CHESAPEAKE BAY PROGRAM
WATER QUALITY GOAL IMPLEMENTATION TEAM
MARCH 25, 2019 CALL SUMMARY
Meeting Materials: Link

Summary of Actions and Decisions:

Action: Michelle Williams will send out the editable Word document for review and comment. Comments should be in Track Changes, submitted by **COB April 1** to Lew Linker (llinker@chesapeakebay.net) and Mark Bennett (mrbennett@usgs.gov).

Decision: WQGIT approval of the final 2018 Water Quality management strategy, logic table, and workplan, for publication to Chesapeake Progress for public input through April 19, with submission of final revised materials to the Management Board April 26.

1:00 Welcome/Confirm Call Participants/Workgroup Updates –WQGIT Co-Chairs

Announcements:

- The WQGIT received approval from GIT 6 to extend the final deadline for revised SRS materials submission by one week:
  - By COB Friday, March 22, WQGIT membership should have completed review of the draft final documents and submitted any final edits and comments to Jason Bernagros.
  - Incorporation of any comments into the final documents will occur March 25-April 1, and the materials will be published online for the public input period (April 1- April 19).
  - Following one week to incorporate feedback from the public input period to the final revisions, the Management Board will receive the revised final SRS management strategy, logic table and workplan by COB Friday, April 26.
- Beth McGee (CBF) has not been able to join recent calls, but should be back soon for future calls.
- James Davis-Martin updated the WQGIT on the SRS meeting a few weeks ago. The current SRS process will be continued for the next 2-year period, with minor changes to make the process more efficient.
  - Sarah Diebel concurred. One significant need at the meeting was discussion of efficiencies that still need to be worked out in this process. The WQGIT could consider how to be more efficient at managing this SRS process, for instance holding discussions of outcomes earlier rather than completing all at once.
  - Kristin Saunders: We just had a meeting of the SRS small group to work out how to improve the process. These improvements will be presented at the April Management Board meeting. Some suggestions will be included in Chesapeake Progress, some will be submitted to Management Board for consideration, and others will go to GIT 6 for

consideration. We will be tracking that work and we will be transparent so participants can see if and how their feedback was incorporated.

- Dinorah Dalmasy: I didn't get at the meeting exactly how all the suggestions and discussions will be handled for the next update. In handling the next SRS update, the WQGIT needs to put a lot more effort into the next round of SRS.

1:10 Results of Geographic Isolation Runs – Gary Shenk, USGS, and Emily Trentacoste, EPA CBPO

Gary and Emily presented the results of the geographic isolation runs, a visualization tool to access the results, and how to utilize the results with other information for milestones and implementation.

The geo-isolation runs show effects of nitrogen (N) and phosphorus (P) loads on summer chlorophyll concentration in each tidal Bay segment. Results of the geo runs indicate that there is temporal P limitation. Spatial limitation effects of N and P on chlorophyll growth indicate that there is P limitation in tidal fresh segments and a mix of P and N limitation in oligohaline segments. N is more limiting in more saline areas of the Bay. Additional effects of light limitation may also have a role on chlorophyll growth—as N and P and sediment are reduced, light is more available in tidal segments.

Results indicate that dual nutrient control is still necessary in the Bay to reduce deep water and deep channel hypoxia, and to prevent nutrient imbalances that can lead to harmful algal blooms. The Partnership is not required to use the isolation runs in planning development, but the results can provide more detailed information on effects of local watershed loads on Bay water quality. Emily demonstrated the standards attainment visualization on the Data Dashboard (for open water) to understand the most influential sub-watersheds on water quality standards by using the geo runs visualization.

