CHESAPEAKE BAY PROGRAM
WATER QUALITY GOAL IMPLEMENTATION TEAM
January 23, 2017 CONFERENCE CALL
Meeting Summary
Meeting Materials: http://www.chesapeakebay.net/calendar/event/24773/

Actions & Decisions:

Action: WQGIT members and interested parties should submit comments on the proposed Phase 6 Model fatal flaw review process to Lee Currey by February 3rd.

Action: The CBP Modeling Team will develop a briefing document to capture the details and consequences of selecting a specific base year on which to develop the Phase III WIP Planning Targets from the range of available options. WQGIT members should submit requests for specific information to Gary Shenk.

Decision: The WQGIT approved the CBP drafted responses to the STAC report on climate change, conditional that WQGIT members may still submit suggested edits on the document to Zoe Johnson by no later than COB Monday, January 30th.

Welcome/Confirm Call Participants/Workgroup Updates – James Davis-Martin, Chair

- On January 2nd, the Management Board and PSC received a letter providing feedback on the alternative policy options that the WQGIT will be considering when accounting for climate change. For more information, contact Climate Resiliency Workgroup Coordinator Zoe Johnson.
- Sarah Diebel announced that DoD recently developed a 2-page fact-sheet providing information on the Urban Tree Canopy BMP.

Phase 6 Fatal Flaw Review Briefing – Lee Currey, MDE, and Dave Montali, Tetra Tech

The Modeling Workgroup Co-chairs presented the proposed process for conducting the review of, and criteria for, determining fatal flaws in the suite of Phase 6 modeling tools. The WQGIT will be asked to approve the proposed process for conducting the Phase 6 fatal flaw review in February.

Discussion:

- Nicki Kasi: What are the regional factors you referenced?
    - Dave Montali: In Phase 5, we used certain factors to help align the monitoring data at rim stations with the non-point source load so that we could achieve a calibration. In Phase 6, we're more successful aligning those loads, but this is still something we'll have to examine.

    - James Davis-Martin: These would be in addition to the field-to-stream, stream-to-river, and river-to-bay factors?
    - Dave Montali: That's correct.
- Nicki Kasi: I have a concern about the monitoring results – especially if a fatal flaw isn't considered a failure to match loads to a particular monitoring station. I think it should both simulate and be calibrated to monitoring stations.
    - Dave Montali: We will match well at the big rim stations, certainly. But the model versus the monitoring is essentially a model versus a model. When we get loads predicted by our Watershed Model, we are comparing them to WRTDS-modeled loads. So matching observed loads doesn't in itself impede the ability to predict planning targets or to match them.
    - Gary Shenk: When we're looking at performance of the Watershed Model, we look across the 70-80 stations that have great data, and we look at how well it's doing in general. Some areas are easier than others to match, but we're trying to make sure that we're not consistently over- or under-representing stations. And there isn't any such thing as 'observed loads', so there is error associated on both sides. Finally, when we put together and evaluate planning targets, we're using the same model – and we also use percent reductions in this planning, which allows us to have consistency in loads as we move through different management scenarios.
- Tanya Spano: In response to Nicki, I'd like to note that having worked with the Bay model and hearing similar concerns, I would also recognize that when there is a disconnect, it does tell us something about the accuracy of the model at certain scales. Without undermining the effectiveness of the model, or what Gary has explained, some data points will tell you about the effectiveness of certain spatial scales.
    - James Davis-Martin: I agree completely, but I think that if those types of inconsistencies (unless there are many of them) are at the state-basin scale, then it likely isn't a fatal flaw. But it is important to understand and recognize that information to help us best use the tools to guide our management decisions.
- Lee Currey: I appreciate those comments. I think it's important to recognize that we're viewing these monitoring stations holistically to see how they are performing based on our metrics. We do recognize that there may be a few stations that are not as high in their performance as others. One thing we can do is force the model to meet and simulate particular stations, but then we start to lose integrity in the model itself. So I would propose we add a few words after that item to recognize what specific reasonable assurances there are.
    - Nicki Kasi: I think that's a great idea, but I would need some more explanation of what those assurances are and what specific metrics are being considered.
    - Tanya Spano: I think it's a great idea to provide information for our newer folks, and possibly create placeholder items that may not be fatal flaws, but may need some more discussion and explanation.
- Sarah Diebel: Is there an assumption with this presentation that everyone understands what's involved with the fatal flaw review? This presentation somewhat assumes

