



2025 WATERSHED IMPLEMENTATION PLAN OUTCOME NOVEMBER 2024 QUARTERLY PROGRESS MEETING

LOOKING BACK: LEARNING FROM THE LAST TWO YEARS

Celebrate Our Accomplishments & Best Practices

1. Since your last QPM, what key successes would you like to highlight to the Management Board?
 - As of 2023, the best management practices (BMPs) in place watershed-wide to reduce pollutant loads are estimated to achieve 57% of the nitrogen reductions, 67% of the phosphorus reductions and 100% of the sediment reductions needed to attain applicable water quality standards when compared to the 2009 loads.
 - As modeled based on the implementation of BMPs, the sediment load reductions have met the established target and nitrogen and phosphorus loads have decreased from 2022 to 2023, constituting an increase in overall progress.
 - 2023 was the first year that progress was assessed accounting for both the Phase III Watershed Implementation Plan (WIP) planning targets and the 2025 climate targets. Per Chesapeake Bay Program (CBP) partnership decisions, Chesapeake Assessment and Scenario Tool (CAST) 2019 was used to finalize 2023 progress and the use of CAST-23 will begin with 2024 progress.
 - Watershed-wide, 3.4X more nitrogen reductions were achieved from the agriculture sector from 2020-2023 than from 2014-2019 which demonstrates an acceleration in reported implementation in this sector.
 - Jurisdictions continue to develop and meet their two-year milestone commitments which are the incremental progress to meeting our outcome.
 - Finalization of the [TMDL Indicator](#) and [Monitored and Expected Total Reduction Indicator for the Chesapeake](#) (METRIC) tool to better align modeling and monitoring information. The TMDL Indicator combines monitored and modeled data to estimate the progress of annual pollution loading rate reductions since 1995 in response to implemented management practices. The METRIC tool is an app designed for comparing the monitored load trend and CAST-estimated load trend for the Chesapeake Bay Non-Tidal Network (NTN) stations.
 - Contributed to the updates and finalization of CAST-23. Use of CAST-23 will begin with 2024 progress per the CBP partnership decision.
 - Improved cross collaboration and information sharing with state partner spotlights on program successes and quarterly submersion series discussions on investing in innovation and outcome based performance, technical assistance and capacity at the local level, and strengthen the connection between water-quality studies and agricultural conservation efforts.

- Recommended interim targets to the Management Board to measure progress until new targets are established using the Phase 7 modeling tools.
- Exploring recommendations for the Management Board to adaptively manage the two-year milestones to discuss the duration of milestones and opportunities to strengthen innovation in the milestones.
- Contributed to the ideas and discussions around Beyond 2025 with a focus on the Clean Water Small Group recommendations.
- Engaged in strategic planning discussions around the priorities and scientific needs for the WQGIT to address over the upcoming years.

Evaluate Our Progress

2. Are we, as a partnership, making progress at a rate that is necessary to achieve this outcome? Would you define our outlook as on course, off course, uncertain, or completed? Upon what basis are you forecasting this outlook?

The Chesapeake Bay Program (CBP) partnership continues to make progress toward meeting the 2025 WIP Outcome. The expected reductions for sediment have been met and maintained, however the expected reductions for nitrogen and phosphorus are not on track to be achieved by the current goal of 2025. During the 2022 SRS cycle the WIP outcome progress update identified that it is not on pace to meet the nutrient water quality goals by 2025 and outlined that the time horizon to meet the goals for nitrogen and phosphorus is beyond 2025. During that same year the partnership decided to assess the status for each outcome and to lay the path for the Beyond 2025 discussions and recommendations.

Based on an average of the implementation rates between 2009 and 2023, simulated using CAST-19, and extrapolating out that average annual rate of reduction the nitrogen goal would be achieved near 2036 and the phosphorous goal would be achieved by 2034. However, this average annual rate includes upgrades to wastewater treatment systems. Those wastewater treatment system upgrades would not be continued at the same rate to contribute to the average annual reduction rate looking into the future. The majority of the remaining reductions are expected to be achieved by reducing loads from nonpoint sources which relies on voluntary implementation and available funding. The 2023 STAC report Comprehensive Evaluation of System Response (CESR) notes reductions from nonpoint sources are more difficult to achieve and there will be continued challenges with growth in loads from nutrient imbalances and climate impacts, for example. These factors and more make it difficult to estimate a date for when this outcome would be achieved. A new or revised date associated with this water quality outcome is expected to be discussed by the CBP partnership pending final decision on the final Beyond 2025 recommendations that will be presented to the EC in December 2024 .

