

# CLOSING THE WASTEWATER GAP

Shannon Orcutt // James River Association // [sorcutt@thejamesriver.org](mailto:sorcutt@thejamesriver.org)  
Pam Rivera // Natural Resources Defense Council // [privera@nrdc.org](mailto:privera@nrdc.org)  
Joe Wood // Chesapeake Bay Foundation // [jwood@cbf.org](mailto:jwood@cbf.org)

## WHY IT MATTERS

Over the last 15 years, Virginia has made major strides in reducing **nutrient pollution**, driven largely by substantial upgrades to wastewater treatment plants. These investments have produced measurable results: wastewater nutrient pollution to the Chesapeake Bay have dropped by more than 50%,<sup>1</sup> contributing to clearer water, healthier aquatic habitat, and steady ecological recovery across the **watershed**. Yet, important challenges remain. Some localities continue to fall short of the pollution-reduction targets outlined in the Commonwealth's Phase III **Watershed Implementation Plan**,<sup>2</sup> and inflation, project delays, and competing infrastructure needs have made it harder for communities to keep pace with long-term commitments. Existing programs, such as the **Enhanced Nutrient Removal Certainty Program (ENRCP)**, play a key role in maintaining progress, but many wastewater treatment plants still face financial and technical barriers to optimizing performance.

Virginia's remaining combined sewer systems illustrate the scale of the challenge. In Richmond, outdated infrastructure still sends untreated wastewater into the James River during heavy rain, creating **combined sewer overflow (CSO)** events that threaten public health and water quality. With a poverty rate near 20% and the highest wastewater bills in the state, the city faces significant hurdles in meeting the state-mandated deadline to complete upgrades by 2035 without additional support. Meanwhile, failing or poorly maintained septic systems in rural areas continue to leak nutrients and bacteria into **groundwater** and local streams, adding to the statewide pollution burden. A legislative workgroup is currently examining these issues and identifying long-term strategies to address them.<sup>3</sup>

## CURRENT LANDSCAPE

Virginia's progress on wastewater has been built on a foundation of sustained state investment. Since 1997, the **Water Quality Improvement Fund (WQIF)** has provided more than \$1 billion in grants for nutrient removal upgrades at publicly owned wastewater treatment plants,<sup>4</sup> and the ENRCP, established in 2021, has added enforceable timelines and planning certainty to keep that work on track.<sup>5</sup> These investments have driven most of Virginia's pollution reductions in the Chesapeake Bay watershed, helping the Commonwealth achieve 80% of its nitrogen reduction goal since 2009.<sup>6</sup> In December 2025, a revised **Chesapeake Bay Watershed Agreement** was signed, committing all member states to meeting pollution reduction targets by 2040.<sup>7</sup>

Despite these gains, aging infrastructure and growing development pressure are creating new risks. The James River, which receives more than 70% of the Commonwealth's wastewater discharges,<sup>8</sup> has seen several recent failures. In July 2025, an electrical failure at Hopewell's Water Renewal plant (which was previously cited for more than 30 pieces of inoperable equipment and no preventative maintenance program) discharged an estimated one million gallons of raw sewage into the river.<sup>9</sup> More recently, in May 2026, nearly two million gallons of wastewater entered the James when Richmond's UV disinfection system failed.<sup>10</sup>

Additionally, an estimated 250-350 million gallons of untreated sewage are released into the James River annually by Richmond's CSO,<sup>11,12</sup> and the January 2026 Potomac Interceptor failure, released an estimated 300 million gallons of untreated sewage<sup>13</sup> into the Potomac River. These incidents make it clear that investment in aging wastewater infrastructure is critical.

## OPPORTUNITIES

Virginia's ENRCP is already making improvements. In fall 2025, Fredericksburg broke ground on an ENRCP-funded treatment plant upgrade to increase capacity from 4.5 million gallons per day (mgd) to 6.0 mgd.<sup>14</sup> With Virginia's ENRCP and Chesapeake Bay nutrient-reduction commitments reaching key 2026 benchmarks, continued full funding is important to keep projects moving, support Chesapeake Bay restoration goals, and help utilities complete planned improvements.<sup>15</sup>

The Commonwealth committed \$100 million to Richmond's CSO plan in FY25-26,<sup>16</sup> with another \$50 million proposed for FY27,<sup>17</sup> yet the scale of the problem looms large. Sustained state investment offers Virginia an opportunity to help Richmond meet its 2035 deadline to finish upgrading its combined sewer and stormwater systems, protect ratepayers from escalating costs, and deliver lasting water quality improvements for the James River.<sup>18</sup>

A petition for rulemaking was filed with the **State Water Control Board** in March 2026 seeking state **Virginia Pollutant Discharge Elimination System (VPDES)** regulations for facilities discharging 1,000 gallons or more per day into dry ditches or intermittent streams to address regulatory gaps following the 2023 Sackett v. EPA ruling, which narrowed federal oversight and shifted greater responsibility on state permitting and enforcement agencies.<sup>19</sup>

Virginia has further opportunities to build on

# ENFORCING WATER QUALITY STANDARDS

David Flores // Potomac Riverkeeper Network // david@prknetwork.org  
Jackie Goodrum // Chesapeake Legal Alliance // jackie@chesapeakelegal.org  
David Sligh // Wild Virginia // david@wildvirginia.org

momentum. DEQ's pay-for-outcomes program has expanded from its 2023 pilot, awarding \$19 million across nine projects in 2025 to reduce nearly 580,000 pounds of nitrogen from the Chesapeake Bay watershed.<sup>20</sup> With **American Rescue Plan Act**-funded septic assistance now largely spent, low-income households with failing systems are increasingly without a path to public sewer connection. Other states like Michigan are working to create dedicated water infrastructure funds, income-based billing, and shutoff protections. Similar policies in Virginia would ensure water investments reach those who need them most.

