

ENFORCING WATER QUALITY STANDARDS

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WHY IT MATTERS

Clean water is a basic necessity for healthy natural ecosystems and is a human right. The **Clean Water Act** and **Virginia State Water Control Law**, are designed to restore polluted aquatic environments and protect waters where good quality has been preserved.

Unfortunately, many clean and healthy waterbodies continue to be damaged by pollution. Thousands of miles of Virginia's streams and large areas of our lakes and estuaries are impaired by longstanding and harmful pollutants that have only recently begun to receive attention. This ongoing degradation points to weaknesses in the way current **water quality standards (WQS)** are applied in permitting and enforcement actions, as well as major gaps in the standards themselves. These shortcomings contribute to the widespread impairment of state waters.

SEDIMENT POLLUTION

The **Virginia Department of Environmental Quality (DEQ)** estimates that 31% of all wadeable stream miles in the state are negatively affected by "**stream-bed sedimentation**," calling sediment pollution the "most common stressor across Virginia." This substantially raises the risk of harm to ecosystems in affected streams.¹ DEQ has finalized "**pollution diets**" for more than 1,100 miles of streams where ecosystems have been degraded by sediment and many more are required.²

PFAS CONTAMINATION

The **Virginia Department of Health (VDH)** has issued fish consumption advisories in two major watersheds (Occoquan and Chickahominy Rivers) due to contamination by **per- and polyfluoroalkyl substances (PFAS)**, known as "forever chemicals,"³ including violation of PFAS drinking water standards in dozens of public water supplies across the state.⁴ PFAS have entered the environment through permitted surface water discharges, sometimes at concentrations millions of times greater than health-based levels established to protect drinking water and fish consumption⁵ (see *Stopping PFAS at Its Source*, page 27).

CURRENT LANDSCAPE

Virginia's WQS include water quality criteria that are intended to prevent interference with **designated uses** of our waterbodies, such as aquatic life support and fishing, swimming, and boating for all state waters.⁶ **Numeric criteria** set maximum levels for specific pollutants not to be exceeded in Virginia's waters.⁷

An additional layer of protection is provided by **narrative criteria**, which apply whether numeric criteria are in place or not.⁸ Narrative criteria prohibit pollution-causing conditions that are "harmful" to humans or wildlife, specifically aimed at toxic substances, and those that produce **turbidity**, color, and settleable material in waterbodies.⁹

Virginia does not have numeric criteria for most waters to protect against sediment pollution.¹⁰ In 2021, DEQ began a process to develop numeric criteria for turbidity, which is related to sediment pollution, but further action has not been taken. Similarly, the state has yet to adopt numeric criteria for surface waters for any of the thousands of PFAS.

Where narrative criteria have not been fully enforced, serious damage to water quality has occurred from sediment discharges into hundreds of waterbodies.¹¹ Virginia has yet to make "impaired waterbody" designations based on the narrative criteria, even in many cases where contamination of fish and water has been measured. Likewise, violations of Virginia's narrative criteria do not yet include land development or sediment-producing activities allowed under state discharge permits.

Further, many state permits do not include PFAS limitations, including permits for municipal and industrial wastewater treatment facilities where PFAS are known or suspected to be present in discharges. In some cases, measured PFAS concentrations have substantially exceeded health-based thresholds used to protect drinking water and fish consumers.

OPPORTUNITIES

Imposing limits and requiring monitoring of all known or likely sources of PFAS releases into the environment under state permitting programs are important steps to protect all Virginians and our resources. Because of the great risks of fish contamination by PFAS, such controls are particularly important for subsistence fishers and people for whom fish or shellfish are a larger than average part of their diets.¹²

Developing and adopting numeric criteria for sediment pollution can strengthen our ability to set permit limitations that prevent damaging projects or greatly improve protections for ongoing activities. These improvements to the WQS can also empower the state and residents to uphold the WQS through enforcement actions by providing clearer thresholds for determining violations of permit conditions.

