



Chesapeake Bay Program
SCIENTIFIC AND TECHNICAL ADVISORY COMMITTEE
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December 1, 2021

The Honorable Ralph Northam, Governor of Virginia, Chair
Chesapeake Bay Partnership Executive Council
Capitol Square
Richmond, VA 23219

Dear Governor Northam and Distinguished Members of the Executive Council:

The Chesapeake Bay Program (CBP) is globally recognized for its leadership in managing and restoring large aquatic ecosystems. The Scientific and Technical Advisory Committee (STAC) supports the CBP's commitment to advancing science-based decision-making by coordinating a range of collaborative efforts to guide established priorities and characterize emerging concerns. Our members from 23 institutions across the Bay watershed contributed more than 5,000 hours in 2020, valued at more than \$500,000.

A brief synthesis of project highlights from 2020-2021 exemplifies STAC's commitment to addressing critical information gaps relevant to national priorities and essential to advancing the CBP goals, including tackling climate change and conserving at least 30% of US lands and freshwaters. The STAC-sponsored workshop and its report, "[Linking Soil and Watershed Health to In-Field and Edge-of-Field Water Management](#)," highlighted overlooked impacts from artificial drainage to water quality, habitat condition, flood and drought risks, and long-term agricultural sustainability in the face of climate change. A related report, "[Integrating Science and Developing Approaches to Inform Management for Contaminants of Concern in Agricultural and Urban Settings](#)," emphasized a need to co-manage the fate and transport of chemicals of emerging concern, including PFAS ("forever chemicals"), personal care products, and PCB's. To tackle these challenges, the STAC workshop report, "[Increasing Effectiveness and Reducing the Cost of Nonpoint Source Best Management Practice \(BMP\) Implementation: Is Targeting the Answer?](#)" highlighted the importance of working with stakeholders to strategically locate conservation practices to maximize the targeted benefits, most cost-effectively. Importantly, these workshops have facilitated collaborations among a diversity of technical experts and stakeholders to strengthen science-based decision-making within the Bay states and beyond.

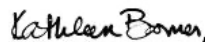
Results from our FY2021 four workshops, six published workshop reports, a scientific review of the Bay Program's TMDL framework, and community engagement (see attached) lead us to provide the following recommendations and STAC commitments through FY2023:

- Support CBP Management to advance science-based decision-making by building capacity to assess and limit risks from known and emerging threats throughout the Bay watershed. Priority issues include 1) the need for measurable and sustained progress toward achieving CBP wetland and riparian buffer restoration targets essential not only to improving water quality but also providing vital habitat, mitigating flood and drought risks, and ensuring long-term agricultural and fisheries sustainability under changing climate conditions; and 2) an urgent need for focused effort and attention to the terrestrial-estuarine transition zone, where human impacts are concentrated and most directly influence the commercial, recreational, and aesthetic values identified by the CBP partnership.

- Identify opportunities to fully embrace the CBP's commitment to Diversity, Inclusion, Equity, and Justice (DEIJ) by engaging a diversity of stakeholders to understand barriers, concerns, and risk perceptions limiting active commitment to the CBP goals and engaging them more directly in resource and risk management.
- Align CBP priorities with national priorities to maximize natural infrastructure investments to enhance climate resiliency and other co-benefits through climate-smart agriculture and development in the Bay watershed.

Together, our commitment to these priorities will enhance Chesapeake Bay restoration efforts. With CBP's financial support, STAC can continue to build diverse collaborations, improve decision support to LCAG, CAG, the GITs, and STAR, and strengthen CBP's leadership. We look forward to supporting the CBP Partnership accordingly.

Sincerely,



Kathleen B. Boomer, Ph.D.
 Chair, Chesapeake Bay Program's Scientific and Technical Advisory Committee
 Science Program Director, Foundation for Food and Agriculture Research

Attachment

Summary of STAC Activities June 2020- June 2021

STAC-sponsored Scientific and Technical Workshops (4)

- *Advancing Regenerative Agriculture: Exploring Barriers and Incentives to BMP Adoption*
- *Overcoming the Hurdle: Addressing BMP Implementation Through a Social Science Lens*
- *Understanding Genetics for Conservation and Restoration of Resilient Chesapeake Bay Brook Trout Populations*
- *Assessing the Water Quality, Habitat, and Social Benefits to Green Riprap*

Reports Published by STAC June 2020 – July 2021 (6)

Links to reports are available on STAC's website at chesapeake.org/stac

- *Increasing Effectiveness and Reducing the Cost of Nonpoint Source Best Management Practice (BMP) Implementation: Is Targeting the Answer?*
- *Integrating Science and Developing Approaches to Inform Management for Contaminants of Concern in Agricultural and Urban Settings*
- *Incorporating Freshwater Mussels into the Chesapeake Bay Restoration Efforts*
- *Chesapeake Bay Program Climate Change Modeling 2.0*
- *Linking Soil and Watershed Health to In-Field and Edge-of-Field Water Management*
- *Exploring Satellite Image Integration for the Chesapeake Bay SAV Monitoring Program*

Planned Activities June 2021 – June 2022

STAC-sponsored Scientific and Technical Workshops (5)

- *Improve the Understanding and Coordination of Science Activities for PFAS in the Chesapeake Bay Watershed (State of the Science Workshop)*
- *Evaluating a Systems Approach to BMP Crediting (Programmatic Workshop)*
- *Improving modeling and mitigation strategies for poultry ammonia emissions across the Chesapeake Bay Watershed (Programmatic and State of the Science Workshop)*
- *Rising Watershed and Bay Water Temperatures—Ecological Implications and Management Responses (Programmatic Workshop)*
- *Advancing Monitoring Approaches to Enhance Tidal Chesapeake Bay Habitat Assessment including Water Quality Standards for Chesapeake Bay Dissolved Oxygen, Water Clarity/SAV, and Chlorophyll-a Criteria (Programmatic)*