



**Chesapeake Bay Program**  
**SCIENTIFIC AND TECHNICAL ADVISORY COMMITTEE**  
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November 7, 2016

RE: STAC Review of the Proposed Re-evaluation of James River Chlorophyll-*a* Criteria

Nicholas DiPasquale, Chair, Chesapeake Bay Program Management Board  
U.S. Environmental Protection Agency  
410 Severn Avenue, Suite 109  
Annapolis, MD 21403

Cc: Management Board; Scientific Technical Assessment and Reporting (STAR); Criteria Assessment Procedures Workgroup; Water Quality Goal Implementation Team

Dear Director DiPasquale,

I am pleased to attach for your consideration the STAC review report: *Scientific and Technical Advisory Committee Peer Review for the James River Chlorophyll-a Criteria Re-evaluation*. This report provides a summary of the Chesapeake Bay Program (CBP) requested STAC-sponsored independent review of two reports related to the state of Virginia's numeric water quality criteria for chlorophyll-*a* in the tidal portion of the James River. This report outlines the panel's findings and recommendations.

The review panel was charged with reviewing two reports that were developed in parallel for the Virginia Department of Environmental Quality (VA DEQ). The primary document reviewed by this panel was focused on determining whether existing chlorophyll-*a* criteria in the James River, a tributary of the Chesapeake Bay, are protective of designated uses. The secondary report describes a new assessment methodology that the state of Virginia could use to evaluate attainment of its chlorophyll-*a* criteria. During this review, the panel was asked to 1) provide general feedback on the content, structure, and editorial quality in these two reports, particularly whether they clearly convey the information needed to understand and evaluate the scientific arguments presented; and 2) to address seven main questions on the scientific and management issues raised in the documentation. A panel of five individuals with appropriate expertise in estuarine ecology, spatial statistics, and water quality criteria was formed in August, and the team conducted their review of the provided documentation over the past few months.

The body of this report is organized by each of the charge questions, and near-term and long-term recommendations are described. Reviewers also provided specific comments to the clarity of the documentation, and came together to provide consensus feedback on the positive aspects of the proposed assessment methods. The recommendations identified by the review team for the near term (6 months to 1 year) can be summarized broadly below:

- Refine the analysis in regard to segmentation in the James River, including consideration of response indicators and causal factors known to influence eutrophication (e.g., turbidity, nutrients, etc.).
- Refine the effects-based analyses, quantitatively identifying new thresholds, developing conceptual models grounded in policy, and exploring a variety of statistical models and methods to characterize “low” and “high” risk.
- Refine the assessment approach, based on the management needs and implications in the near term.

While the panel is supportive of efforts to improve assessment methods and relate water quality criteria to harmful effects, addressing the above recommendations will improve quantitative analysis and better align policy and management frameworks.

We hope the Management Board, Goal Implementation Teams, and various workgroups find the recommendations outlined in this review report to be useful, and we look forward to your feedback. STAC respectfully requests a written response from the Criteria Assessment Procedures Workgroup by February 7, 2016.

Please direct any questions you may have about this report and its recommendations to Rachel Dixon, Coordinator of the Chesapeake Bay Program’s Scientific and Technical Advisory Committee, and Lora Harris (University of Maryland Center for Environmental Science – Chesapeake Biological Laboratory), chair of the review panel.

On behalf of the entire STAC, thank you again for your consideration, and we look forward to working with you closely on this in the future.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Wainger', written in a cursive style.

Lisa Wainger  
Chair, Chesapeake Bay Program's Scientific and Technical Advisory Committee