

REPORT OF THE

STATE WATER COMMISSION

**TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA**



COMMONWEALTH OF VIRGINIA

RICHMOND

2025

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STATE WATER COMMISSION EXECUTIVE SUMMARY

The following executive summary serves as the 2025 Report of the State Water Commission.

I. Background and Deliberations

The State Water Commission (the Commission) is a 15-member legislative body established by statute that is charged with (i) studying all aspects of water supply and allocation problems in the Commonwealth, (ii) coordinating the legislative recommendations of all state entities that have responsibilities with respect to water supply and allocation issues, and (iii) annually reporting its findings and recommendations to the General Assembly and the Governor. In 2024, the Commission met three times and received testimony regarding several topics, including nonliving shoreline stabilization structures, treatment and filtration of drinking water, grant funding from the federal American Rescue Plan Act of 2021, methodology and cost effectiveness of the Water Quality Improvement Fund, the State Water Resources Plan, legislative restrictions for the private operation of public water and sewer systems, the Hampton Roads Sanitation District's Sustainable Water Initiative for Tomorrow (SWIFT) project, harmful algal blooms, and the City of Richmond's combined sewer overflow system.

1. Meeting Proceedings, June 24, 2024

The Commission met in Richmond with Senator Scott A. Surovell, chair, presiding. The meeting began with introductions and opening remarks followed by adoption of an electronic meetings policy, presentations, and discussion. The Commission elected Delegate Paul E. Krizek as vice-chair.

Jay Ford, Policy Advisor with the Chesapeake Bay Foundation, provided a brief history of legislation relating to living shorelines in Virginia and detailed the ecological benefits of living shorelines. Mr. Ford stated that as it relates to repairing existing nonliving shoreline stabilization structures, an owner of such a structure has the right to repair such structure without a permit as long as the original footprint of the structure is maintained and no additional wetlands are destroyed. Mr. Ford noted that SB 730 (Surovell, 2024) would have required the Virginia Marine Resources Commission (VMRC) to promulgate regulations regarding the types of repairs or maintenance to certain nonliving shoreline stabilization structures that are exempt from or require permits. Mr. Ford stated that the language in the bill assumed that previous legislation regarding such structures altered the "right to repair" process and, if passed and enacted in 2025 Regular Session of the General Assembly, would likely lead to further regulatory uncertainty. Furthermore, Mr. Ford asserted that there have been zero instances in which an owner has wanted to repair a structure in a way that would have no impacts to wetlands that has been denied by VMRC.

Rachel Peabody, Director of Coastal Policy, Restoration, and Resilience at VMRC, provided an overview of VMRC, its responsibilities, jurisdictional boundaries related to tidal wetlands, and permitting processes. Ms. Peabody also provided an overview of the role of the Virginia Institute of Marine Science, Virginia's living shoreline policy, and how VMRC determines the suitability

for a living shoreline approach. Ms. Peabody highlighted a 1984 opinion from the then Attorney General of Virginia Gerald L. Baliles that stated that repair of bulkheads should be considered normal maintenance unless any additional wetlands would be impacted, in which case a wetlands permit would be required. The Code of Virginia also requires owners of shoreline stabilization structures to maintain or remove such structures when in a state of disrepair.

Larry Zaragoza, resident of Mount Vernon, provided input as a constituent as to the current state of the living shorelines law. Mr. Zaragoza stated that, in his opinion, current law likely results in takings of private property, discourages shoreline stabilization structure maintenance, and creates uncertainty among tidal waterfront property owners as such owners can not anticipate the outcome of a repair permit application.

Senator Surovell read a statement provided by Delegate Ellen H. Campbell, the patron of HB 1295 (2024), detailing the provisions of the bill and the importance of passing the bill in the 2025 Regular Session of the General Assembly.

Richard Mest, President of Master Water Conditioning Corp., explained that HB 1295 is a necessary tool to address the prevalence of per- and polyfluoroalkyl substances (PFAS) and other emerging contaminants of concern in the Commonwealth's water supplies. Mr. Mest described the differences between point-of-entry filtration systems and point-of-use filtration systems, as well as the technological and scientific standards for such filtration systems.

Mike Rolband, Director of the Department of Environmental Quality (DEQ), provided a status update related to grants for the Stormwater Local Assistance Fund (SLAF), as well as program improvements that were underway for the SLAF program. Mr. Rolband also provided an update related to grants from DEQ made possible by the federal American Rescue Plan Act of 2021.

Mr. Rolband provided a status update related to agreements to fund projects under DEQ's Water Quality Improvement Fund (WQIF). Mr. Rolband stated that DEQ is obligated under state law to sign agreements for such projects even if there are insufficient WQIF funds to fulfill such agreements. In such cases, Mr. Rolband stated that it is the responsibility of the General Assembly to either fund such projects in the budget or explain to localities why such projects will not be funded. Mr. Rolband stated that he was unaware of any other fund that operates in such a manner.

