

Chesapeake Bay Commission

January 8, 2026

Perspective on Wastewater Progress & Challenges

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Behind the Progress in MD & VA: Similar Strong Wastewater Programs & Leaders

- **Caps on Nutrient Discharges**
 - Bay TMDL/WIPs → WWTP Nutrient Allocations → Permit Limits
- **Partial State Grants**
 - MD: Bay Restoration Fund
 - VA: Water Quality Improvement Fund
 - Households pay the balance in sewer rates
- **Local Construction & Operation Subject to CWA Enforcement**
 - State Grant Terms
 - State Discharge Permits
 - Regular Compliance Reporting
 - State Inspections & Enforcement if Needed



WWTP Upgrades: Big Success Story, But Nearing Over-Reliance?

- **Underloaded WWTPs Temporarily Outperforming Their Allocations**
 - Excellent WWTP performance is covering delays in ongoing nonpoint source reductions
 - NPS reductions must continue for TMDL, especially as communities grow and wastewater flows increase
- **WWTPs Were Relied Upon to Address Surprise Phase III WIP Issues (Climate, Model Changes, etc.)**
 - MD: 2.85 mg/L goal for Majors with annual BRF O&M grant, plus cost-effective Minor WWTP upgrades
 - VA: Enhanced Nutrient Removal Certainty Program, plus SWIFT Recharge
 - Both approaches are ongoing, and costs are generally increasing

Going Forward, It Will Take \$\$\$ to Maintain this Progress

New Development: Living Under the TMDL Cap – A Growing Challenge

- **WWTP Nutrient Allocations Are Very Stringent**

- Most WWTP caps are based on 4 mg/L, which provides a small margin for local growth and economic development
- Caveat: Some caps are only 3 mg/L (e.g., NoVa) leaving ~ no margin)
- Even 4 mg/L based caps can be *quickly exceeded* in fast-growing communities or in small communities with small allocations



- **Generally Unpopular / Undesirable Solutions for Growing Communities**

- Increase nutrient allocations (TMDL reallocation, TMDL relaxation, or facility-specific variances)
- Sewer moratoria and/or greater septic system use

- **Partial Solutions (Will Work in Some Situations, Not in Others)**

- New grants for small concentration reductions (e.g., MD's 3 mg/L → 2.85 mg/L), but little compliance buffer
- Offset credit supply pools (e.g., VA's Nutrient Credit Exchange – next slide)



Living Under the TMDL Cap – Offset Pools: VA Nutrient Credit Exchange (2025) Example

- Nutrient Exchange pools all credits generated by WWTPs by each major tributary
- Aggregated credit pool is relatively large compared to relatively small credit demand of Offset Buyer
- Buyer evaluates WWTP credit reliability and contracts for purchase on standard terms

Table 1 Credits Generated, Credits Used and Credit Surplus

	TN			TP		
	Credits Generated	Credits Used	Credit Remaining	Credits Generated	Credits Used	Credit Remaining
Potomac	1,122,166	577	1,121,589	102,551	3,591	98,960
Rappahannock	209,927	19,775	190,152	24,965	2,823	22,142
York	195,979	53,574	142,405	19,828	293	19,535
Upper James	2,639,360	10,960	2,628,400	176,825	46,773	130,052
Lower James	1,476,664	0	1,476,664	91,635	0	91,635
Eastern Shore	21,088	0	21,088	1,030	0	1,030
Total	5,665,184	84,886	5,580,298	416,834	53,480	363,354

- Credit generation risk allocated to Buyer
- Offset Buyer obtains State Agency's endorsement of offset credit purchase and NPDES permit issuance
- Backup options exist (e.g., State's reserved WLAs, enforcement with penalties and/or mitigation payments)

Cost of Wastewater Service Has Increased Significantly, and Infrastructure Renewal Will Drive Costs Higher

- **Wastewater Infrastructure Renewal Costs**
 - Renewing Nutrient Removal Technology at previously upgraded WWTPs
 - Renewing non-nutrient treatment units
 - Repairing and replacing sewers and pump stations



- **Plus Other Infrastructure Costs Paid by *Same Ratepayers***
 - Renewing localities' drinking water plants, water lines, pump stations, reservoirs and dams
 - Addressing emerging contaminants affecting water and/or wastewater service (e.g., PFAS)

State & Federal Strategies for a Clean Bay and Affordable Wastewater Service

- Avoid further burden and over-reliance on WWTPs in Phase 4 WIPs
- Tailor state programs to enable sewer service and avoid/reduce barriers
- Fund grant programs to meet Phase III WIP completion and infrastructure renewal costs (MD BRF and VA WQIF are essential)
- Provide low interest loans (EPA WIFIA, State Revolving Loan Funds, etc.) to help mitigate sewer rate increases by reducing borrowing costs
- Recognize state primacy in any necessary facility-specific enforcement to be more responsive to local needs, administratively efficient for all parties, and effective
- Offer direct customer assistance to help qualifying households (e.g., Low Income Household Assistance Programs)