Chesapeake Bay Program
SCIENTIFIC AND TECHNICAL ADVISORY COMMITTEE
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November 12, 2025

Hon. Wes Moore, Governor of Maryland
Chair, Chesapeake Bay Executive Council
100 State Circle
Annapolis, MD 21401

Dear Governor Moore and Distinguished Members of the Executive Council,

The Chesapeake Bay Program (CBP) Scientific and Technical Advisory Committee (STAC) provides independent reviews, expert convenings, and informed recommendations that strengthen science-based decision-making for the CBP. For every federal dollar invested in STAC, we deliver approximately $1.40 in documented value through our volunteer expert capacity while reducing risk through independent scientific review. STAC serves as a crucial scientific and technical knowledge hub, complementing CBP expertise with its multidisciplinary membership. In alignment with the Executive Order on Restoring Gold Standard Science (May 23, 2025), STAC helps ensure that CBP science is reproducible, transparent, explicit about error and uncertainty, collaborative and interdisciplinary, appropriately skeptical of its findings and assumptions, structured around falsifiability of hypotheses, subject to unbiased peer review, open to negative results, and free from conflicts of interests. In short, we respectfully ask the Executive Council to maintain at least current funding levels for STAC to preserve the core capacity that leverages volunteer expertise and supports science-based decisions.

There are five key characteristics of the CBP STAC: 1) STAC has wide-ranging expertise, 2) STAC informs science-based policy, 3) STAC produces impactful products, 4) STAC is responsive to CBP needs, and 5) STAC is trustworthy due to its independence, comprehensive representation, and proven +40-year track record. STAC members volunteer their time and expertise because of their deep commitment to the restoration of Chesapeake Bay and its watershed. STAC members do more than provide input to CBP; they also provide input to the CBP signatories, to their respective jurisdictions, to their institutions, and to their peer groups — creating a clear feedback loop between the CBP and the broader community. STAC regularly convenes people from across sectors, thus facilitating engagement that magnifies the effectiveness and impact of the CBP. The Chesapeake Bay Program's four advisory committees act as a two-way street to bring expert advice and boots on the ground insight in, while serving as ambassadors out into their networks of farmers, local governments, citizens, and scientists.

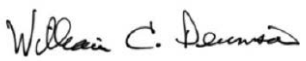
The CBP supports STAC efforts by funding two support staff and travel for members and select invitees to attend STAC workshops and meetings. With that modicum of support, STAC leverages an immense amount of quality time from scientific and technical thought leaders throughout the Chesapeake region and outside experts.

STAC has been productive over the past several years, including significant input to the Beyond 2025 report, generating the impactful Comprehensive Evaluation of System Response (CESR) report, participating in deliberations over the revision of the Watershed Agreement, reviewing the draft Revised Watershed Agreement, preparing for mandatory CBP Watershed and Bay model peer reviews to be conducted in 2027, and conducting topical workshops that address timely issues. Our most recent STAC workshop is both timely and highly relevant: "Leveraging artificial intelligence and machine learning to advance Chesapeake Bay research and management: A review of status, challenges, and opportunities". The attached summary highlights specific opportunities for STAC to provide independent expert guidance on how artificial intelligence and machine learning can be applied to Chesapeake Bay Program science, implementation, and management decisions, including uses such as BMP verification, integrating large monitoring datasets, and improving predictive modeling to better target restoration investments.

STAC has effectively trimmed costs by revising the long-standing quarterly in-person/hybrid two-day meetings to an annual mini-retreat, a hybrid one-day business meeting, and a series of online topical meetings. STAC was responsive to the request for participation in the newly formed Governance and Accountability Team. A STAC Governance Ad Hoc Working Group has convened regularly to offer recommendations for the future CBP logic model, organization, and functional roles. In response to CBP elevating the need for social science understanding, STAC has established a permanent Social Science Workgroup and, in preparation for the mandatory Watershed and Bay model review, has convened an Ad Hoc Model Review Workgroup chaired by Past STAC Chair Larry Sanford. Three new workshops have been planned for the coming year, on topics of direct import to the continued work of the CBP partnership. Accordingly, we ask the Executive Council to sustain at least current funding for STAC.