## ENDNOTES

- McLean, K. (2023). *For Virginia, decades of wastewater treatment upgrades make for a healthier Bay*. Chesapeake Bay Program. <https://www.chesapeakebay.net/news/blog/for-virginia-decades-of-wastewater-treatment-upgrades-make-for-a-healthier-bay>
- Chesapeake Bay TMDL Phase III Watershed Implementation Plan. (2019, August 23). Commonwealth of Virginia. <https://www.deq.virginia.gov/home/showpublisheddocument/4481/638634665300900000>
- Wastewater Infrastructure Policy Working Group. Va. Code Ann. § 62.1-223.2. (2025). <https://law.lis.virginia.gov/vacode/title62.1/chapter21.1/section62.1-223.2/>
- McLean, K. (2023). *For Virginia, decades of wastewater treatment upgrades make for a healthier Bay*. Chesapeake Bay Program <https://www.chesapeakebay.net/news/blog/for-virginia-decades-of-wastewater-treatment-upgrades-make-for-a-healthier-bay>
- Chesapeake Bay Phase III Watershed Imp. Plan; Enhanced Nutrient Removal Certainty Prog. established. H.B. 2129, Special Session 1 (2021) <https://lis.virginia.gov/bill-details/2021/HB2129>
- Chesapeake Bay Program model estimates decline in nutrients, sediments. (2024, May 2). Chesapeake Bay Program. <https://www.chesapeakebay.net/news/pressrelease/chesapeake-bay-program-model-estimates-decline-in-nutrients-sediment>
- Chesapeake Bay Watershed Agreement. (2025, December 2). Chesapeake Bay Program. <https://www.chesapeakebay.net/files/documents/CBWA-2025-IV-Final-Facing.pdf>
- State of the James. (2025). James River Association. <https://thejamesriver.org/wp-content/uploads/2025/10/2025-SOTJ-Indicator-Narrative-and-Graphs.pdf>
- Crawford, B. (2025). *Crater Health District Issues Recreational Swimming Advisory for the Gravelly Run, James River due to a Sewage Discharge*. Virginia Department of Health. <https://www.vdh.virginia.gov/news/public-relations-contacts/archived-news-releases/2025-news-releases/crater-health-district-issues-recreational-swimming-advisory-for-the-gravelly-run-creek-james-river-due-to-a-sewage-discharge/>
- Pollution Data and Reporting. Richmond WWTP - Loss of UV System when Entering 'Wet Flow' Conditions from Rain Event. (2026, May 25). Virginia Department of Environmental Quality. <https://portal.deq.virginia.gov/prep/prepReport/323702>
- Repair Richmond's Combined Sewer. (2026, February 23). James River Association. <https://thejamesriver.org/repair-richmond-combined-sewer/>
- Support (Budget Amendments 368 #11h (Del. Carr) & 368 #2s (Sen. Jones) Richmond's Combined Sewer Overflow Project. (n.d). The James River Association. <https://thejamesriver.org/wp-content/uploads/2026/02/CSO-Sign-On-Letter-2.23.pdf>
- Melissa D. (2026). *The latest updates from the Potomac Interceptor Sewage Spill*. Potomac Conservancy. <https://potomac.org/blog/2026/1/30/potomac-interceptor-sewage-spill-updates>
- City Begins Wastewater Treatment Plant Upgrade. (2025, October 14). City of Fredericksburg. <https://www.fredericksburgva.gov/DocumentCenter/View/30615/News-City-Begins-Wastewater-Treatment-Plant-Expansion-10-14-25>
- Chesapeake Bay nutrient & sediment reduction milestones. (n.d.). Virginia Department of Environmental Quality. <https://www.deq.virginia.gov/water/chesapeake-bay/chesapeake-bay-nutrient-sediment-reduction-milestones>
- CSO Outfall 004 Improvement Plan. (2025, January). City of Richmond, Virginia: Department of Public Utilities. [https://www.rva.gov/sites/default/files/2025-02/CSO%20004%20%20Project%20Newsletter%20-%20Volume%203\\_0.pdf](https://www.rva.gov/sites/default/files/2025-02/CSO%20004%20%20Project%20Newsletter%20-%20Volume%203_0.pdf)
- Moomaw, G. (2026) *General Assembly budget plans include \$50M for Richmond sewer project*. The Richmonder. <https://www.richmonder.org/general-assembly-budget-plans-include-50m-for-richmond-sewer-project/>
- Combined Sewer Overflow Outfalls; James River Watershed, S.B.1064 (2020). <https://legacylis.virginia.gov/cgi-bin/legp604.exe?201+ful+SBI064H1>
- Petition for rulemaking concerning discharges into dry ditch or intermittent streams for wastewater facilities discharging 1,000 gallons or more each day. (2026, April 20). Virginia Regulatory Town Hall. <https://townhall.virginia.gov/viewpetition.cfm?petitionid=454>
- NPS Pilot Program. (n.d.). Virginia Department of Environmental Quality. <https://www.deq.virginia.gov/news-info/shortcuts/topics-of-interest/nps-pilot-program>

## TOP TAKEAWAYS

Aging wastewater infrastructure, combined sewer overflows, and failing septic systems continue to drive significant untreated discharges and persistent water quality and public health risks.

While Virginia has made major progress towards reducing wastewater nutrient pollution through sustained investment, continued success will depend on closing infrastructure gaps and modernizing systems to meet long-term goals.

Virginia has an opportunity to pair infrastructure investment with income-based protections, ensuring low-income households are not left behind as the Commonwealth works to meet its clean water commitments.