Virginia has the authority under the Clean Water Act to designate streams, rivers, lakes, and reser-

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voirs as “impaired” when pollution is harming wildlife, degrading habitat, or posing risks to people. This authority can be applied in cases where excessive sediment or PFAS contamination affects water quality, even when no specific numeric pollution limit exists. Such designations can form a basis for permitting actions and help the state set priorities for cleanup planning. In some cases, impaired waterbody designations have occurred only after significant damage to wildlife and aquatic habitats had already taken place. Greater use of existing water quality protections could help identify and address problems earlier.

ENDNOTES

1. *Virginia's 2024 305(b)/303(d) Water Quality Assessment Integrated Report*. (2025, March). Virginia Department of Environmental Quality. <https://www.deq.virginia.gov/home/showpublisheddocument/23289/638911227841400000>
2. *Virginia's 2024 305(b)/303(d) Water Quality Assessment Integrated Report*. (2025, March). Virginia Department of Environmental Quality. <https://www.deq.virginia.gov/home/showpublisheddocument/23289/638911227841400000>
3. *Fish Consumption Advisory*. (2026, July 2). Virginia Department of Health. <https://www.vdh.virginia.gov/environmental-health/public-health-toxicology/fish-consumption-advisory/>
4. *PFAS Assessment and Source Reduction Activities, 2025 Annual Report, A Report to the Honorable Glenn Youngkin, Governor, and the General Assembly of Virginia* (2025, December). Virginia Department of Environmental Quality. <https://rga.lis.virginia.gov/Published/2025/RD1016/PDF>
5. Saby, L. (2024) *Technical Report: PFAS concentrations in stormwater discharges from Richmond International Airport (RIC), April 2023-May 2024*. Wild Virginia. <https://wildvirginia.org/wp-content/uploads/2026/06/Saby-RIC-PFAS-report-1.pdf>
6. Water Quality Standards: Designation of Uses, 9VAC25-260-10. (2024). <https://law.lis.virginia.gov/admincode/title9/agency25/chapter260/section10/>
7. Water Quality Standards: Criteria for Surface Water, 9 VAC 25-260-140. (2024) <https://law.lis.virginia.gov/admincode/title9/agency25/chapter260/section140/>
8. In addition to the water quality criteria, the regulations include an antidegradation policy, at 9 VAC 25-260-30, which requires that all existing uses be protected and that where conditions are better than the minimum levels set by criteria, the high quality must be maintained. <https://law.lis.virginia.gov/admincode/title9/agency25/chapter260/section30/>
9. Water Quality Standards: General Criteria, 9 VAC 25-260-20.A. <https://law.lis.virginia.gov/admincode/title9/agency25/chapter260/section20/>
10. Notice of Intended Rulemaking. State Water Control Board. Volume 37, Issue 17. (2021) <https://register.dls.virginia.gov/details.aspx?id=9569>
11. Sligh, D. (2023, February). *Mountain Valley Pipeline Pollution in Virginia Watersheds*. Wild Virginia. <https://wildvirginia.org/wp-content/uploads/2023/02/ountain-Valley-Pipeline-Pollution-in-Virginia-Watersheds-report-only.pdf>
12. King, T., (2024). Setting PFAS-Based Fish Consumption Advisories for Virginia Waterways. *Journal of Science Policy and Governance*, 24 (1). https://www.sciencepolicyjournal.org/uploads/5/4/3/4/5434385/king_jspg_24-1.pdf

TOP TAKEAWAYS

Many of Virginia's waters are degraded by pollutants such as sediments and PFAS.

Currently, DEQ does not set permit limits, designate waters as impaired, or bring enforcement actions based on most narrative water quality criteria violations, even where very harmful conditions are created.

Virginia can greatly improve permitting and enforcement actions by fully implementing narrative criteria and adopting numeric criteria to control sediment pollution.

Raccoon drinking from canal at Chincoteague Island National Wildlife Refuge
Photo by Lori A Cash

