

QUARTERLY PROGRESS MEETING – July 2020
Chesapeake Bay Program



Water Quality Standards Attainment & Monitoring Outcome

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Through the Chesapeake Bay Watershed Agreement, the Chesapeake Bay Program has committed to...



Goal: *Water Quality*

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.

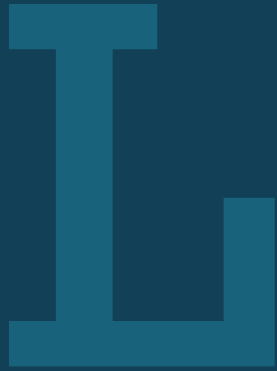


How You Can Help



Overview:

- Making fair progress
- Room for improvement
- Some of the current methods need to change or the monitoring program will lose capacity to assess and report water quality standards attainment
- Help Needed:
 - Monitoring Support
 - Jurisdictional Involvement



Learn

What have we learned in the last two years?



Successes and Challenges

Successes:

- New tools for analyzing monitoring data
- Communicating water quality trends, standards attainment
- Maturation of the Chesapeake Monitoring Cooperative
- Development of the CBP's Strategic Science and Research Framework
- Improved understanding of the factors affecting water quality changes



Successes and Challenges

Challenges:

- Contraction of traditional long-term monitoring programming
- Explaining water quality changes and their relationship to nutrient and sediment reduction efforts
- Improved analyses needed to assess water-quality standards
- Application of monitoring results to inform jurisdictions on management response to nutrient and sediment reduction BMPs
- More engagement is needed between the jurisdictions and the CMC supporting advanced use of Citizen Science data

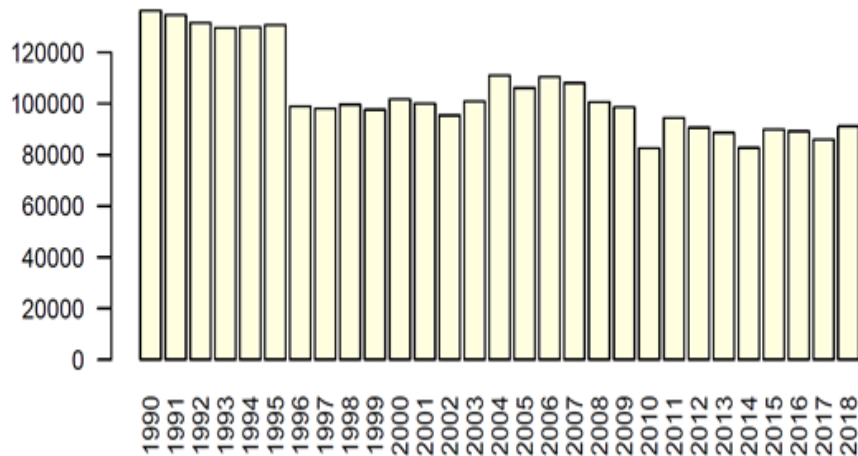


What is our Expected and Actual Progress?

Monitoring Capacity: Good/**Fair**/Poor

- Data collections remain “marginal” for the Bay criteria assessment, “adequate” for the watershed loads, while capacity is highly stressed and declining.

Count of Tidal Water-quality Samples





What is our Expected and Actual Progress?

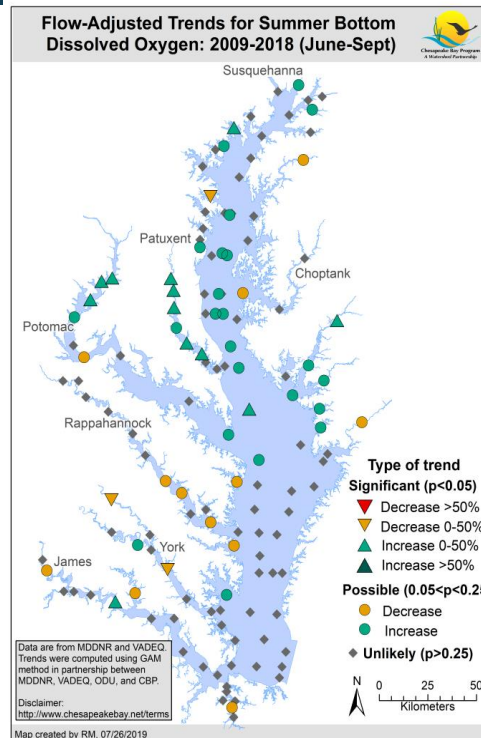
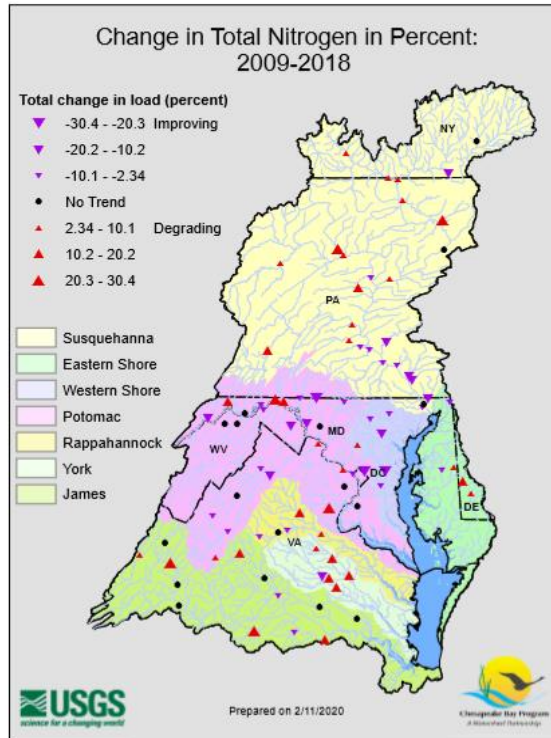
Analysis: Good/Fair/Poor