Discussion

- James Davis-Martin asked what scenario the extra pounds of N and P were added to.
  - Gary Shenk: We added those loads to the Phase II WIP numbers.
  - Davis-Martin: Would we expect the same result when we decrease loads by those amounts, as we see when we increase loads?
  - Shenk: Adding or subtracting 5 million lbs N and 0.5 million lbs P is a relatively small number compared to the total Phase II WIP load, so we'd expect to see similar watershed responses with a subtraction in that range as well as the addition in that range.
- James Davis-Martin asked if this will change the assumption that meeting the TMDL will achieve water quality standards across the Bay?
  - Shenk: When we did the TMDL, we put all the non-attainment areas into different categories: unmonitored and unknowable, monitored and in attainment, monitored and confident to meet standards, and some weren't modeled adequately to know

whether attainment was possible under the TMDL. We've been transparent in the limitations and uncertainty in the modeling efforts that contributed the TMDL development.
    - Lew Linker clarified: There was discussion in the Modeling Workgroup of why there was nonattainment in certain areas under TMDL conditions. In some areas, we acknowledged that the model does not perform well, and we had to include that in the documentation and move on.
- Linker: The geo runs results are especially important in tidal states, MD and VA—there is possibility for nutrient exchanges and trading, and this shows how local water quality goals might be affected under nutrient exchanges.
- James Davis-Martin asked if increases in N and P were scaled relatively to watershed size—for instance if a sub-basin is very small, would a 5 million lb increase in N contribute a 50% increase to the load above the Phase II WIP for that subwatershed?
    - Shenk: That's an interesting question. We don't think that these increases overwhelmed the model, but that's always the challenge to determine what the signal should be.
    - Linker: When creating the geo runs, the team did test different load increases of N, and we settled on what we did because that was the load that we saw the clearest signal without overwhelming the model.
- James Davis-Martin expressed concern about the timing of the geo runs results presentation vs the near-completion of the Phase III WIPs. James asked what will be expected for use of these results in EPA's expectations and WIP reviews.
- McNally: We don't expect you to be able to use the geo runs in your WIPs, although these can be used in your milestones. However, the data dashboard has been out for a while, and the model results have been available for some time. Those can be used in your WIP implementation and milestones also.
    - Emily Trentacoste: I presented a webinar to tidal jurisdictions a couple months ago for use in implementing the WIPs and developing the milestones.
    - Dalmasy: We saw that webinar. It will be difficult using the tool to geographically target WIP implementation, but we will have to discuss how best to do that. We will need CBPO's help when it comes time to use this tool.
- Dianne McNally asked if geo runs are still needed for dissolved oxygen (DO), since the geo runs portray the effect on chlorophyll a (chla).
    - Shenk: chla has an effect on DO, but algae sometimes increase DO through photosynthesis and sometimes reduce DO through respiration and decomposition. We wanted to remove that extra layer of complexity, so we used chla which more directly results from nutrient changes.

2:00 <u>Developing a Research Focus for Addressing BMP Climate Resiliency</u> – Mark Bennett, USGS, and Lew Linker, EPA CBPO

The WQGIT will determine a direction for focused research on BMP resiliency to climate change. This focused research proposal will be presented to the Management Board at their April

11 meeting. Lew Linker reviewed the issue paper and the original PSC charge to better understand climate impacts to water quality impacts and BMP implementation for inclusion in future management efforts. Needs for focusing this research proposal include prioritizing several BMPs to target, and assessing WQGIT perspective on highest priorities for climate resiliency research, potentially also including research into important co-benefits of water quality management practices such as public safety and public health benefits.

