

# ENFORCING WATER QUALITY STANDARDS

Harry Looney // Lake Anna Civic Association // [harry.looney@lakeannavirginia.org](mailto:harry.looney@lakeannavirginia.org)

Phoebe Murrell // Elizabeth River Project // [pmurrell@elizabethriver.org](mailto:pmurrell@elizabethriver.org)

Jessica Sims // Appalachian Voices // [jessica@appvoices.org](mailto:jessica@appvoices.org)

David Sligh // Wild Virginia // [david@wildvirginia.org](mailto:david@wildvirginia.org)

## WHY IT MATTERS

Virginia's streams, lakes, estuaries, and coastal bays are the lifeblood of the Commonwealth. These water bodies are enormously important to the health, happiness, and economic prosperity of our communities now and for the future, but pollution problems are widely hampering human uses and damaging ecosystem values across the state. Examples of those impairments include:

- **Sediment pollution:** In its 2024 statewide water quality assessment, the Virginia Department of Environmental Quality (DEQ) estimates that 31% of all stream miles in the state are negatively affected by “streambed sedimentation,” calling sediment pollution the “most common stressor across Virginia,” which substantially raises the risk of harm to biological communities in affected streams.<sup>1</sup>
- **Nutrient pollution and harmful algal blooms (HABs):** DEQ also cites phosphorus and nitrogen as prominent “stressors” which heighten the risk of impairments to biotic communities in thousands of miles of Virginia waters.<sup>2</sup> HABs, which may produce toxins that can kill fish and cause illness in humans, due to excessive levels of nutrients, have prompted swimming advisories in important recreational waters in recent years.<sup>3</sup>
- **PFAS contamination:** The Virginia Department of Health (VDH) issued a fish consumption advisory for the Chickahominy River watershed due to serious contamination by so-called “forever chemicals,”<sup>4</sup> and these chemicals are being identified as threats to drinking water sources across the state.<sup>5</sup>

State and federal laws provide a framework of regulatory authorities to restore degraded water bodies and prevent impairment of high-quality waters. We have an opportunity to strengthen that regulatory system by ensuring that existing water quality standards (WQS) are fully enforced and, where necessary, strengthened. Permits to control pollutant discharges can be improved by setting limitations that enforce all WQS and by adopting new water quality criteria. Basing water quality assessments and cleanup plans on narrative and numeric criteria will improve the effectiveness of these tools.

## CURRENT LANDSCAPE

Water quality standards, including both numeric and narrative water quality criteria, are a crucial part of the regulatory system needed to protect our waters.

Numeric criteria set concentrations of specific pollutants not to be exceeded in water bodies. Virginia does not have numeric criteria for most waters to

protect against sediment pollution, nutrients, and some toxic chemicals such as per- and polyfluoroalkyl substances (PFAS). DEQ began a process to develop numeric turbidity criteria in 2021<sup>6</sup> but further action has not been taken. DEQ stated in early 2025 its intent to develop numeric criteria for two forms of PFAS, but the timeline and substance of those criteria are yet to be determined.<sup>7</sup>

In the absence of numeric criteria, narrative criteria must be applied and fully enforced. However, state discharge permits and water quality assessments have not comprehensively addressed impairments caused by pollutants such as sediment, nutrients, and PFAS, which may violate narrative criteria. These criteria prohibit pollution that “interfere[s] directly or indirectly with designated uses of [state waters] or which are inimical or harmful to human, animal, plant, or aquatic life,”<sup>8</sup> including “substances that produce color, tastes, turbidity, odors, or settle to form sludge deposits” or “which nourish undesirable or nuisance aquatic plant life.” However, DEQ does not assess violations of narrative criteria for sediment pollution or nutrient enrichment in most Virginia waters unless and until aquatic communities and human uses have been harmed.

Currently, Virginia does not have “routine monitoring programs for inland waters and freshwater harmful algal blooms,” but rather identification and response to HABs are largely dependent on resident reports.<sup>9</sup> This approach fails to assure Virginians that threats from HABs will be reliably identified and that public protections will be adequate.

