CHESAPEAKE BAY PROGRAM
WATER QUALITY GOAL IMPLEMENTATION TEAM
August 28, 2017 CONFERENCE CALL
Meeting Summary
Meeting Materials: Link

Summary of Actions and Decisions

Action: The WQGIT did not reach consensus on whether to define the concerns raised with modeling soil phosphorus as a fatal flaw in the Phase 6 Watershed Model, and did not reach consensus for a resolution to the issue. The issues of reducing uncertainty in modeling soil phosphorus and of modeling soil phosphorus inequity across agricultural and urban sectors will be elevated to the Management Board for a resolution at their September 21 meeting.

Decision: The WQGIT approved the recommended path forward for improving the Partnership's Land Use Change Model's ability to distinguish between mixed open and developed pervious lands as approved by the Land Use Workgroup, with the provision that this decision is conditional upon review and approval of the completed changes by the Land Use Workgroup.

Decision: The WQGIT approved the AgWG's recommendation to improve crop removal values in the Phase 6 Watershed Model for the following crops using the AgWG's recommended methods: major crops as determined with USDA Crop Nutrient Tool and USDA-NASS Quick Stats; hay, pasture, and select specialty crops as determined with the USDA Crop Nutrient Tool, with the pasture removal rate lowered to address distinct management; and other crop removal values to be set at a universal rate of 80% per acre application goal, with adaptation where better data is available. More specific data may be submitted by jurisdictions during two-year milestone periods, in place of general recommendations.

Decision: The WQGIT approved the AgWG recommendation to set the default credit for stream exclusion practices to 17.6 animal units per 1,000 linear feet in the Phase 6 Watershed Model.

Decision: The WQGIT approved the AgWG recommendation to allow jurisdictions to adjust standard deviation values of observed soil phosphorus data in order to better represent the uncertainty of jurisdictions' datasets in the Phase 6 Watershed Model.

Decision: The WQGIT approved the AgWG recommendation to use a 25-year time horizon to model changes in soil phosphorus in the Phase 6 Watershed Model.

Decision: The WQGIT approved the proposed resolutions to the remaining fatal flaw comments on the Phase 6 modeling tools, with the condition that the impacts of changes made as a result of incorporating resolutions and recalibrating the Phase 6 modeling tools are documented.

Decision: The WQGIT approved the AgWG's recommendations for E3 and No Action definitions in the Phase 6 Watershed Model.

Decision: The WQGIT approved the agenda for the September 25-26, 2017 Face-to-Face meeting.

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

James Davis Martin outlined for the WQGIT members how he wanted to work through the agenda, seeking decisions on the workgroup specific topics first, followed by an overall decision for the remaining proposed resolutions.

Announcements:

- James gave announcements: an email from Nick DiPasquale, outlining the Partnership's commitments on verification. It also included a reminder of our collective agreement that verification protocols would be in place by the 2018 progress year.

Update on Soil Phosphorus Concerns – Alisha Mulkey, MDA, Agriculture Workgroup member, and Matt Johnston, UMD - CBPO

Alisha described discussions within the Agriculture Workgroup (AgWG) regarding concerns with the use of soil phosphorus data, and explained that the AgWG did not arrive at a consensus resolution to address these concerns. Matt provided a response to the concerns as raised and a potential path forward on behalf of the Modeling Workgroup, Urban Stormwater Workgroup, and CBPO.

- Matt Johnston presented several options for a path forward:
  1. Data uncertainty: States can adjust standard deviation values before September 1, to ensure that future estimates are closer to the APLE estimate for soil phosphorus.
  2. Future data collection: States may provide midterm agricultural soil phosphorus data at each 2-year milestone period.
  3. STAC workshop request: investigate impact of soil phosphorus in urban runoff for inclusion in a future phase of the Watershed Model.

- Nicki Kasi asked for a review of the uncertainty method regarding soil phosphorus.
  - Johnston: The model output is a merging of two methods of estimation. The first is APLE, which estimates soil phosphorus based on nutrient inputs from the Watershed Model and crop uptakes to determine what amount is left in the soil. The other method is a trend analysis based on soil sample data. You can change the uncertainty on either of those methods, which will change your output for soil phosphorus.
- Ed Dunne: Is that 1 or 2 standard deviations? And is that plus or minus?
  - Johnston: I will have to check the documentation and get back to you.
- Beth McGee: It comes down to concerns about the adequacy of the soil phosphorus observational data. What are the concerns here?
  - Kasi: Part of our concern is that too much weight is given to APLE for soil phosphorus outputs, and not enough weight is given to sampling data.
  - James Davis-Martin: That's the uncertainty element. And there's also the issue of sector inequity as well. The proposed STAC workshop option recognizes that

inequity concern and also recognizes that there's not enough data to address uncertainty now, but we can continue to investigate it in the future.