- Annual updates are provided for estimates of water quality standards attainment and their trends
- Increased analysis supported the Mid-Point Assessment:
 - publication of indicator and supporting analyses
 - developed new tidal trends analysis techniques
 - better explained factors effecting non-tidal trends
- Ongoing work is building on lessons learned from past 2 years; more insights are expected with continuing adoption of advanced analytics.
- Focus is on explaining effects of BMPs and changing stressors.



What is our Expected and Actual Progress?

Communication: Good/Fair/Poor

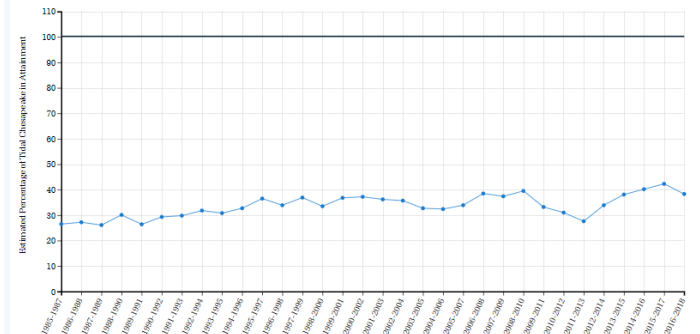


Chesapeake Bay Watershed Data Dashboard (Beta)

Start Here | Rivers & Streams | Tidal Waters | Targeting Restoration | Management Practices | Land Policy & Conservation

Water Quality Standards Attainment (1985-2018)

Water quality is evaluated using three parameters: dissolved oxygen, water clarity or underwater grass abundance, and chlorophyll a (a measure of algae growth).





On the Horizon

Fiscal:

- Fixed and reduced funding levels in conjunction with rising living and business costs and a global pandemic are impacting monitoring capacity
- Fewer data are available to inform bay and watershed analyses leading to:
 - Greater uncertainty toward evaluations of attainment of water quality standards
 - Less ability to detect changes in water quality response to nutrient reduction efforts resulting in greater management investments



On the Horizon

Policy:

- Improve water quality standards attainment indicators
- Discussing a change in EPA policy for allowable matching funds
- Stronger connection between the use of monitoring results to inform implementation practices for the Bay TMDL: 2-year milestones
- Preparing for 2025: practices in place but message needs to recognize that standards not coincidentally attained



On the Horizon

Science:

- Assessing water quality standards attainment with new data streams, updated interpretation and interpolation approaches
- Defining linkages between living resource condition and water quality standards attainment
- Explanation of the factors affecting attainment and changes in nontidal and tidal trends
- Incorporate new tech, published research recommendations, and climate change impacts into the future monitoring plans
- Commit to utilizing citizen science data to fill gaps

A large, stylized, blue letter 'A' is centered on a dark blue background. The letter has a thick, blocky font with a slight shadow effect. The background is divided into horizontal bands of color: a dark blue band at the top, a medium blue band in the middle, and a light green band at the bottom.

Adapt

How does all of this impact our work?



**Based on what we
learned, we plan to ...**

Fiscal:

- **Work with financial professionals to explore options for financing monitoring**
- **Use new data streams from already funded programs on citizen science and other nontraditional partners**



**Based on what we
learned, we plan to ...**

Policy:

- Increase jurisdiction use of results in 2-year milestones. Increase interaction through jurisdictional meetings
- Work on engaging a larger breadth of science provider partners for meeting science needs
- Present explanation of WQSA indicator and factors affecting water quality to more audiences



Based on what we learned, we plan to ...

Science:

- Involve jurisdictional technical staff in explaining water quality trends
- Explore external and internal factors influencing the spatial and temporal trends, especially the effects of climate change
- Adopt new, freely available, data streams from satellite imagery or develop models where measurements are sparse
- Pursue technical analysis of additional water quality criteria and consider policy implications



Help

*How can the Management Board
lead the Program to adapt?*



Help Needed

- Monitoring Support
- Jurisdictional Involvement



Help Needed

Monitoring Support:

- Commit to assessing how their state, agency or institution uses matching funds to improve capacity in the program
- MB should request WQGIT and STAR to formally incorporate available Citizen Science data from the CMC database into water quality standards attainment assessments
- MB should request STAC and STAR to work with the Bay science and management community to commit to adopting nontraditional monitoring sources and technologies



Help Needed

Jurisdictional Involvement:

- Commit to providing a list of essential jurisdictional participants for the Criteria Assessment Protocol Workgroups
- Work with jurisdictions on making their jurisdictional technical staff available to help improve use of monitoring results to inform 2-year milestones



Discussion