-style-type: none"> <li>• <b>Administrative remarks / housekeeping items</b></li> </ul>	<p>Lucinda Power, WQGIT Coordinator</p>
	<ul style="list-style-type: none"> <li>• <b>Overview of agenda and requested WQGIT decisions</b> <ul style="list-style-type: none"> <li>○ Consensus on initial prioritized list of Phase 7 updates</li> <li>○ Agreement on overall schedule for Phase 7 development, including the role of the WQGIT in the review process</li> <li>○ Identification and agreement of next steps, including future discussions on Phase 7 and work plan development</li> </ul> </li> </ul>	<p>Jason Keppler, WQGIT Vice-chair</p>
<p><b>Chesapeake Bay Program Partnership Decisions and Supporting Models 101</b></p>		
<p><b>Morning Session, continued</b></p>	<ul style="list-style-type: none"> <li>• <b>Presentation: Why do we use the modeling tools?</b> <ul style="list-style-type: none"> <li>○ To improve water quality. It is observed data that delists water bodies. However, we need data systems and models to track implementation progress and help plan policies, programs, and practices for water quality improvements.</li> </ul> </li> </ul>	<p>Dave Montali and Mark Bennett, Modeling Workgroup Co-chairs</p>

	<ul style="list-style-type: none"> <li>○ To provide those setting the policies (legislators), programs (agencies), and practices (local governments, planners, and private entities) a means by which to make informed decisions with the latest available scientific data.</li> </ul>	
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**Breakout Sessions with WQGIT Members**

- **Question 1:** How are decision makers and planners interacting with modeled data to inform policies, programs, and planning to improve water quality? If via CAST, then what information and functionality is most important?
- **Question 2:** How can the modeling tools support implementation? How can the modeling tools address challenges to implementation?
- **Question 3:** How can model outputs and tools provide analyses, and information services to support policy changes and inform program development?

**BREAK (10mins)**

**Report out to full group from Breakout Sessions – observations, reflections, clarifying questions.**

<p><b>Morning Session, continued</b></p>	<ul style="list-style-type: none"> <li>● <b>Presentation: What do we mean by updating the models?</b> <ul style="list-style-type: none"> <li>○ What happens in a CAST update versus a Phase update?</li> </ul> </li> <li>➤ <i>WQGIT question and answer session</i></li> </ul>	<p>Olivia Devereux, Devereux Consulting</p>
	<ul style="list-style-type: none"> <li>● <b>Presentation: Various decisions that drove development of versions of the modeling tools over the years</b> <ul style="list-style-type: none"> <li>○ What would trigger revised planning targets</li> <li>○ Planning target calculation in 2010, 2011, and 2017</li> </ul> </li> <li>● <b>Presentation: Highlight of key updates/enhancements/functionality that have been added to the models over the years</b></li> <li>➤ <i>WQGIT question and answer session</i></li> </ul>	<p>Gary Shenk, USGS and Lew Linker, Modeling Workgroup Coordinator</p>
	<ul style="list-style-type: none"> <li>● <b>Presentation: The role of monitoring data in model development</b> <ul style="list-style-type: none"> <li>○ Use of monitoring data in the calibration of the watershed and estuarine models and</li> <li>○ The multiple ways that monitoring data are being used to measure implementation progress</li> </ul> </li> <li>➤ <i>WQGIT question and answer session</i></li> </ul>	<p>Gary Shenk, USGS and John Clune USGS</p>

**Facilitated WQGIT Discussion**

- What are the key takeaways from the previous three presentations on modeling and monitoring? How can this information help us get closer to our restoration goals and associated outcome(s) under the 2014 Chesapeake Bay Watershed Agreement?