Mr. Rolband highlighted a few successes of the WQIF program and stated that compliance with grant performance requirements is over 98 percent across all grantees. Mr. Rolband stated that despite the Commonwealth's population growth over the past two decades, delivered loads of nitrogen and phosphorus have decreased dramatically statewide, partially due to the successes of the WQIF program. Mr. Rolband stated that cost effectiveness of nutrient reduction strategies should be considered when projects are considered for WQIF funds.

Mr. Rolband also provided an update on the Hampton Roads Sanitation District's Sustainable Water Initiative for Tomorrow (SWIFT) project, which is expected to be fully online in 2026 and will be able to replenish the Potomac aquifer with up to 16 million gallons of highly treated water per day. Mr. Rolband stated that in response to interest in other projects similar to SWIFT elsewhere in the state, DEQ estimates that a study, to be conducted by Virginia Tech, would take 12 months and cost \$300,000, while installation of five additional multi-well research stations would cost \$2 million and operation and maintenance of such stations would cost \$100,000 per year.

2. Meeting Proceedings, October 23, 2024

The Commission met in Richmond with Senator Scott A. Surovell, chair, presiding. The meeting began with introductions and opening remarks followed by presentations and discussion.

John J. Aulbach II, President of Aqua Virginia, and Barry Suits, President of American Water Virginia-Maryland, provided an overview of federal and state regulation of Virginia's investor-owned water and sewer utilities. Mr. Aulbach stated that Aqua Virginia serves 106,000 people across 37 counties in the Commonwealth, and Barry Suits stated that Virginia American Water serves 350,000 people in various regions of the Commonwealth and two military bases. Both companies serve municipalities as well as individual neighborhoods and subdivisions. Mr. Aulbach stated that current trending concerns for water and wastewater utilities include per- and poly-fluoroalkyl substances, known as PFAS, various issues related to lead and copper in drinking water, and deteriorating infrastructure. Mr. Aulbach noted that Virginia's Drinking Water System Grade is a C+ with \$9.4 billion in additional capital investment needed, and the Wastewater System Grade is a D+ with \$6.4 billion in additional capital investment needed. He added that the federal government's share of water and wastewater funding in the U.S. has declined from 63 percent in the 1970s to below 10 percent currently, which leaves a significant funding gap for state and local governments. Mr. Aulbach stated that water and wastewater utility resilience is critical, and improvements could be made across the Commonwealth by backing up power sources, hardening facilities against weather impacts, increasing cybersecurity preparedness, and ensuring utilities are prepared for emergencies.

Mr. Aulbach stated that infrastructure dollars are needed to support growth and expansion of water and wastewater infrastructure for economic development and to reduce or prevent the burden of such expansion on customers. He added that Virginia's water infrastructure is aging at a rapid rate even as new and proposed federal mandates such as PFAS mitigation impose more complex and expensive requirements on the utilities that maintain and operate local water systems. Municipal rates generally have not kept pace with infrastructure costs and many utilities lack sufficient funding, he noted. In addition to new drinking water regulations, other challenges to utilities include PFAS drinking water contamination, lead reduction through enhanced sampling and removal of lead pipes, expanded sampling efforts to identify additional contaminants of concern, microplastics, and PFAS contamination of wastewater sludge that will eventually impact landfill disposal and beneficial biosolid applications to farm land.

Mr. Aulbach stated that infrastructure improvements and rising operation and maintenance costs require regular rate adjustments. Mr. Suits highlighted examples of infrastructure investment in water and wastewater including pipeline replacement, treatment facility improvements, additional water storage facilities, backup power generators, and flood protection for facilities. He added that there is a historic need for large-scale replacement of aging water and wastewater infrastructure that is driving the need for innovative approaches to investment. Such approaches include supporting affordable rates for customers while gradually increasing rates in order to avoid 'rate shock', reducing regulatory lag relating to rates, supporting quality water infrastructure for economic development, and supporting infrastructure needs to address stringent and quickly changing regulations relating to drinking water quality and the environment.

Mr. Rolband stated, in response to questions at the previous meeting of the Commission regarding cost effectiveness of the WQIF and SLAF programs, that legislation would be necessary to award grants for such programs based on cost effectiveness, but no regulatory changes would be necessary as there are no regulations that govern WQIF or SLAF.

Additionally, no statutes, regulations, or guidance would need to be changed in order to publish cost effectiveness of past projects that received WQIF or SLAF funds. Mr. Rolband then discussed the cost effectiveness of both programs related to phosphorus and nitrogen removal but warned that comparing costs for the nutrients through these programs is difficult and operating costs are not included. Mr. Rolband explained that median and average costs per pound to remove nutrients like phosphorus have partially increased over the past decade as easier projects were undertaken earlier in the process and more difficult projects were undertaken more recently.

Mr. Rolband noted that in the fiscal year 2025 budget, DEQ provided \$20 million to fund 'pay for outcomes' pilot projects in the Chesapeake Bay Watershed that are open to public, nonprofit, and for-profit applicants and are paid for outcomes rather than the typical reimbursement for expenses. DEQ has placed an emphasis on innovation for these projects and such projects are not limited to best management practices that are already approved.