- Chris Brosch: Matt mentioned phosphorus uptake, which is frequently confused with removal. Both parameters were revised by the AgWG, so when will that be rerun and when can we see new data?
    - Matt: They will be rerun. If we reach a decision today, we can give new inputs to the modeling team next Friday (September 8). After that the modeling team can run APLE and from there we can run inputs for the entire model.
- Tanya Spano: I want to recognize that the use of multiple models is consistent with the approaches used in the past. I think we should look at the logic we have used before to inform our decision going forward.
- Davis-Martin: Soil phosphorus has been identified as a fatal flaw by several jurisdictions. Is it the combination of sector inequity and uncertainty that's a fatal flaw, or is it one or the other? If we have a solution to uncertainty, is that satisfactory to resolve the issue?
    - John Schneider: It's both for us, but the equity issue is more important to DE.
- George Onyullo: It's a stretch for me to say it's a fatal flaw. This is something we need to look at putting in the parking lot for later investigation. We really can't make a case here about inequity since we don't have a lot of information.
    - Davis-Martin: I would say that a fatal flaw is anything today that we can't reach consensus on. If we can't make a decision today, it will go to the Management Board for them to make a decision on whether it's a fatal flaw or not.
- Rich Batiuk: If we extracted APLE from the model, does that fix your problem, or is it more than soil phosphorus alone?
    - Schneider: The issue is bigger for DE. What we think is most concerning is that urban sectors don't have any modeling for soil phosphorus.
    - Chris Brosch: We also find that counties with similar manure histories have different estimates for soil phosphorus using this tool. That raises concerns for us about the reliability of the APLE model.
- Davis-Martin: So the solution you want is to turn off soil phosphorus and revert to the Phase 5 method for soil P, which was nothing.
    - Brosch: I think we need more time to refine APLE before we can use it to estimate soil P in the model.
    - Davis-Martin: So we would keep APLE but set it to 0 for now. Then we leave the capacity to estimate phosphorus and we load it fresh with new data that we get in the next couple years?
        - Brosch: Yes, and DE is in the process of collecting that data right now.
        - Davis-Martin: But there's still no solution to the equity issue for the urban sector.
- Spano: I'd like to know if there are other states beside DE that raised this issue with APLE not consistently representing soil P observations.
- Jill Whitcomb: I don't think there's a disconnect there, but it's likely that soil samples in our state are biased towards higher animal density, and that introduces the question of unreliability in the data if that sampling is extrapolated to represent the whole county.

Some counties had a very limited sampling size. We can't recommend anything until we see the impact that the recommendation will have.

- McGee: Soil P is something that people are always surprised about not being incorporated into the model earlier. There have also been STAC recommendations to include soil P in the model. There are a lot of groups out there that will question the credibility of the model if we decide not to include soil P modeling.
- Dave Montali: I don't know if we'll get consensus today for this recommended action. These decisions to represent soil P this way were made within the Modeling Workgroup and were approved by STAC. Decisions were also made to not model soil P for urban land. I think we also need to ask for consensus to change decision that have already been made. If we don't have consensus either way, then we have to elevate this to the Management Board. We don't have any reliable tools to use on urban lands yet. That inequity is everywhere in how we represent P exports, and it shouldn't be an important factor for establishing planning targets, which is what we are concerned with in the Phase 6 fatal flaw review.
    - Davis-Martin: The planning targets are a single value for each pollutant at the state basin scale. There won't be inequity in planning targets, but there may be inequity in the way the model simulates management actions and planning scenarios.
- Kasi: I'm more concerned with the uncertainty of the data. I want to know, if APLE gets turned off, what is the impact of that and what does that mean?
- Mulkey: What Gary told us in the AgWG is that turning off APLE would make soil P loss from ag lands more homogenous. APLE allows some spatial variation in soil P loss.
    - Matt Johnston: There are two important takeaways there. 1: With APLE running, you still get to the Phase II WIPs in CAST. You see more bang for your buck for agricultural practices with APLE turned on, for reductions in P to the ground. 2: APLE allows more sensitivity, and without APLE in there, you lose the ability to better calibrate the model at each station because it allows for more spatial variation.
        - Montali: That's right. The calibration is much worse in Phase 5 where we didn't have APLE, and APLE allows calibration to be much better.
- Davis-Martin: Do we have consensus on the recommended path forward? Recommended resolutions include: allow immediate adjustment of uncertainty factors through the standard deviation prior to September 1; states may provide additional agricultural soil P data to be incorporated at each milestone period; and a recommendation to convene a STAC workshop to investigate the impact of soil P on urban runoff in the Bay watershed for incorporation in a future phase of the Watershed Model.
    - Davis-Martin: I'd like to remind the WQGIT of the consensus continuum. Is anyone at the stop or hold point of the continuum?
    - John Schneider: DE still considers the inequity issue to be a fatal flaw in the model.
    - Davis-Martin: The resolution failed, due to the objection from DE. A solution to the issue cannot be now decided by the WQGIT and will go to the Management