everyone knows who's reviewing what, what needs to be reviewed, and where that information is held. So I'd like to ask if everyone understands that?
    - Lee Currey: I think one thing we need to be careful of is that we're looking at this as a fatal flaw review – we're trying to define what a fatal flaw is here, but we want to recognize that a lot of these in-depth discussions have already taken place in the last few years. Are you talking about making sure the inputs you provided made it in to the model appropriately, and came out appropriately?
    - James Davis-Martin: Bill Angstadt has been raising very similar questions over the past few months, and we've been working with CBP staff to identify the process by which the Partnership will go through this review; that way we can avoid duplicating efforts and provide sufficient scrutiny. Rich Batiuk is putting the final touches on a plan for who should be reviewing what – so I think the answer is coming, but it's not here yet.
- Lew Linker: With respect to the Federal Facilities Workgroup, they may want to examine whether the federal facilities are represented correctly in the model.
    - Gary Shenk: And I think that people who've been involved for a long time will want to make sure that their group is accurately reflected in the documentation and the outputs. It's not realistic to expect someone to pick up parts of the model that they haven't been involved in, so I think it's more reasonable to ask people to concentrate where they've had experience.
    - Sarah Diebel: Thanks for all of the feedback, and I think that sounds reasonable. I think the Federal Facilities Workgroup has been providing input, and we definitely need to review and make sure that whatever we've provided is included in the final product.
- Tanya Spano: I hope that whatever materials Rich is preparing is something that everyone can use, and isn't specifically targeted towards specific sectors, jurisdictions, or groups.
    - James Davis-Martin: I believe this is going to be an all-inclusive document.
- James Davis-Martin: It seems like we need to finalize decisions on climate change and Conowingo before STAC can finalize their review, and that needs to occur before the model can be finalized. I don't think this deadline of March is realistic considering the timelines for these decisions.
    - Gary Shenk: We don't need to know how to use climate change and Conowingo, but we just need to know how to simulate them. So we have climate simulated, and for Conowingo we're relying on two methods moving forward.
- James Davis-Martin: Once we've gone through the April/May fatal flaw review, I assume there's not much room in that schedule for any fatal flaws requiring re-calibration. Is that true?
    - Gary Shenk: That's correct.
    - James Davis-Martin: But if a fatal flaw is identified, it would effectively require a recalibration?
    - Gary Shenk: It depends, to be honest.

- Lee Currey: We want to take this back to the Modeling Workgroup in February to review this presentation, and it would be nice to include that companion document being developed by Rich Batiuk.

Action: WQGIT members and interested parties should submit comments on the proposed Phase 6 Model fatal flaw review process to Lee Currey by February 3rd.

Preliminary Scenario Implications for Phase III WIP Planning Targets – Gary Shenk, USGS

During the WQGIT's October face-to-face meeting, the GIT requested additional time to discuss the base year for establishing the Phase III WIP planning targets, as well as the values used for the wastewater curve in the Phase III WIP planning targets methodology. Gary presented an update on developing preliminary scenario implications for the Phase III WIP planning targets.

Discussion:

- James Davis-Martin: Are there any other available dates on the table for setting the baseline?
    - Gary Shenk: That would be up to the WQGIT to decide.
    - James Davis-Martin: Either way, I haven't heard anyone make the case to go back to 1985, but we could.
- Mary Gattis: Isn't there a related decision around accounting for growth that comes into play when using 2025 numbers?
    - James Davis-Martin: I think that's tied to what date we use for our WIPs, as opposed to what date we use as the base-case for these planning target scenarios.
    - Gary Shenk: That's right – the planning would be for the future, rather than knowing you would have to offset right away. I see this as a separate decision, because once the loads are put into planning targets, then you don't have to refer back to the decisions that were made. The two lines in the hockey stick graph would be combined.
- Nicki Kasi: What would be the downside to making this decision in April when you have the full suite of implications to show us?
    - Gary Shenk: If you want to make the decision based on articles of principle, then you could make the decision now irrespective of results. If you're looking at the results and there are clear winners and losers at the end, then it will be a different discussion.
    - James Davis-Martin: I kind of feel like we've been having the discussion based on principle, and haven't been able to come to consensus. In my mind, the advantage of making the decision now would be that this decision could be behind us. If we put all of our decisions off until April, then we may be crunched for time.
- Paul Emmart: In terms of establishing the baseline year, we feel that there's a dynamic allocation that goes on with accounting for growth initiatives that MD has pursued. I'm