Discussion

- Tom Schueler: We have had support at the USWG for addressing this issue. Many local practitioners want more responsive design curves and parameters for stormwater management practices. We endorse an active leadership approach among the WQGIT to do this. USWG's May meeting will include collecting information on this topic and making that information available for BMP designers and practitioners.
- Jason Bernagros asked if this is for existing or future BMPs. Would this include retrofitting existing BMPs or including new design features for future BMP installations?
    - Linker: All of the above—we need to look at both existing and future built BMPs.
- Mark Bennett: The Management Board wanted us to talk more about BMPs other than urban stormwater BMPs. Are there other high priority BMPs that we should be focusing on? For instance, stream restoration or agricultural BMPs?
    - Linker: There will be different responses for different BMPs, and different climate effects on different BMPs. That includes practices like cover crops, and some structural agricultural BMPs.
- Dinorah Dalmasy: At the February Management Board meeting, the CRWG requested the Management Board to modify the timeline of the PSC directive, because the current PSC directive to include climate resiliency in the Phase III WIPs is not feasible. Will we have enough information to amend the WIP by 2022?
    - Linker: That was requested, but there has been no change to the schedule, so we must move forward under the assumption that 2022 is the year when climate resiliency will be factored in to the Phase III WIPs.
- Bennett: The other part of the WIPs, is that the load reductions needed will be modified to reflect climate impacts. However, the research on BMP resiliency is farther behind than the climate and water quality modeling. I don't know that that will be available by 2022 or even 2023.
    - Linker: It's important to note that climate change is a multigenerational problem, so there is no expectation of one and done by 2022, but we need to make a start by then.
- Ed Dunne asked about uncertainty analysis in this research direction.
    - Linker: Uncertainty was not really part of the PSC direction.
    - Bennett: Uncertainty is being discussed in STAC, and we don't have a directive to include that consideration in this line of research.
- Dianne McNally: Clarify what is being asked of the WQGIT. Will we be prioritizing BMPs to research? If so, we should emphasize agricultural BMPs.

    - Linker: I agree. The Management Board was really asking for a process for moving forward with this research. That process can include some kind of prioritization based on BMP effectiveness, or vulnerability to climate change.
- Nicki Kasi: This sounds like a good process, but I worry about the timeline. What exactly can the states expect to have to do those modifications by 2022/2023?
    - Bennett: The PSC asked for research on impacts from climate change on BMP efficiencies. I don't think we're going to get there by that timeframe but we need to make a start by then.
    - Linker: Perhaps the best way to do this is to make an estimate on changed BMP efficiencies in the model in 2019, technical review in 2020, and perhaps a policy review in 2021 to consider these estimates for inclusion in the milestones. Nicki, perhaps you are suggesting to start the policy review earlier to meet the next milestone development period.
- Dave Montali: I think we really need the additional loads from climate change first, so that the states know what to shoot for in terms of additional implementation. I think adding research on BMP efficiencies just complicates the picture and that may push that accomplishment beyond 2025.
- Norm Goulet: Efficiencies, design and crediting are handled through the expert panel process, and not the model. The Phase 6 model just represents the collective effort of established BMPs. I think we're combining two needs here that really should be handled under separate processes.
- Linker: That's a good point. And the impacts from climate change have been updated—we just got a 22 cm sea level rise estimate from the CRWG compared to the 17 cm estimate that we had last year—kudos to the CRWG for pulling together that latest science.
    - Bennett: There is a lot of uncertainty around those numbers, since the climate change estimates keep changing as the science gets updated. This can be a problem for managers and practitioners to have to work with uncertain estimates for BMP design and installation.
- James Davis-Martin: This issue paper is focused on structural BMPs and the effects on those BMPs from changes in precipitation due to climate change.
    - Linker: That's right, and this follows the priorities that Management Board discussed in February. However, the WQGIT was directed to work this to your preference, so we can change this however you see fit.
    - Davis-Martin: I do agree with the top-tier prioritization, but I don't think we should limit to structural BMPs. for instance, forest buffers will be impacted by climate change. There are also other climate impacts beyond precipitation. For instance, length of the growing season, increased evaporation, temperature changes, etc.
    - Linker: That's correct. So we can consider including other climate impacts to BMP efficiency research in the detailed research focus from the WQGIT.
- Davis-Martin: There may be low-hanging fruit to tackle in that BMP efficiency research, for instance simply updating first frost dates might be significant for cover crops and tree

plantings. Farmers and practitioners on the ground are already doing this, but it needs to be reflected in our modeling tools.
    - Bennett: That's a good point. At the STAC meeting there was discussion of farmers already changing planting dates for annual cover crop plantings.
    - Jeremy Hanson: The intent was to look at all possible BMPs with significant impacts from climate change, not just structural ones.
- Mark Dubin: I would also like to point out that some of our agricultural partners are interested in looking at climate adaptation in our practices, and looking at elevation and salt inundation in agricultural lands.
    - Davis-Martin: That's correct. There could be changes in land use and land cover with sea level rise, and other impacts to practices from climate change.
    - Norm Goulet mentioned species migration also. For instance in wetlands, there might be shifts in tree species with sea level rise. Any BMPs using living plants and animals in the model will be impacted in some way or another.
- James Davis-Martin asked for feedback to be sent to Mark Bennett and Lew Linker. Michelle will send out that document.
- Discussion of feedback and updated draft briefing paper to the MB will be discussed at the WQGIT April 8.