Board for a final decision on whether this issue is a fatal flaw, and if so the Management Board will determine if these proposed measures are adequate to address the issue.

- Jenn Volk: I think we need a clearer distinction on this issue. Are we deciding whether this is a fatal flaw, and then if we can get to consensus, we choosing solutions? What part of this decision is being elevated to the Management Board?
- Davis-Martin: Ok, we can call for consensus on whether this issue should be considered a fatal flaw in the Phase 6 Watershed Model. This decision would be distinct from the call for consensus we just made, which asks for consensus on the proposed resolution to the soil phosphorus issue but does not consider whether it meets the definition of a fatal flaw.
    - Kasi: PA needs more information on what the impacts of these recommended resolutions will be. I'm a hold on this until we get more information. We need to know what it means to turn APLE on or off.
    - Volk: I'm a hold on this.
- Johnston: I'd like to make a note on the timeline here. If we were to provide the information that PA is requesting, we won't have a September 1 model, and we won't have planning targets for the PSC.
    - Davis-Martin: Any changes now would likely mean that we won't be able to meet our deadlines, so I'd like the WQGIT to take note of that.
- Sarah Diebel: Which portion of the fatal flaw definition does equity fall under? Are we still working under that definition that's been agreed on?
    - Schneider: It creates a political problem for states that have both agricultural and urban issues to deal with.
- Norm Goulet: I'd like to ask for clarification on what exactly the inequity issues are. I'd like to point out to the WQGIT the two pager we have posted on the website. The USWG is very confident in our P numbers.
    - Chris Brosch: We are looking at issues with development on ag, and there is high soil P in those acres that are developed, and so you are cementing that load in place when you develop. Until that is addressed, there is inequity there. There's no way in the model to account for the high soil P on newly developed ag lands.
    - Goulet: The nutrient management panel looked at soil P loss from urban lands, and that's just one of 11 risk factors. We have a solid body of evidence that a lot of the P loss comes from stream banks. I have a lot of considerations for newly developed ag lands that mean that soil P is either locked in place or being recycled.
- George Onyullo: I would like to go back to the basics. Each workgroup was able to define what constitutes a fatal flaw in their sector. AgWG feels that this is a fatal flaw. The other groups are trying to accommodate DE's interest, but USWG doesn't think this is a fatal flaw on the equity side. So there's disagreement. If AgWG did not decide in the beginning that perceived inequity is a fatal flaw, then it cannot change a decision now and say it's a fatal flaw.
    - Davis-Martin: We have a definition that is agreed on for fatal flaw. This could fall under the category of illogical results. If one of our partners doesn't like the way

the model works, then we should advance that issue as a fatal flaw. That's not the definition that we decided on, but that is the case here.