3. How would you summarize your recent progress toward achieving your outcome (since your last QPM)? Would you characterize this progress as an increase, decrease, no change, or completed?

In 2023, the partnership measured progress toward the Phase III WIP planning targets including 2025 climate,. Achieving the goal for sediment continues to be maintained based on the model simulated progress. The CAST simulated progress continues to incrementally increase for nitrogen and phosphorus toward meeting the 2025 WIP outcome. The modeled loads for all three pollutants reflect an increase in progress. Additional detail around these increases can be found on [ChesapeakeProgress](#).

In addition, the new [TMDL Indicator](#) on Chesapeake Progress shows similar results. From 1995 to 2021, the reduction of nitrogen and phosphorus loading rates has been trending toward meeting the TMDL planning targets. Specifically, the category “implemented and realized” and “tidal deposition reduction realized” have increased over time, whereas the category “future implementation” has decreased over time as more of the planned actions to meet the WIP planning targets are completed. Using the TMDL Indicator does note some “response gaps”, particularly with phosphorus, between the expected water quality results based on modeling compared to the observed water quality results from the monitoring data. There is agreement between the CAST progress and the TMDL indicator that progress is going in the right direction. However, the TMDL indicator shows the rate of progress particularly for phosphorus is not as high as would be expected from the CAST simulations.

Lessons Learned

4. If our outlook is off course, what has been the most critical influencing factor or gap that needs to be addressed to accelerate progress?

There are multiple factors that contribute to this outcome being off course. The WQGIT has identified critical factors as funding, technical capacity to manage funding and to implement practices, growth outpacing implementation, response gaps, and the need for innovation in addressing loads from nonpoint sources. More funding alone won’t close the gap, but it is still an important and necessary piece to be able to maintain the partnerships implementation efforts.

To accelerate progress toward the WIP outcome, the CBP partnership needs to understand growth patterns and nutrient imbalances. This information could direct where partners need to focus more time and attention. This includes the additional loads related to Conowingo and climate change that the CBP partnership will need to address. At the time of the Bay TMDL, these loads were expected to impact water quality after 2025. However, through science and research we understand that we need to address these loads now which impacts our collective progress toward achieving the outcome goals by 2025.

In addition, the partnership needs to continue to research where there is a “response gap” as demonstrated in the new TMDL Indicator and the METRIC tool to understand where and why we aren’t seeing the expected results from implementation. Understanding the response gap could influence how programs, funding, and resources are targeted in the watershed. Factors influencing the response gap could include lag time, the BMPs, the topography or soil types, or growth factors countering the implementation, as examples.

The partnership also needs to examine how each of our partners address loads from nonpoint sources and potential opportunities to optimize or improve those programs to be more effective collectively. The majority of the remaining load reductions in the WIPs are expected to come from nonpoint sources.

5. Consider and reflect on the actions you intended to take during the past cycle. For action that have not begun, or which have encountered a serious barrier, what is preventing us from taking action? Are these actions still needed?

Those actions with minimal progress from the last cycle are mostly related to the WQGIT being more proactive with cross collaboration. Improving cross collaboration with other GITs and Bay Agreement outcomes remains a focus for the WQGIT for the near future. The WQGIT is strategizing how to be intentional in improving engagement with other GITs and workgroups recognizing that there will be a lot of emphasis on addressing the WIP outcome as part of Phase 2 of the Beyond 2025 efforts. Part of our WQGIT strategic planning included efforts to identify our WQGIT priority areas of focus and science needs for 2025 and 2026 and to determine up

front which other groups to coordinate with in those priority areas. WQGIT leadership will meet with counterparts to determine if there is a matching interest in a priority and outline how to be more intentional in how we work together on topics of common interest rather than expecting collaboration to happen organically. These actions to improve collaboration remain critical to inform our understanding of the factors mentioned in response to the previous question.

6. What have we learned over the past two years that we'll need to consider in the coming two years?

Growth in loads continues to be a challenge that can counter some of the successes in implementation. At the time of the Bay TMDL, loads from Conowingo and climate change were expected to be addressed sometime after 2025. Science and research helped us understand that we are seeing those impacts earlier than expected and the partnership developed plans to address those loads, in addition to the loads already expected in the Phase III WIPs. Currently partnership implementation efforts continue to demonstrate progress in achieving reductions despite growth, however progress varies across sectors. For example, loads from agriculture are declining, but loads from the developed sector are increasing when observing progress on Chesapeake Progress.