**12:00 PM LUNCH (30 minutes)****Phase 7 Development and Application**

<b>Afternoon Session</b>	<ul style="list-style-type: none"> <li>● <b>Presentation: Plans for the estuarine model to evaluate climate change and shallow water</b> <ul style="list-style-type: none"> <li>○ Main bay model <ul style="list-style-type: none"> <li>○ Motivation from PSC, WQGIT, STAC</li> <li>○ Vision</li> <li>○ RFA status</li> </ul> </li> <li>○ Tributary models <ul style="list-style-type: none"> <li>○ Motivation – shallow water</li> <li>○ Vision</li> <li>○ RFA status</li> </ul> </li> </ul> </li> </ul> <p>➤ <i>WQGIT question and answer session</i></p>	Lew Linker, Modeling Workgroup Coordinator
	<ul style="list-style-type: none"> <li>● <b>Presentation: CAST functionality</b> <ul style="list-style-type: none"> <li>○ Trends over time</li> <li>○ WIP and scenario comparison</li> <li>○ Tributary summaries</li> <li>○ Optimization interface</li> </ul> </li> </ul> <p>➤ <i>WQGIT question and answer session</i></p>	Olivia Devereux, Devereux Consulting
	<ul style="list-style-type: none"> <li>● <b>Presentation: Land change modeling work plan</b> <ul style="list-style-type: none"> <li>○ High resolution for 2013, 2017, 2021</li> <li>○ Forecast and backcast 1985-2050</li> <li>○ Improvements in fallow, construction, and harvested forest</li> <li>○ Hydrologic features mapping</li> </ul> </li> </ul> <p>➤ <i>WQGIT question and answer session</i></p>	Peter Claggett, USGS
<b>BREAK (10 minutes)</b>		
<b>Afternoon Session, continued</b>	<ul style="list-style-type: none"> <li>● <b>Current Watershed Model work plan based on feedback from other partnership groups</b> <ul style="list-style-type: none"> <li>○ NHD-scale Phase 7 model</li> <li>○ Improvement of physical process simulation</li> <li>○ Uncertainty quantification</li> <li>○ Co-benefits</li> <li>○ Evaluation of all Bay TMDL water quality standards</li> <li>○ Changing nutrient input calculations</li> <li>○ Improvement of climate change simulation</li> </ul> </li> </ul> <p>➤ <i>WQGIT question and answer session</i></p>	Gary Shenk, USGS
<b>4:00 PM Wrap Up</b>	<ul style="list-style-type: none"> <li>● <b>Closing comments</b> <ul style="list-style-type: none"> <li>○ Discussion of any preparations going into Day 2</li> <li>○ Overview of Day 2 agenda</li> </ul> </li> </ul>	James Martin and Ed Dunne, WQGIT Co-chairs

<b>Day 2 (October 26, 2021)</b>		
<b>9:00 AM</b>	<ul style="list-style-type: none"> <li>• <b>Welcoming remarks and introductions</b> <ul style="list-style-type: none"> <li>○ Recap of major decisions and discussion points from Day 1</li> <li>○ Additional thoughts and take-aways of WQGIT members from Day 1 presentations</li> </ul> </li> </ul>	James Martin and Ed Dunne, WQGIT Co-chairs
	<ul style="list-style-type: none"> <li>• <b>Achieving water quality goals in the Chesapeake Bay: STAC's Assessment of System Response and Science Needs</b> <ul style="list-style-type: none"> <li>○ Overview of assessment and documented knowledge gaps</li> <li>○ Recommended strategies for integrating scientific and technical analysis with adaptive management to aid decision-making under uncertainty.</li> </ul> </li> </ul>	Denice Wardrop, CRC and Kurt Stephenson, Virginia Tech
<b>Assessing 2035 Climate Change Impacts</b>		
<b>Morning Session, continued</b>	<ul style="list-style-type: none"> <li>• <b>Overview of charge to the Modeling Workgroup by the PSC to assess 2035 climate change conditions by 2025</b></li> </ul>	Dave Montali and Mark Bennett, Modeling Workgroup Co-chairs
	<ul style="list-style-type: none"> <li>• <b>Discussion of the role of the WQGIT related to the PSC charge to the Modeling Workgroup</b> <ul style="list-style-type: none"> <li>○ Use Menti-meter at start of discussion</li> </ul> </li> </ul>	James Martin and Ed Dunne, WQGIT Co-chairs
	<ul style="list-style-type: none"> <li>• <b>Presentation of management actions and associated deliverables that are responsive to climate change:</b> <ul style="list-style-type: none"> <li>○ Outcomes from August 12 CSN webcast from RAND/Cornell/Carnegie on detailed data and methods for how to adjust stormwater management BMPs to respond to climate change, as well as a detailed walk-through of the web tool.</li> <li>○ Outcomes from an October full-day workshop to outline three recent technical products of 1) Virginia Tech climate change BMP report, 2) CSN reports and Technical Memos on climate change, and the 3) new RAND climate change stormwater BMP design guidance.</li> <li>○ Preview of content for a November joint meeting of the Urban Stormwater Workgroup, Modeling Workgroup, and Climate Resiliency Workgroup. The meeting will seek endorsement of the recommendations that resulted from the October workshop indicated above. The endorsed recommendations will be presented to the WQGIT in December 2021, followed by the Management Board in January 2022.</li> </ul> </li> </ul>	Lew Linker, Modeling Workgroup Coordinator