- Davis-Martin: We were asked to separate the resolution from fatal flaw designation. Who believes this is a fatal flaw and that we should move forward with that designation? This is in regards to equity and data quality in soil P representation in the Phase 6 Watershed Model.
    - Schneider: DE still believes this is a fatal flaw due to sector inequity, and I am on hold with data quality.
    - Jenn Volk concurred with DE.
    - Nicki Kasi concurred with DE.
- Davis-Martin: I suggest another alternative to the data certainty issue: We have 4 months to evaluate planning targets to look at implications to levels of effort. That might be the time to evaluate this issue and look at potential inequities between agricultural and urban sectors at similar implementation levels. Perhaps we could come back and change the soil P representation during that planning target review.
    - McGee: I think that's a slippery slope, that we want to see the results and decide whether we like them or not versus using the best available scientific data and knowledge.
    - Davis-Martin: My suggestion is that if, during the review of the draft planning targets, jurisdictions come to realize that the current soil P representation translates to an unrealistically high level of effort to reach the P target, then maybe we should reconsider how we're representing P in the model. Should we be open to revisiting that possibility during the review?
    - Rich Batiuk: I hear a lot of requests to explore the implications, and I understand that there is already some exploratory work being done. We can recommend to the Management Board to proceed with the current version of the Watershed Model and with the resolutions agreed on today. We can keep APLE, and explore the differences and impacts of APLE during the four-month review period, and we can adapt that information to reflect on how the tools we have should be used.
- Spano: Is DE's concern a matter of believing that APLE will unfairly influence the load at the state basin or local level? If it's at the local level, then you will have flexibility in addressing any issues you encounter. The model is only accurate to the state basin level anyway.
    - Chris Brosch: The total load will have an impact here, and with local WIP planning the differences in load from ag and urban will certainly be an issue.
- Bill Angstadt: Looking at the timeline here is important. When we ask whether we turn the sensitivity on or off, that's a tiny amount from a local standpoint. I think we are premature to talk about the local issues with soil P. Let's get the planning targets first, and we can come to a decision on this during that review. We need the numbers to see where we actually are.
- James Davis-Martin asked for final votes from John Schneider, Nicki Kasi, and Jenn Volk.
    - Volk: Will we still have the opportunity to evaluate this in the future?

    - Davis-Martin: We could include that in our path forward. That does make our job more difficult come January/February when we have to decide and possibly do a recalibration if we have to change a model that's been approved. It is hard to convince local partners of the credibility of the model if it is subject to change halfway through. I would like to leave this option on the table for the Management Board, since we are constrained here by consensus and they are not.
- Suzanne Trevena: I want to caution against presenting it as a fatal flaw to the Management Board, since what we have right now is really concerns raised by DE and PA. This should be presented as an issue that needs to be resolved and not a fatal flaw that was agreed to by the WQGIT.
    - James Davis-Martin concurred. The WQGIT did not have consensus on whether this issue was a fatal flaw, so the decision on whether to define the issue as a fatal flaw will be elevated to the Management Board.

Action: The WQGIT did not reach consensus on whether to define the concerns raised with modeling soil phosphorus as a fatal flaw in the Phase 6 Watershed Model, and did not reach consensus for a resolution to the issue. The issues of reducing uncertainty in modeling soil phosphorus and of modeling soil phosphorus inequity across agricultural and urban sectors will be elevated to the Management Board for a resolution at their September 21 meeting.

Revision to Mixed Open vs. Developed Pervious – Peter Claggett, USGS – CBPO, Land Use Workgroup Coordinator

Peter provided a recommendation to improve the Partnership's Land Use Model's ability to distinguish between mixed open and developed pervious lands as approved by the Land Use Workgroup. The previous rule classified all herbaceous lands within developed areas as turf grass, resulting in an over-classification of turf grass in developed land uses. The recommended solution to this issue is to reclassify herbaceous lands in patches greater than 20-25 acres within developed land uses, Census Urbanized Areas, and with NASS Cropland Data Layer values to cropland and/or pasture land uses or mixed open land uses. The most impacted land uses will be federal lands and parks, and small agricultural lots.

- Davis-Martin: Is this happening before or after the Ag Census true-up?
    - Claggett: Before. It's possible that this will turn it into mixed open, and Ag Census could change that. Overall, this improves the accuracy in the model, and including the true up will minimize the adjustment needed for the issue.
    - Bill Keeling and WV representatives agreed that this is a step in the right direction.
    - Davis-Martin: Agreed, and with the inclusion of VA land use error rates and this reclassification, that will satisfy our concerns,
- Onyullo: We don't consider this a flaw, but we do want to make a note that we want to see the impact on this.
- Ted Tesler: I want to ask if LUWG had any questions or concerns.