The current approaches to addressing loads from nonpoint sources should be examined to determine if there are more effective or innovative approaches than what is currently established to accelerate implementation and achieve the remaining reductions to meet the water quality goals. For example, looking at performance based funding opportunities and how those programs might accelerate progress.

Funding and people remain a critical need to meeting the water quality goals.

The WQGIT needs to continue to strive to balance our meetings to address all of the water quality outcomes. In addition, the WQGIT is exploring how to be more intentional in prioritizing implementation that results in multiple outcome benefits (water quality, habitat, wetlands, public access, education etc).

ASSESSING OUR EFFORTS AND GAPS

Factors

7. Summarize here any newly identified influencing factors, and why they were added to your Management Strategy. If any factors have been deleted, are they the result of our actions, and what have we learned as a result?

The factors impacting the WIP outcome remain consistent overall and there is no plan at this time to revise those factors. The WQGIT recognizes that there are additional detail and rewording that could be done with the current set of identified factors for the 2025 WIP outcome to be more precise, including Conowingo and climate impacts, but the major factors are captured. The WQGIT will focus our time and effort on those priority actions identified through our group discussions and polling to address the 2025 WIP outcome factors.

8. Prioritize and summarize here the factors best tackled as a Partnership (or GIT/workgroup), that have the greatest impact to achieve our outcome.

(Lead group – Factor)

Partnership - Funding and technical assistance. The WQGIT continues to stress the need for funding for implementation and technical assistance, however decisions around funding priorities are made at other levels than this goal team. Funding is critical to maintain progress toward the 2025 WIP outcome.

WQGIT/Modeling WG/Others – CAST and updates on other tools. Updating inputs related to growth for the Phase 7 model. Exploring opportunities to use remote sensing to report progress.

WQGIT/Others (identified by topic) – Implementation. Developing new tiered implementation targets, measuring progress toward targets and how to better use monitoring information, exploring response gaps between modeling and monitoring data, understanding how and where growth in loads is occurring in the watershed (including but not limited to climate and Conowingo), and exploring innovation for improving programs that reduce loads from nonpoint sources. Topics here relate and support additional factors as these topics are interrelated and necessary to achieve our outcome.

WQGIT/SET – Communication of the priority areas of focus for the WQGIT. Communicating progress, especially as we transition into using interim targets starting in 2024, and new tiered targets with the completion of Phase 7 modeling tools. Discussing ways to use more monitoring information in how we measure and express progress toward meeting water quality goals.

Gaps

9. For those high priority factors summarized above, what is getting in the way of addressing them or what gaps continue to exist despite the current efforts to address those factors?

- Maintaining funding and investments to ensure implementation continues both for BMPs as well as the people needed to support programs and implementation. IJJA funding is coming to an end, and how can partners be more effective with a reduction in available resources to support Chesapeake Bay restoration work.
- Continuing to invest in scientific research to understand growth patterns and the response gap; why some areas are responding better than others to implementation.
- Developing and supporting recommendations to revise or strengthen programs that reduce loads from nonpoint sources.
- Support/agreement on tiered implementation targets that prioritize water quality and living resources outcomes.

FOCUSING ON THE NEXT TWO YEARS

Actions And Needed Support

10. Describe any scientific, environmental, fiscal, or policy-related developments that have already or may influence your work over the next two years.

The WQGIT is skilled at adapting our meetings and agendas to focus on emerging information or priorities of the partnership. The WQGIT is working to balance long term strategic planning with the uncertainty of addressing partnership priorities that arise throughout the course of the year. The WQGIT seeks understanding around the balance of planning and responsiveness as we adapt to partnership direction. The WQGIT is taking steps to minimize uncertainty in planning and future discussions.

