



Chesapeake Bay Program
SCIENTIFIC AND TECHNICAL ADVISORY COMMITTEE
645 Contees Wharf Road, P.O. Box 28, Edgewater, MD 21037
Phone: (410)798-1283 | Fax: (410)798-0816
<http://www.chesapeake.org/stac/>

September 5, 2019

Hon. Larry Hogan, Chair
Chesapeake Bay Partnership Executive Council
Maryland Office of the Governor
100 State Circle
Annapolis, Maryland 21401-1925

Dear Governor Hogan and Distinguished Members of the Executive Council,

The Chesapeake Bay Program (CBP) partnership (hereafter partnership) is a globally recognized model for the management and restoration of large aquatic ecosystems. The Scientific and Technical Advisory Committee (STAC) is a network of volunteer scientists from academic institutions and public agencies that routinely bridge political boundaries and bring the latest science to the partnership. STAC members volunteered 3,500 hours last year (valued at approximately \$300,000), providing valuable expertise to the partnership.

STAC plays a vital role in the partnership's commitment to develop and implement effective evidence-based policy and management. For example, in November 2018, STAC convened stakeholders throughout the Bay watershed to discuss riparian buffer implementation. This workshop provided an opportunity for participants from a range of backgrounds and expertise to share their experiences and discuss strategies for overcoming barriers to improve riparian buffer implementation and management. A comprehensive list of STAC's activities and products from this past year accompanies this letter.

STAC continues to encourage the partnership to consider the effects of climate change on water quality and human well-being. While many of STAC's recommendations have been adopted, much remains to be understood about the impact of climate change, and more work is needed if the partnership is to achieve long-term resilience of the Bay. In particular, the partnership needs to explore new approaches to decision-making that more effectively consider climate change uncertainty. In addition, more advanced predictive tools and alternative adaptive management strategies are necessary to respond to increased flood frequency and degrading coastal zones, which continue to threaten the economic vitality of the Bay and its watershed.

In 2018, STAC initiated a 'science synthesis' effort to address critical information gaps and advance CBP goals under a changing climate. In July 2019, STAC identified two science synthesis proposals for funding. One synthesis effort addresses the effects that a changing climate may have on dissolved oxygen dynamics in the Bay's shallow waters. The second addresses how climate change and climate variability may affect best management practice nutrient and sediment reduction performance. These projects will be completed by the end of 2020. Findings from these projects will be shared with CBP partnership managers,

policy-makers and the public to promote more effective Bay restoration management strategies in the face of a changing climate.

In 2019, STAC initiated an effort tentatively entitled 'Achieving Water Quality Goals in the Chesapeake Bay: A Scientific Gap Analysis.' With the completion of the mid-point assessment in 2017, and the approaching 2025 TMDL deadline, STAC's membership believes that now is an appropriate time for an independent multi-disciplinary entity like STAC to conduct an analysis that identifies important knowledge gaps, system limits, and research needs related to the feasibility and consequences of post-2025 policy choices. This effort will not judge the 'state of the Bay,' 'grade' progress towards Bay outcomes, or evaluate the appropriateness of Bay water quality standards. Nor will it summarize the expansive scientific literature related to the Chesapeake Bay. Rather, the effort aims to inform policy-makers and the public about how the Bay system is responding to management actions and what new kinds of understanding are most important to develop. STAC anticipates completing this activity by the end of 2021.

STAC understands that the on-going restoration of the Bay is providing important "co-benefits." STAC believes that continued advancement of our understanding of the co-benefits provided by well-designed and strategically located best management practices is critical, and STAC is committed to working with the partnership to apply the best available science to enable decision makers to meet multiple beneficial outcomes, while reducing TMDL implementation costs.

STAC commends the partnership for its on-going commitment to developing and implementing effective evidence-based policy and management. STAC looks forward to working with you, the Executive Council, and the rest of the partnership to continue to apply sound, independent science to effectively restore and conserve the Chesapeake Bay for the benefit of all stakeholders.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Brian Benham", with a long horizontal line extending to the right.

Brian Benham

Chair, Chesapeake Bay Program's Scientific and Technical Advisory Committee
Professor and Biological Systems Engineering Extension Specialist, Virginia Tech

Attachment

Summary of STAC Activities June 2018- June 2019

STAC-sponsored Scientific and Technical Workshops (5)

- Chesapeake Bay Program Climate Change Modeling 2.0
- Establishment of Multifunctional Riparian Barriers: How do we accelerate the path to 95,000+ acres with the greatest economic, social, and environmental impact?
- Assessing the Environment in Outcome Units (AEIOU): Using Eutrophying Units for Management
- Microplastics in the Chesapeake Bay and its Watershed: State of the Knowledge, Data Gaps, and Relationship to Management Goals
- Integrating Science and Developing Approaches to Inform Management for Contaminants of Concern in Urban and Agricultural Settings

Planned Activities June 2019 – June 2020

STAC-sponsored Scientific and Technical Workshops (4)

- Incorporating Freshwater Mussels in the Chesapeake Bay Partnership
- Satellite Image Integration for the CB SAV Monitoring Program
- Target Non-Point Source BMP Implementation
- Linking In-Field and Edge-of-Field Water Management to Soil and Watershed Health

Reports Published by STAC June 2018 – July 2019

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

- Chesapeake Bay Program Modeling in 2025 and Beyond: A Proactive Visioning Workshop
- Legacy Sediment, Riparian Corridors and Total Maximum Daily Loads
- Factors Influencing the Headwaters, Mainstem, Tidal and Non-Tidal Fish Habitat Function in the Chesapeake Bay Watershed: Application to Management Decisions
- Integrating Recent Findings to Explain Water Quality Change: Support for the Mid-Point Assessment and Beyond
- Revising the Coastal Land-Water Interactions- The Triplet Connection