	➤ <i>WQGIT question and answer session on 2035 climate change impacts</i>	All WQGIT members
<b>BREAK (10 minutes)</b>		
<b>Prioritization of Phase 7 Model Updates</b>		
<b>Facilitated WQGIT Discussion</b>		
<ul style="list-style-type: none"> <li>➤ Discussion of criteria for setting priorities <ul style="list-style-type: none"> <li>○ Complete by 2023</li> <li>○ Actively work toward for a future model</li> <li>○ Back burner (encourage research)</li> <li>○ Never do this</li> </ul> </li> <li>➤ What does the WQGIT want to see done differently with this new suite of modeling tools to help advance implementation efforts and ultimately achieve our water quality goals?</li> <li>➤ What functionality can the tools provide to support decision making?</li> <li>➤ What modeling priorities would the WQGIT like to see that's not reflected in the current Phase 7 work plan?</li> </ul> <p>❖ <b>ACTION:</b> Based on discussions above, WQGIT will be asked to create a prioritized list of Phase 7 Model updates</p>		
<b>12:00 PM (Lunch)</b>		
➤ <i>Continued Discussion on Prioritization of Phase 7 Model Updates</i>		
<b>Confirmation of Priorities &amp; Timeline for Phase 7 Model Development</b>		
<b>Afternoon Session, continued</b>	<ul style="list-style-type: none"> <li>• <b>Overview of the Development Timeline</b> <ul style="list-style-type: none"> <li>○ What needs to happen by when <ul style="list-style-type: none"> <li>▪ Final confirmation of model updates</li> <li>▪ Deadline for all model inputs</li> <li>▪ Calibration timeline</li> </ul> </li> </ul> </li> </ul>	Dave Montali and Mark Bennett, Modeling Workgroup Co-chairs
	<ul style="list-style-type: none"> <li>• <b>Overview of the Review Process</b> <ul style="list-style-type: none"> <li>○ Role of the WQGIT in the review process</li> <li>○ Do we want to conduct another formal fata flaw review like we did with Phase 6?</li> <li>○ What considerations do we need to be aware of during the review period? (e.g., submission and evaluation of 2024/2025 milestones / assessment of Phase III WIP planning target achievement)</li> </ul> </li> </ul>	James Martin and Ed Dunne, WQGIT Co-chairs
	<ul style="list-style-type: none"> <li>• <b>Discussion of initial prioritized list of Phase 7 model updates</b></li> </ul>	All WQGIT Members
<p><b><u>WQGIT Decision Requested:</u></b> Agreement on overall Phase 7 Model development timeline and review process</p> <p><b><u>WQGIT Decision Requested:</u></b> Consensus on initial prioritized list of Phase 7 Model updates</p>		
<b>BREAK (10 minutes)</b>		
<b>Chesapeake Bay Restoration Post-2025</b>		

**Breakout Sessions with WQGIT Members**

- **Question 1:** Planning versus implementation – continuation of two-year milestones and/or another iteration of the WIPs?
- **Question 2:** Expectations for the CBP partnership’s accountability framework moving forward
- **Question 3:** Updated Planning Targets and what that means for implementation

❖ **Report out to full group on breakout session discussions – observations, reflections, clarifying questions.**

**4:00 PM  
Wrap Up**

- **Closing remarks**
  - Recap of WQGIT decisions reached during meeting
  - Discussion of next steps and upcoming deliverables
    - Future WQGIT discussions on Phase 7
    - Upcoming deliverables: Phase 7 work plan and detailed schedule for Phase 7 development and partnership review

James Martin and Ed Dunne, WQGIT  
Co-chairs

**ADJOURN and THANK YOU for YOUR PARTICIPATION!**