    - Karl Berger: It wasn't a well-attended meeting, but nobody objected. No one saw the data so we couldn't make a recommendation without seeing the potential impact. Once Peter does produce the input, then it should be ok for the LUWG to approve.
- Diebel: For the changes for federal lands, those make a lot more sense now that I see the change. It would be helpful to integrate the land use information into the federal editor tool so that we can see what that will look like.
    - Peter Claggett asked to clarify the request:
    - Diebel: Can we incorporate the high resolution land use information into the federal viewer to view the property data, or at least that we know the breakdown of land use for each federal property?
- Spano: We still need to see wastewater data from Peter as well as this. There are some demands on Peter's time here.
- James Davis-Martin called for consensus on the recommended path forward.
    - Kasi: If the workgroup looks at the impact and approves it, then I will be OK with it.
    - James Davis-Martin asked Karl Berger to tell the WQGIT if there are any concerns from the LUWG regarding this decision once the data are available to review.
    - Davis-Martin: We will make this a provisional decision, pending review and approval from the LUWG. And we would need to know the specific concerns if it has to be elevated to the Management Board.
- **Decision:** The WQGIT approved the recommended path forward for improving the Partnership's Land Use Change Model's ability to distinguish between mixed open and developed pervious lands as approved by the Land Use Workgroup, with the provision that this decision is conditional upon review and approval of the completed changes by the Land Use Workgroup.

Agriculture Workgroup Approved Updates to the Phase 6 Model – Loretta Collins, UMD-CBPO AgWG Coordinator and Mark Dubin, UMD-CBPO, Agriculture Technical Coordinator

Loretta provided a list of agricultural updates to be made to the Phase 6 Watershed Model, as a result of the fatal flaw review period as approved by the Agriculture Workgroup.

Recommendations included:

1. Improving crop removal values for all crops.
    - Call for consensus: No objections were heard.

Decision: The WQGIT approved the AgWG's recommendation to improve crop removal values in the Phase 6 Watershed Model for the following crops using the AgWG's recommended methods: major crops as determined with USDA Crop Nutrient Tool and USDA-NASS Quick Stats; hay, pasture, and select specialty crops as determined with the USDA Crop Nutrient Tool, with the pasture removal rate lowered to address distinct management; and other crop removal values to be set at a universal rate of 80% per acre application goal, with adaptation where better

data is available. More specific data may be submitted by jurisdictions during two-year milestone periods, in place of general recommendations.

2. Setting a default credit for stream exclusion practices to 17.6 AU/1,000 linear feet
    - Johnston: A question to address down the line is what data we want in the future, and how that data should be formatted and submitted. On recommendation #2, we will probably come to the conclusion that more data is better data.
    - Diebel: Those animal units per 1000 feet would be a criterion to include in your progress report?
        - Mark Dubin: It has been a land use change, but is moving to a straight BMP. This new format is more accurate. That's why we are asking states to change the way they're reporting the data.
        - Beth McGee asked where the information on how this data is reported can be accessed.
    - Montali: With the history, we got area between fence and stream in the model. We currently don't have it reported this way in the model, but we can move towards that in the future.
    - Call for consensus: No objections heard.

Decision: The WQGIT approved the AgWG recommendation to set the default credit for stream exclusion practices to 17.6 animal units per 1,000 linear feet in the Phase 6 Watershed Model.

2. Adjustments to Soil P uncertainty: The change in standard deviation was approved for APLE. This option is also open to other states with justification.
    - Call for consensus on allowing states to make changes up until September 1:
        - Ted Tesler: PA has a concern that we won't be able to change these values until we can look closer at the data. PA is uncomfortable with that deadline.
        - Davis-Martin: September 1 is the deadline for submitting data to be included in this recalibration. Every time you submit new data at milestones, you can change that data.
        - Tesler: I'm still concerned about our ability to write WIPs. Milestones are too late to revise our WIPs. This is maybe a remedy to part of the issue but I don't know that there's a big fix to be had here.
            - Davis-Martin: This isn't a full fix, but we agreed that it's a step forward.
        - Ted Tesler abstained, and allowed the decision move forward.
        - Jill Whitcomb asked what the justification might be from states to change their standard deviations, and whether the scale for standard deviations are calculated at the state basin or county scale.
        - Dubin: WV asked for the standard deviation change because of the particular data set that was being represented in the model. That's up to the states to decide how to set their standard deviation.

    - Dave Montali: Low numbers of samples in WV were also part of WV's request, as well as locational uncertainty with this data set.
    - Mulkey: I have 2 counties that I have asked Andrew and Matt to review to change the standard deviation at the county level in MD, so we are working at the county level in MD's case.

