



Chesapeake Bay Program
Science. Restoration. Partnership.

Water Quality Goal Implementation Team

*STAR 08/23/2018 Meeting
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Through the Chesapeake Bay Watershed Agreement, the Chesapeake Bay Program has committed to...



Goal: Water Quality

Reduce pollutants to achieve water quality necessary to support the aquatic living resources of the Bay and its tributaries and protect human health.

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Goal: Water Quality



2017 WIP Outcome

By 2017, have practices and controls in place that are expected to achieve 60 percent of the nutrient and sediment pollution load reductions necessary to achieve applicable water quality standards compared to 2009 levels

2025 WIP Outcome

By 2025, have all practices and controls installed to achieve the Bay's dissolved oxygen, water clarity/submerged aquatic vegetation and chlorophyll-a standards as articulated in the Bay TMDL document

Water Quality Standards Attainment & Monitoring Outcome

Continually improve the capacity to monitor and assess the effects of management actions being undertaken to implement the Bay TMDL and improve water quality. Use the monitoring results to report annually to the public on progress made in attaining established Bay water quality standards and trends in reducing nutrients and sediment in the watershed.



Chesapeake Bay TMDL Accountability Framework

- Phase I WIP; Phase II WIP; Phase III WIP
- 2-year Milestones
- Annual Progress
- Federal Actions

Factors Influencing Success 2017 & 2025 WIP Outcomes

A. Implementation of Practices

1. Continuing to sustain the capacity of governments and the private sector to implement practices
2. Delivering the necessary financial capacity to implement practices and programs

Factors Influencing Success 2017 & 2025 WIP Outcomes

B. Improved Technical Information

1. Improving the identification of sources and their contributions to nitrogen, phosphorus and sediment pollutant loads
2. Quantifying the reductions from pollution control practices and verifying their continued performance
3. Enhancing the next generation of decision support tools (Phase 6 & Phase 7; Optimization Tool)
4. Revisiting watershed model calibration methods with the goal of improving local watershed results. **Completed for Phase 6, ongoing for future phases of modeling tools.**
5. Reviewing and updating historical implementation data that has been submitted by the jurisdictions to the CBP partnership, confirming that BMPs are still in place and ensuring that accurate information is included in the modeling tools. **Completed.**

Factors Influencing Success 2017 & 2025 WIP Outcomes

C. Response of Water Quality Conditions to Management Practices

1. Understanding the factors affecting the ecosystem response to pollutant load reductions to focus management efforts and strategies
2. Factoring in effects from continued climate change
3. Assessing the implementation potential of filter feeders for nutrient and sediment reductions
4. Examining the impact the lower Susquehanna dams have on the pollutant loads to the Bay, including changes over time
5. Conducting a detailed multi-year assessment of chlorophyll in the tidal James River using augmented monitoring and modeling approaches

Management Approaches

A. Chesapeake Bay Accountability Framework

1. Phase I WIP
2. Phase II WIP
3. Phase III WIP
4. Two-year Milestones
5. Annual Progress

Current Efforts and Gaps

Efforts:

- Committing to more stringent nitrogen and phosphorus limits at WWTPs
- Pursuing state legislation to fund WWTP upgrades
- Implementing a progressive stormwater permit to reduce SW pollution
- Committing to pollution reduction plans as part of MS4 permitting process.
- Technical support for farmers
- Considering implementation of mandatory programs for agriculture if pollution reductions fall behind schedule
- Efforts to address the WQS Attainment and Monitoring Outcome (Peter Tango)

GAPS:

- Financial Capacity for MS4s and other SW Programs; Financial, technical and regulatory capacity to deliver priority conservation practices to priority watersheds; BMP Tracking, reporting and verification programs

Critical Management Actions to Achieve 2025 Goals

- Continue and Increase funding and resource support
- Continue partnership support to accelerate implementation
- Phase III WIP and two-year milestone development and implementation
- Continue crediting of Innovative practices and technologies
- BMP verification program implementation
- Understanding how changing conditions will affect progress
- Explaining water quality monitoring trends and factors affecting trends

Management Approaches

B. Enhancing Monitoring

- STAR Team: Project to better measure and explain progress toward water quality improvements
- STAR/Modeling WG/STAC: Approaches to reduce uncertainties in the models
- Additional efforts to enhance monitoring (Peter Tango)

Management Approaches

C. Approaches targeted to Local participation

- Development of Local Planning Goals in the Phase III WIPs
- High Resolution land cover data set updated every 4 years using state and local data
- Better understanding of BMP performance and resiliency under climate change conditions. Watershed wide and at the local level.
- Citizen Science Data (Peter tango)

Management Approaches

D. Cross-Outcome Collaboration and Multiple Benefits

- Continue focus on the co-benefits of water quality BMPs with other outcomes
 - Forest Buffer
 - Healthy Watersheds
 - Stream Health
 - Toxic Contaminants
 - Climate Resiliency
 - Protected Lands
 - Brook Trout
 - Public Access
 - Wetlands
 - Tree Canopy
 - Fish Habitat
 - SAV
- Comprehensive report ranking BMPS according to the benefits to the 2014 Agreement outcomes
- Development of an Optimization Tool
- Development of an ecosystem services framework for BMP selection, planning and implementation
- Better understanding of climate resilient BMPs

Discussion

Goal Teams and STAR to provide suggestions on activities they would like to see reflected in the revisions of the Management Strategies and workplans for the Water Quality Goal Outcomes

1. What changes may be needed for the factors?
2. What ideas should be considered for the Cross-Outcome Collaboration and Multiple Benefits?



Thanks!

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