wondering if there's any description on how that would be affected if we picked 2010 or the current baseline year as opposed to 2025.
    - Gary Shenk: It's not directly relevant to accounting for growth, in that how you would account for growth into the future depends more on what year you base your WIP on. It would impact how much basins growing at different rates would have to do.
- James Davis-Martin: So we could decide to include/exclude our decisions related to climate change, Conowingo, E3 and No Action scenarios into this planning targets method. So for each of these years we're considering, we could look at it with Conowingo trapping switched 'on', etc.
    - Gary Shenk: That's right. We can make planning targets with Conowingo at its present state or previous state, however that's decided. Climate change would be the same.
    - James Davis-Martin: And would that change depend on the year we use? If we choose 1985 as the base year, then Conowingo in 1985 was trapping. So would we have to leave it in that state or not?
    - Gary Shenk: You wouldn't have to do that for any specific modeling reasons.
- James Davis-Martin: I'd like all of us to make sure we've thought through this, so we can tell Gary and the Modeling Team what data we're going to want to see so that we can make this decision in April or May.
- Gary Shenk: We can make these initial runs at planning targets, but we won't have all the final information like relative effectiveness. That said, we'll have enough information to determine the relative effect on each state based on planning year selection.
- Dave Montali: Don't we already know that for land use that's occurred or projected, the more that's happening in a state to convert forest to urban will result in increased allocations relative to those that aren't growing urban areas? Likewise, urban areas growing from agricultural areas will affect this process similarly?
    - Gary Shenk: Urban growth from forest would result in more loads, and if you select a later year you'll have a higher allocation. Urban growing from agriculture depends on the intensity of both land uses, and the level of treatment that you're expecting. So pound/acre in urban and agriculture, with wastewater treatment factored into urban, would be relative based on where you are in the watershed.
- Dave Montali: There will be winners and losers, and the TMDL was set up using 2010 conditions with the expectation that we would accommodate increased loads from growth after 2010. So how can we pick a later base year that takes away from what's expected in the TMDL and put that burden elsewhere?
    - James Davis-Martin: So then your position would be for 2010?
    - Dave Montali: Yes – I would base it on what was done in the TMDL.
- Tanya Spano: The point of suggesting 2025 is to say if that's what we need in place to meet the TMDL, then we're using 2025 and projected growth as a way of portraying a reasonable point in the future that we know we should have accounted for what we need to do.

- James Davis-Martin: 2025 is the land use condition that we will be accountable for as we march through our milestones and annual progress scenarios. Otherwise, we're using our E3 scenario to apply BMPs on a land use that will no longer exist in 2025. So I think it may be steering us in the wrong direction if we don't look forward. In addition, the No Action to E3 scenarios are supposed to be used for planning targets, but has also been used as a means to quantify what the maximum extent feasible or practicable is.
- James Davis-Martin: So are we prepared to make a decision based on principles now?
    - Nicki Kasi: I can see what you're saying, but I'm going to have to confer with my colleagues before making a decision. Do we have information anywhere detailing what the pros and cons are?
- James Davis-Martin: I don't know if we've done that type of document, but I would ask the group if that's something they would like to see.
- Paul Emmart: We would prefer to wait to make a decision, but I can say that we are leaning toward using 2010. I'm also wondering what happens after 2025, even if we pick that as the baseline date?
    - James Davis-Martin: Even if we use 2010 and left Conowingo as it is represented in the Phase 5.3.2 model, the state basin targets produced by the Phase 6 model will be different than what we had in the 2010 TMDL. So the planning targets will be different, and I would hope the TMDL is revised to fit the new WIPs and those planning targets. From my perspective, the consistency arguments are only really related to methodology, not to producing similar results.
- Tanya Spano: I think a briefing document from the Modeling Team would help everyone better understand the aspects related to a philosophical decision or a numbers-based decision to selecting the base year.
- Gary Shenk: I think using an example would be very illustrative in terms of communicating the consequences of each option.
- Sarah Diebel: Would actions be required above and beyond E3 levels for certain sectors?
    - Gary Shenk: In an extreme example, if allocations are based on forested land uses, then trying to get back down to the forested level would potentially be beyond E3.
    - Sarah Diebel: Didn't we come up with E3 scenario by source-sectors? How would urban be expected to get back to forest without going beyond E3?
    - Gary Shenk: The point was that if their planning targets were set based on a forested condition as they were in 2010, then they would have to get back to that forested condition to meet that planning target.
- Tanya Spano: Given the different consequences laid out, I don't feel comfortable with making a decision on this today. I would also note that if a philosophical decision is made, when the TMDL was done those types of decisions were evaluated again based on results. So even if we made a decision now, it would still be good to re-evaluate based on data.
- James Davis-Martin: I would ask that everyone give thought on what information they need in order to make this decision in late April-early May.

- Sarah Diebel: If we use 2010 for consistency with the TMDL, will the high-res land use information be incorporated into that?
    - Gary Shenk: Everything will be based on that high-res data.

Action: The CBP Modeling Team will develop a briefing document to capture the details and consequences of selecting a specific base year on which to develop the Phase III WIP Planning Targets from the range of available options. WQGIT members should submit requests for specific information to Gary Shenk.

STAC Workshop Report on Climate Projections and Scenarios: CBP Draft Response to Comments – Zoe Johnson, NOAA

Zoe presented the process to approve the findings from the STAC workshop report on climate change projections in the Watershed Model, and the drafted CBP responses to comments.