Decision: The WQGIT approved the AgWG recommendation to allow jurisdictions to adjust standard deviation values of observed soil phosphorus data in order to better represent the uncertainty of jurisdictions' datasets in the Phase 6 Watershed Model.

3. Timescale for future phosphorus scenarios: The WQGIT approved a 25-year window to start and requested more time horizons to review over the summer. AgWG did not come to a consensus to modify the 25-year recommendation as of August 17, 2017.
    - Davis-Martin: How are the results of the other year options different?
        - Loretta Collins: This was closely related to the high soil P levels in DE counties. They want to see a reduction in soil P after implementing BMPs. The years that are set in the scenarios will improve DE's reductions, but a shorter time frame is a little better for the low soil P counties in MD. The proceedings for that meeting are captured in the minutes from our July 20 and August 17 meetings.
    - Tanya Spano asked for clarification.
        - Brosch: It's just how long you let a practice happen to see an effect. On soils with increasing P, the loads get worse over time, and on soils that have decreasing P, the loads get lower over time.
    - Tesler: We usually don't deal with time horizons because we expect to revisit data and practices fairly frequently.
        - McGee: What time horizons were used when the model was applied in other contexts?
        - Davis-Martin: Other time frames could be the BMP lifetimes of 15 years, or the time for nitrogen to be modeled, which is 10 years. There are a few options we could go with.
        - Dubin: 25 years is the scientific consensus to start seeing appreciable soil P change.
    - Call for consensus on 25 years to model soil phosphorus changes: Consensus was reached.

Decision: The WQGIT approved the AgWG recommendation to use a 25-year time horizon to model changes in soil phosphorus in the Phase 6 Watershed Model.

Resolution of Remaining Phase 6 Fatal Flaw Comments –Dave Montali, WV DEP/Tetra Tech, Modeling Workgroup Co-Chair

Dave provided an overview of comments received during the fatal flaw review period and recommended resolutions to address many of the comments. Following the presentation, the

WQGIT was asked to approve the following Modeling Workgroup Co-Chairs' recommended resolutions:

1. Concurrence that all fatal flaws and issues raised have been adequately addressed, and
2. Concurrence that all agreed paths forward will be incorporated into the Phase 6 Watershed Model and included in the recalibration, and that the resulting recalibration will be used to determine the draft Phase III WIP planning targets.

- Diebel: On slide 6, for BMP progress data for DOD. What does properly submitted mean?
    - Davis-Martin: PA changed their inputs so that the data could be submitted to Phase 6 through NEIEN.
    - Tesler: We are working on submitting this for Phase 6 historic data.
- Montali: September 15 is when new inputs and decisions would start being rerun into key scenarios. The data review process should start September 9, and key scenarios will be available September 15.
    - Diebel: Can we notify commenters as well as jurisdictions when revised data will be available to review?
    - NOTE: The presentation slides were updated to reflect this request in the timeline.
- Greg Busch: We would like to make sure that no delivery factors greater than 1 are applied to WWTPs if recalibration is warranted.
    - Spano: WWTWG would have a problem with delivery factors over 1 as well.
    - Busch: We would also like to rename the stream bed and bank loads and stream floodplain loads and call them stream restoration load reductions instead. For messaging purposes, to show that we aren't representing all the stream dynamics here but it's a way to credit restoration and link that to land river segments rather than land uses.
    - Davis-Martin: We have seen that request and would like to add that the stream bed and bank load varies according to the upstream impervious surface and land use, to better reflect reality there. We have a request from the USWG to consider that dimension.
    - Busch: In the absence of other changes to the model, we would like to at least change the name of the load category.
    - Davis-Martin: What's represented are the loads untreated by stream restoration.
        - Busch: Loads from bed and bank are canceled out by floodplain deposition, so there are often negative loads in streams due to restoration.
- Spano: How do we know when something is significant enough to warrant recalibration? Is recalibration automatic, or only if we think the loads will change dramatically?
    - Montali: I think it's a given that recalibration will be happening.
    - Batiuk: That's correct. We will put it to the WQGIT, but the Modeling workgroup is recommending that recalibration is the best decision to make to get accurate planning targets. That's also the best way to ensure that the model is airtight when draft planning targets go out to stakeholders for review.