Action: Michelle Williams will send out the editable Word document for review and comment. Comments should be in Track Changes, submitted by **COB April 1** to Lew Linker (llinker@chesapeakebay.net) and Mark Bennett (mrbennett@usgs.gov).

3:00 Review of WQGIT Feedback on Draft Final Water Quality SRS Materials –Jason Bernagros, EPA

Jason reviewed final comments received on the draft final management strategy, logic table, and workplan for the WQGIT's 2018 biennial progress review. Track Changes were requested, however the Track Changes versions of documents were difficult to read. Clean versions were distributed with comments and responses summaries for ease of review. Comments were not received by March 22, so the current versions of documents will be distributed for public input with WQGIT approval.

Decision Requested: WQGIT approval of the final management strategy, logic table, and workplan, for publication to Chesapeake Progress for public input from April 1 – 19, with submission of final revised materials to the Management Board April 26.

- James Davis Martin: Since no comments were received by March 22, the version available today will be distributed for public comment. Following today, the materials will be put out for public input before finalization.
- Nicki Kasi: Can we consider this as an interim workplan and logic table, and update it to something more comprehensive once the Phase III WIPs are done? I am uncomfortable with being held to something incomplete for the next two years, and I haven't been able to review it as thoroughly as I would have liked.

- James Davis-Martin: I'm inclined to agree, but I think we can let it go for now and focus on developing a better product for the next update. Perhaps there is an interim review we can do once the Phase III WIPs are done.
- George Onyullo: I believe the standard of review was whether there was anything in the document that we cannot live with, and I think we are in keeping with that standard of review.
    - James concurred, and suggested that the explicit communication of that standard of review should be included with the documents.
- Michelle Williams reminded the group that the next biennial review and revision for WQGIT will be in 2020. Current materials will be reviewed and revised again as working documents within a year from now.

Decision: WQGIT approval of the final 2018 Water Quality management strategy, logic table, and workplan, for publication to Chesapeake Progress for public input through April 19, with submission of final revised materials to the Management Board April 26.

3:15 Adjourned

Call Participants:

Dinorah Dalmasy, MDE
James Davis-Martin, VA DEQ
Teresa Koon, WV DEP
Jason Bernagros, EPA
Michelle Williams, CRC
Allie Wagner, CRC
Lauren Townley, NYS DEC
Nicki Kasi, PA DEP
Bruce Michael, MDNR
Greg Sandi, MDE
Jim George, MDE
Lori Brown, DNREC
Chris Brosch, DDA
Dave Montali, TetraTech
Ed Dunne, DC DOEE
George Onyullo, DC DOEE
Marel King, CBC
Dianne McNally, EPA Region III
Sarah Diebel, DOD
Heidi Bonnaffon, MWCOG
Chris Thompson, Lancaster County Soil Conservation District
Norm Goulet, NoVA Regional Commission
Karl Berger, MWCOG
Ted Tesler, PA DEP

Lew Linker, EPA CBPO
Gary Shenk, USGS
Peter Tango, USGS
Jennifer Starr, LGAC
Jeremy Hanson, VT
Olivia Devereux, Devereux Consulting
John Wolf, USGS
Emily Trentacoste, EPA CBPO
Joan Smedinghoff, Alliance for the Bay
Kristin Saunders, UMCES
Jen Dopkowski, NOAA
Mark Dubin, UMD
Lindsey Thompson, MDAG
Barry Frantz, NRCS
Mukhtar Ibrahim, MWCOG
Tom Schueler, CSN