With your support, STAC has been and will continue to be an invaluable source of scientific and technical advice for the CBP. The return on investment for the CBP includes actionable deliverables — investigations, syntheses, advice, and technical participation. We enable the CBP to draw on some of the best expertise the Bay watershed has to offer. The public expects the CBP to wisely utilize public funding while managing the program with the most robust scientific resources possible. That would be challenging to demonstrate without the continued involvement of STAC's volunteer work force. Curtailing CBP funding for STAC would have a significant negative impact on its future function and productivity.

Thank you for your consideration.
Sincerely,



William C. Dennison, Ph.D.
Chair, Chesapeake Bay Program's Scientific and Technical Advisory Committee

Attachment: Summary of STAC Activities and Emerging Opportunities

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Emerging Opportunity

Building on the Artificial Intelligence/Machine Learning (AI/ML) workshop, STAC is well-positioned to provide ongoing, independent guidance to the Chesapeake Bay Program (CBP) on how these tools can be used responsibly to advance CBP science and management. Near-term applications include: (1) BMP verification and performance tracking, using monitoring data, models, and remote sensing to more efficiently confirm implementation and quantify load reductions; (2) integration and interpretation of large, heterogeneous datasets (e.g., water quality, biological, land use) to detect emerging patterns, hotspots, and vulnerabilities; and (3) improved predictive modeling and scenario analysis to better target restoration investments, anticipate climate and land-use impacts, and evaluate progress toward CBP goals. With sustained support, STAC can convene experts, synthesize best practices, and develop transparent, science-based guidance and guardrails to help the partnership deploy AI/ML in ways that are efficient, equitable, and aligned with EPA's commitment to Gold Standard Science.

Planned STAC-led Workshops June 2025 – June 2026 *(4)*

- Healthy Forests: Proactive Strategies for Managing Threats and Promoting Conservation
- Challenges and Opportunities in Operationalizing Coupled Human and Natural Systems Research in the Chesapeake Bay Watershed
- State of the Science of Salinity Risks in the Chesapeake Bay and Its Tributaries: Connecting Monitoring, Modeling and Management
- Synthesis Effort: Evaluating the Performance of Nature-based Coastal Protection Solutions for Natural Capital Accounting in Chesapeake Bay

Summary of STAC Workshops June 2024 – June 2025 *(4)*

- Advancing Market-Based Approaches in the Agricultural Sector to Support Chesapeake Bay Watershed Restoration
- Blueprint for Building Partnerships and Recommendations for Scaling Brook Trout Restoration in Stronghold and Persistent Patches
- Leveraging Artificial Intelligence and Machine Learning to Advance Chesapeake Bay Research and Management: A review of status, challenges, and opportunities
- Striped Bass Survey Assessment and Habitat Connections

Reports Published by STAC June 2024 – November 2025 *(7)*

All publications are available on STAC's website at chesapeake.org/stac.

Workshop Reports *(5)*

- *Striped Bass Survey Assessment and Habitat Connections*
- *A Path Forward in Considering Future Environmental Scenarios in Bay Restoration Efforts*
- *Understanding Genetics for Successful Conservation and Restoration of Resilient Chesapeake Bay Brook Trout Populations*
- *Using Carbon to Achieve Chesapeake Bay (and Watershed) Water Quality Goals and Climate Resiliency: The Science, Gaps, Implementation Activities and Opportunities*
- *Best Management Practices to Minimize Impacts of Solar Farms on Landscape Hydrology and Water Quality*

Technical Reviews/Prospectus Documents *(2)*

- *Nutrient Reductions as Co-Benefit of Acid Mine Drainage (AMD) Treatment: Quantifying Nutrient Load Reductions for Restored Stream Segments in AMD-impacted Watersheds*
- *Tiered Implementation of the Chesapeake Bay Total Maximum Daily Load: A STAC Prospectus*