- James Davis-Martin suggested that after final decisions are made with the Phase 6 Watershed Model, we should be able to make the comparisons as we go forward to get new scenarios. We will compare the current calibrated model with the incorporated changes to determine the base year and key scenarios, and the draft planning targets will be done on the recalibrated model.
    - Montali: We would have a 2-week period between changes going in and the model being recalibrated where that comparison can take place. The WQGIT will be invited to attend the October PSC meeting to hear the latest information on progress of the model.
- James Davis-Martin wrapped up: We have paths forward on some issues, and we will elevate soil phosphorus up to the Management Board.
- Norm Goulet expressed a concern about the stream load renaming proposal.
    - Davis-Martin: We need Gary back to discuss that. That will be up for decision in a few days.
    - Busch: This isn't something that will affect recalibration, it's just something we want to get on your radar.
    - Goulet: That implies there's a load that's not correctible.
    - Kasi: PA also requests to be briefed in more detail on this issue.
- Davis-Martin: I suggest that we set phosphorus aside, and the Management Board will make a decision on that. With the path forward for each of these comments, are there other issues that anyone thinks needs further work before you are comfortable with the model? In particular, issues related to recalibration?
    - No concerns were raised.
- James Davis-Martin called for approval of Dave Montali's recommendations.
- Kasi: I'd like some clarification on the model and the timeline. In September, we will make decisions on the base year and scenarios, correct?
    - Montali: The recalibrated model-results (planning targets) will be available for the WQGIT by October. We will have to assess whether recalibration of the estuarine model is needed, and if so, it can't be recalibrated until November. If it's recalibrated, we will also have to update the geographic isolation runs.
    - Kasi: We are not saying that we will be messing with recalibration here between November and March, correct?
    - Davis-Martin: And we will be using that review period to determine whether soil P modeling should be changed. So that's a double edged sword here. All we're really doing here is assessing the impacts of the decisions we have to make about base year and Conowingo and climate change. We will be making recommendations to the PSC based on the current model calibration, and that recommendation will be what is adopted as planning targets. We won't have final numbers until the model is recalibrated, but it won't change much.
    - Batiuk: We are working to get solid numbers so that we know the model will be very stable when it comes time to the Face to Face. The draft numbers will be able to be revised through the review period, but we have to get some numbers in front of you all to show your stakeholders.

- Spano: I want to make sure that the relative impacts of the changes we might make go to the PSC, and I want to make sure that the impacts of the changes will be documented.
    - Davis-Martin: Are you looking for a trigger point when recalibration is determined to be needed?
    - Spano: I want it to be documented so we can see what changes are occurring between the current calibration and the recalibration.
    - Davis-Martin: We will incorporate that into these slides as the decision we are making.
- Davis-Martin: We have consensus from the WQGIT on all but the soil P issue, and stream loads will be tabled for a later discussion. First we will want to see the impact of the changes in September, and then we will see the recalibration when it is presented to the WQGIT.
    - Kasi: Can you put some revised text forward in a couple days for the WQGIT to decide on?
    - Davis-Martin: We have WQGIT consensus on the changes to go forward with all but soil P, and we will revise the decision to reflect the requests of the group.

Decision: The WQGIT approved the proposed resolutions to remaining fatal flaw comments on the Phase 6 Watershed Model, with the condition that the impacts of changes made as a result of incorporating resolutions and recalibrating the Phase 6 Watershed Model are documented.

Agriculture Workgroup's Phase 6 E3 Scenario – Loretta Collins UMD-CBPO/AgWG Coordinator and Mark Dubin, UMD-CBPO/Ag Technical Coordinator

Loretta and Mark presented the Agriculture Workgroup's approved and recommended Phase 6 E3 definitions (BMPs, control technologies, and implementation levels) for agriculture for WQGIT discussion and approval.

- AgWG request: Endorsement by the WQGIT of the AgWG approved and recommended final versions of the Phase 6 No Action and E3 scenarios for agriculture.
- Davis-Martin: If 100% of the ag land that has row crops is cover cropped, then we have no fallow land. That also means no traditional winter wheat crop is happening, where you would fertilize your wheat to max production.
- Dubin: This only applies to row crops, so you will have some pasture and grain production that is exempt from this E3. This is hypothetical and is only limited to physical and not financial or social constraints.
- Onyullo: I had a concern about the retention standard for urban stormwater retrofits. DC has a 1.2" performance standard, and I am concerned about that extra 0.3".
    - Dubin: These are two different standards for new development versus older urban areas.
- James Davis-Martin called for consensus. The agricultural E3 and No Action definitions were approved.