Discussion:

- James Davis-Martin: The decision for using an evapotranspiration model is being made by the Modeling Workgroup (MWG). Is that intersecting with the Climate Resiliency Workgroup (CRWG) at all?
    - Zoe Johnson: The CRWG has provided guidance on marsh loss, but for evapotranspiration we're using the STAC workshop report to provide guidance.
    - James Davis-Martin: I would ask that when the MWG has made a decision on this, if they could present to us the options they considered and the one they selected.
    - Lew Linker: We brought this up to the MWG at their quarterly review, and we've concluded that the Hargreaves approach is the most appropriate method for modeling evapotranspiration. We would be happy to bring this before the WQGIT at any time.
- James Davis-Martin: In regards to point #5, I'm not sure I believe we should be using 2050 projections as the basis for our BMP's efficiencies between now and 2025. If the rainfall intensity ramps up beyond what we're expecting between 2025 and 2050, I recognize we'll have to deal with that in our BMP design. But to begin simulating BMPs as if we're already receiving rainfall of 2050 I don't think is in our best interest in trying to meet 2025 targets.
    - Zoe Johnson: I understand that, and we have tried to leave in the more qualitative options in this document.
    - Nicki Kasi: I have to agree with James – maybe we can say that we will consider the information that comes out, but to leave it at that.
    - James Davis-Martin: I'm comfortable with the language that alternatives are still being considered. How is it usually handled if we disagree with a STAC recommendation?
    - Zoe Johnson: I wrote in here what we're doing in response to what they've recommended, but I haven't included descriptions of why we aren't doing certain

things. That said, the CRWG is proposing another STAC workshop on climate change and BMPs.
    - Lew Linker: I think this may be one of the more forward-looking recommendations. There's no way we can get a change in efficiency due to climate change in the current version of the Phase 6 model, and I believe STAC was looking beyond the Midpoint Assessment in making these recommendations to suggest we look at our overall understanding of climate change's impact on BMP effectiveness.
    - Zoe Johnson: And the recommendation itself actually refers to looking beyond the 2017 Midpoint Assessment.
    - Nicki Kasi: Then I would recommend we just note that this was a very good suggestion for the future, and that it will be taken into consideration. I think the response currently has too much detail.
    - Tanya Spano recommended including both Nicki's suggested language as well as some of the details provided in the current version of the response to demonstrate the Partnership's forward-thinking on this topic.
    - Sarah Diebel: I don't think we have enough information on BMP efficiencies currently, so including that information in this response would be quite useful.
- Zoe Johnson: This will probably be presented to the Management Board for approval during the March 9th meeting.
- James Davis-Martin proposed to WQGIT members that they move forward and approve the drafted response to comments, and requested that WQGIT members submit specific feedback and edits to Zoe Johnson by COB Monday, January 30th.

Decision: The WQGIT approved the CBP drafted responses to the STAC report on climate change, conditional that WQGIT members may still submit suggested edits on the document to Zoe Johnson by no later than COB Monday, January 30th.

Confirmation of new 1-year at-large membership positions

- Tanya Spano (MWCOG), Sarah Diebel (DoD), and Chris Thompson (LCCD) were approved to serve 2-year at-large membership positions for the WQGIT.

Participants:

Name	**Affiliation**
James Davis-Martin	VA DEQ WQGIT Chair
Teresa Koon	WV DEP WQGIT Vice-Chair
Lucinda Power	EPA WQGIT Coordinator
Lindsey Gordon	CRC WQGIT Staff
Ann Carkhuff	EPA
Suzanne Trevena	EPA

Chris Day	EPA
Jeff Sweeney	EPA
Lew Linker	EPA
John Schneider	DE DNREC
George Onyullo	DC DOEE
Collin Burrell	DC DOEE
Lee Currey	MDE
Dinorah Dalmasy	MDE
Paul Emmart	MDE
Jason Keppler	MDA
Bruce Michael	MD DNR
Sarah Latessa	NYS
Kristen Wolf	PA DEP
Jill Whitcomb	PA DEP
Nicki Kasi	PA DEP
Dave Montali	Tetra Tech/WV DEP
Marel King	CBC
Jenn Volk	UD
Sarah Diebel	DoD
Tanya Spano	MWCOG
Karl Berger	MWCOG
Bill Angstadt	Angstadt Consulting
Chris Thompson	LCCD
Beth McGee	CBF
Joe Wood	CBF
Jessica Blackburn	CAC
Gary Shenk	USGS
KC Filippino	HRPDC
Mary Gattis	LGAC
Olivia Devereux	Devereux Consulting
Jeremy Hanson	VT
Joan Smedinghoff	CRC
Lisa Ochsenhirt	V/MAMWA
Mark Dubin	UMD