- The WQGIT is working with the modeling workgroup to identify key tasks as part of the Phase 7 model development and when timely decisions are anticipated. This scoping timeline will help to plan and anticipate upcoming decisions and our time and agenda.
- Forthcoming decisions around CBP partnership priorities under the Beyond 2025 recommendations may also impact the WQGIT work.
 - To identify and address WQGIT priorities to accelerate progress toward the 2025 WIP outcome, the WQGIT conducted a series of discussions and a poll to begin to focus our work efforts for the next two years. The poll sought feedback on those priorities that are the most urgent and most impactful to meet the 2025 WIP outcome. The WQGIT considered the recommendations from the Clean Water, Climate, and Shallow water small groups under Beyond 2025 discussions when considering our priorities in attempt to remain relevant and in alignment with anticipated input on the Beyond 2025 recommendations. Looking a step beyond the WIP 2025 outcome priorities, we also sought feedback on the current scientific needs identified by the WQGIT and does that list match the priorities identified. Finally, when reviewing priorities and scientific needs, the poll asked the WQGIT to identify those other partnership groups that we should seek additional engagement and cross collaboration. These discussions are still ongoing, but the WQGIT is seeking to outline out intended direction for 2025-2026.
- The WQGIT continues to consider partnership information such as the STAC reports for rising temperatures and the Comprehensive Evaluation of System Response as we shape our work over the next two years.
- There have been multiple discussions across the CBP partnership around improving innovation around nonpoint source management programs as well as the accountability framework for the water quality outcome. Additional information is needed to understand what adaptive management changes the partnership would like to see and then partner input on what changes can be accommodated.
- The impact of recent legislation and programs that use “pay for success” or other innovative approaches may influence WQGIT discussions and learning opportunities as the programs yield results. Examples include, but are not limited to PA/MD Conowingo Pay for Success, MD Whole Watershed Act, VADEQ P4S program.
- Continued exploration of short- and long-term monitoring trends and how they correlate to BMP implementation and land use changes so that the partnership continues to improve our understanding of management actions on local or downstream water quality. The release of the METRIC tool is an example that may impact WQGIT discussions, particularly as more stations are added over time. These tools can be used to target and guide future research opportunities to understand why we aren’t seeing expected results and how that might lead to changes in implementation.

11. Based on these developments and the learning discussed in the previous sections, summarize any new actions you are planning to address these gaps over the next two years.

The WQGIT spent several months discussing priorities, progress, and needs related to the 2025 WIP outcome. In August 2024 a poll was provided to the WQGIT to assess the most urgent and impactful priorities to focus WQGIT time and focus for the next two years with an emphasis on the 2025 WIP outcome. In addition, the poll sought information on the current list of science needs, and groups of most interest for cross collaboration.

When exploring urgency and impact for what would help achieve the 2025 WIP outcome the top priorities were exploring nonpoint source management/implementation and nutrient imbalances, developing tiered implementation approaches to meet the water quality goals, and better use of water quality monitoring and assessment info to document performance or progress. These priorities are centered around the 2025 WIP outcome. There are additional priorities related to water quality that are identified in other workgroups. Part of

the challenge to the WQGIT is to address the priorities in meeting the 2025 WIP outcome while ensuring we support other water quality Bay Agreement outcomes, such as toxics and water quality standards attainment.

In terms of science needs the top topics to maintain and explore were around incorporating monitoring and trends data into assessment of progress toward the water quality goals, improving spatial and thematic accuracy of agriculture land use and BMPs in the modeling tools, understanding why some watersheds are seeing a water quality response that is expected and others are not, and remote sensing and verification of BMPs.

When we consider these priorities and science needs the top groups to continue to engage with include the modeling workgroup, habitat GIT, stream health workgroup, integrated trends and analysis team, STAR, climate resiliency workgroup, and the healthy watersheds GIT.

As we move forward to address the WQGIT priorities in our monthly meetings we will strive to be more intentional to ensure we coordinate with these and other workgroups who share interest with the priorities identified above.

12. Have you identified new needs, or have previously unmet needs, that are beyond the ability of your group to meet and, therefore, you need the assistance of the Management Board to achieve?

The CBP partnership has benefitted from seeing accelerated implementation, particularly in the agriculture sector, as a direct result of increased funding from the federal, state, and local governments. There is a concern regarding how implementation levels will be maintained with the IJA funding ending and how that might impact our continued trend to document progress toward meeting the 2025 WIP outcome.

13. What steps are you continuing, or can you take, to ensure your actions and work will be equitably distributed and focused in geographic areas and communities that have been underserved in the past?

In May, the WQGIT discussed the CBP partnership DEIJ workplan and how the WQGIT can support that existing workplan. Several ideas were shared on how the WQGIT could support existing actions within the workplan. The WQGIT will leverage ideas from the existing DEIJ workplan to ensure our actions are supporting communities underserved in the past. In addition, each of the Bay jurisdictions have taken steps to address DEIJ in their water quality programs.

Some commitments the WQGIT will explore include:

- Better defining the at-large member roles
- Working with our partners to identify trusted sources
- Using distribution lists to disseminate EJ information to our partners and encourage partners to further share with their contact lists

The WQGIT will also work with Melissa Sines to explore additional opportunities to identify additional actions that support the partnership goals for diversity, equity, and inclusion.