Decision: The WQGIT approved the AgWG's recommendations for E3 and No Action definitions in the Phase 6 Watershed Model.

WQGIT Face-to-Face Meeting Agenda —Teresa Koon, WQGIT Vice-Chair

Teresa briefed the WQGIT on the draft agenda and key decisional items for the WQGIT Face-to-Face meeting on September 25-26 in Annapolis, MD. The WQGIT was asked to consider the items and decisions on the draft agenda, timing of topics, and order of content.

- Davis-Martin: We will have to revise the Phase 6 modeling tool resolutions based on today's discussion and the Management Board decision on the issues raised today. Are there additional questions and additions to the agenda?
    - No comments were raised.
- Davis-Martin: We still need to get out a white paper that differentiates between the base year for Phase III WIP planning targets and base year for Phase III WIP development.
    - Lucinda Power: We will have that white paper available for the September 11 call.
    - Nicki Kasi asked if the advantages of different base years will be covered in the white paper.
    - Power: Yes, we will cover the pros and cons of different base year options.
- Spano: I have also stressed the need to have the materials in advance for WQGIT to review.
    - Lindsey Gordon: Michelle and I are coordinating with presenters to get materials by September 11 and we will keep the WQGIT informed as the Face-to-Face calendar page is updated with materials.
- Sarah Diebel asked if there will be webinars in advance of the Face to Face meeting.
    - Power: We will have a climate change webinar on the quantitative analysis on September 19. We will have other briefings at the September 11 call and the Face-to-Face. If WQGIT members have requests for additional topics for briefings prior to the Face-to-Face, please contact Lindsey Gordon and Michelle Williams with your request.
    - Montali: The Modeling Workgroup products will not be completed until right before the meeting due to tight schedules, but we will do our best to get materials out to the WQGIT as soon as they are available.
- Norm Goulet requested that the WQGIT stay informed on the next Management Board call. The next scheduled meeting is September 21, and the outstanding issue of soil phosphorus will be resolved at that meeting.

Decision: The WQGIT approved the draft agenda for the September 25-26, 2017 Face-to-Face meeting.

Adjourned

Call Participants:

James Davis-Martin, VA DEQ
Teresa Koon, WV DEP
Lucinda Power, EPA
Lindsey Gordon, CRC
Michelle Williams, CRC
John Schneider, DE DNREC
Hassan Mirsajadi, DE DNREC
Marcia Fox, DE DNREC
Brittany Sturgis, DE DNREC
Lori Brown, DE DNREC
Chris Brosch, DDA
George Onyullo, DC DOEE
Ed Dunne, DC DOEE
Dinorah Dalmasy, MDE
Greg Busch, MDE
Alisha Mulkey, MDA
Jason Keppler, MDA
Bruce Michael, MD DNR
Paul Emmart, MDE
Greg Albrecht, NYS
Lauren Townley, NY DEC
Emily Dekar, USC
Nicki Kasi, PA DEP
Kristen Wolf, PA DEP
Jill Whitcomb, PA DEP
Ted Tesler, PA DEP
Russ Baxter, VA Deputy Secretary of Natural Resources
Dave Montali, Tetra Tech/WV DEP
Ann Jennings, CBC
Suzanne Trevena, EPA
Jenn Volk, UD
Beth McGee, CBF
Bill Angstadt, Angstadt Consulting
Tanya Spano, MWCOG
Sarah Diebel, DoD
Chris Thompson, LCCD
Bill Ball, CRC STAC
Jessica Blackburn, CAC
Loretta Collins, UMD
Mark Dubin, UMD
Lindsay Thompson, DE-MD Agribusiness Assoc.

Sally Claggett, USFS
Karl Berger, MWCOG
Mukhtar Ibrahim, MWCOG
Norm Goulet, NVRC
Matt Johnston, UMD
Jeff Sweeney, EPA
Rich Batiuk, EPA
Emily Trentecoste, EPA
Jen Sincock, EPA
Chris Day, EPA
Mica Peck, EPA
Pat Gleason, EPA
Ruth Izraeli, EPA
Joan Smedinghoff, CRC
Jeremy Hanson, VT
Olivia Devereux, Devereux Consulting
Kevin McGonigal, SRBC
KC Filippino, HRPDC
Gopal Bhatt, Penn State
Chris Moore, CBF
James Shallenberger, SRBC
Peter Claggett, USGS