## OPPORTUNITIES

DEQ should designate streams and reservoirs as “impaired” waters under its Clean Water Act authority in circumstances where the narrative criteria are violated by the presence of excessive sediments or turbidity, high levels of polluting nitrogen and phosphorus, and nuisance algal blooms and HABs. In developing permits for discharges to surface waters, the potential of activities to violate the narrative criteria must be assessed and permit limitations or other conditions must be imposed to prevent violations of WQS.

PFAS and “emerging pollutants” should be eliminated from discharges where they may violate narrative criteria. Given that Virginia has yet to begin processes to adopt numeric criteria for forms of PFAS and that it will be impossible to develop them for the thousands of different chemicals in the PFAS family, narrative criteria should be implemented now.

# ENFORCING WATER QUALITY STANDARDS

Harry Looney // Lake Anna Civic Association // [harry.looney@lakeannavirginia.org](mailto:harry.looney@lakeannavirginia.org)  
Phoebe Murrell // Elizabeth River Project // [pmurrell@elizabethriver.org](mailto:pmurrell@elizabethriver.org)  
Jessica Sims // Appalachian Voices // [jessica@appvoices.org](mailto:jessica@appvoices.org)  
David Sligh // Wild Virginia // [david@wildvirginia.org](mailto:david@wildvirginia.org)

The regulatory process to develop numeric criteria for turbidity and/or solids should be re-initiated and the State Water Control Board should adopt appropriate criteria in 2026. Numeric criteria for forms of PFAS should be adopted in the current triennial review of WQS.

Enhancements to programs to identify and respond to HABs should be made, including increased and routine sampling by DEQ and VDH and acceptance of citizen monitoring data to supplement the agencies' results.

## TOP TAKEAWAYS

Many of Virginia's waters are degraded by pollutants such as sediments, nutrients, resulting HABs, and toxic chemicals, not yet addressed by numeric water quality criteria.

Currently, DEQ does not designate waters as impaired by these types of pollutants until harm to aquatic ecosystems is shown or human health threats emerge, and does not limit pollutant discharges for these constituents based on narrative criteria.

Virginia has an important chance to improve protections and clean up many water bodies by fully enforcing narrative criteria and adopting new criteria to protect against sediment pollution, excessive nutrients, and PFAS.

## ENDNOTES

1. *Virginia's 2024 305(b)/303(d) Water Quality Assessment Integrated Report*. (2024). Virginia Department of Environmental Quality. <https://www.deq.virginia.gov/our-programs/water/water-quality/assessments/integrated-report>
2. *Virginia's 2024 305(b)/303(d) Water Quality Assessment Integrated Report*. (2024). Virginia Department of Environmental Quality. <https://www.deq.virginia.gov/our-programs/water/water-quality/assessments/integrated-report>
3. *Virginia's 2024 305(b)/303(d) Water Quality Assessment Integrated Report*. (2024). Virginia Department of Environmental Quality. <https://www.deq.virginia.gov/our-programs/water/water-quality/assessments/integrated-report>
4. *Virginia Health Officials Issues [sic] Fish Consumption Advisory for Chickahominy Watershed*. (May 9, 2025). Virginia Department of Health. <https://www.vdh.virginia.gov/news/2024-regional-news-releases/virginia-health-officials-issues-fish-consumption-advisory-for-chickahominy-waterhead/>
5. Paullin, C. *Virginia water regulators begin process of identifying PFAS sources*. (November 25, 2024). Virginia Mercury. <https://virginiamercury.com/2024/11/25/virginia-water-regulators-begin-process-of-identifying-pfas-sources/>
6. Virginia Register of Regulations. Notice of Intended Rulemaking. State Water Control Board. Volume 37, Issue 17. (April 12, 2021). <https://register.dls.virginia.gov/details.aspx?id=9569>
7. Virginia Register of Regulations. Notice of Intended Rulemaking. State Water Control Board. Volume 41, Issue 18. April 21, 2025. <https://register.dls.virginia.gov/details.aspx?id=11593>
8. 9 VAC 25-260-20.A. <https://law.lis.virginia.gov/admincode/title9/agency25/chapter260/section20/>
9. *Virginia's 2024 305(b)/303(d) Water Quality Assessment Integrated Report*, at 267. (2024). Virginia Department of Environmental Quality. <https://www.deq.virginia.gov/our-programs/water/water-quality/assessments/integrated-report>