Mr. Rolband provided an update on the nearly \$656 million in federal American Rescue Plan Act funds that have been deployed across the Commonwealth to invest in water and wastewater sources. Mr. Rolband also provided another brief overview of the WQIF and SLAF programs. WQIF eligible projects are limited to (i) design and installation of nutrient reduction technology at Chesapeake Bay watershed publicly owned wastewater treatment plants and (ii) design and installation of certain wastewater conveyance infrastructure projects. SLAF provides matching grants to local governments for the planning, design, and implementation of stormwater best management practices (BMPs) that address cost efficiency and commitments related to reducing water quality pollutant loads. Eligible capital project types for SLAF include new stormwater BMPs, retrofits of stormwater BMPs, stream restoration, low impact development projects, buffer restoration, pond retrofits, and wetlands restoration. Mr. Rolband also highlighted the Clean Water Revolving Loan Fund, which funds projects relating to centralized wastewater treatment, stormwater, agricultural BMPs, brownfield remediation, land conservation, and living shorelines through low-interest loans with principal forgiveness to disadvantaged communities.

Weedon Cloe, Manager of DEQ's Office of Water Supply, provided an update on the State Water Resources Plan Report, which is submitted annually to the Governor and the General Assembly and summarizes reported water withdrawals for the calendar year, identifies water withdrawal trends, and provides an update on the Commonwealth's water resource management activities. Annual water withdrawals from groundwater and surface water are summarized by use in the report and include agriculture, commercial, irrigation, manufacturing, mining, public water supply, and power generation. Mr. Cloe noted that in 2023, a 1.3 percent increase in total withdrawals excluding power generation over the five-year average are attributable to public water supply facilities, commercial uses, and irrigation. He also noted that of the increase in such total withdrawals, total groundwater withdrawals have decreased by 5.4 percent compared to the five-year average, while total surface water withdrawals have increased by 2.1 percent compared to the five-year average. Mr. Cloe explained that public water supply use has increased over the past decade, as total annual withdrawals have increased steadily from approximately 750 million gallons per day (MGD) to approximately 825 MGD in 2023.

Mr. Cloe updated the Commission on special appropriations that DEQ received from the General Assembly to expand the groundwater monitoring network. Such appropriations have enabled DEQ to contract with the U.S. Geological Survey regarding a research drilling program, as well as funding up to 20 climate response network wells, up to 19 chloride monitoring wells, and an extensometer to monitor vertical land motion at West Point. Mr. Cloe also highlighted Senate Joint Resolution 25 (Stuart, 2024), which required DEQ to undertake a one-year study of the groundwater supply east of Interstate 95.

3. Meeting Proceedings, December 9, 2024

The Commission met in Richmond with Senator Scott A. Surovell, chair, presiding. The meeting began with introductions and opening remarks followed by presentations and discussion.

Harry Looney, Water Quality Program Manager of the Lake Anna Civic Association (LACA), provided an overview of LACA, its water quality committee projects, and its recreational advisory history relating to water quality. Lake Anna averaged 104 days of advisories per year over the period from 2018 through 2024. Mr. Looney stated that LACA established its monitoring efforts for cyanobacteria, a type of harmful algal bloom (HAB), in 2020 and has initiated numerous projects to increase and expand aquatic vegetation and native trees in the watershed.

Keri Green, Lake Quality Council Chair at the Smith Mountain Lake Association (SMLA), provided an overview of the issue of widespread HABs at Smith Mountain Lake during the summer of 2023 and stated that there are still many unanswered questions as to what causes HABs in certain watersheds, why certain years are worse than others, and how can HABs be prevented in the future. SMLA has established initiatives to address the issue of HABs, which include a dock watch program to monitor water quality, communication and outreach efforts through the Smith Mountain Lake Quality Alliance, desktop investigations of Smith Mountain Lake by Princeton Hydro and Virginia Tech's Water Resources Research Center, and a partnership with Lake Anna to secure funding from the General Assembly.

Ms. Green stated that a preliminary desktop investigation has revealed that the Blackwater River subwatershed is likely the main source of nutrients causing HABs to spread, land use types drive nutrient loads in the subwatershed, and varied nutrient reduction projects rather than one project type in the subwatershed will be key to curbing the spread of HABs in the future. Ms. Green provided an update on the study funded by the 2024 Regular Session of the General Assembly for Virginia Tech and SMLA to conduct a study of the HABs occurring at Smith Mountain Lake that includes an evaluation of conditions that have led to the appearance of HABs and includes recommendations for prevention of further occurrences. Ms. Green also stated that because DEQ has no funding for the response to HABs on inland waterways, the SMLA has asked the General Assembly to support a budget amendment in the amount of \$250,000 that would allow DEQ to collect HAB samples and the analysis for cell counts and toxicology for all inland waterways in the Commonwealth.

April Bingham, Director for the City of Richmond's Department of Public Utilities (DPU), provided an overview of the city's wastewater systems, including the city's legacy combined sewer overflow (CSO) system, in which wastewater and stormwater flow through the same pipes, which can lead to overflows into waterways during severe wet weather conditions. Ms. Bingham stated that Richmond's DPU has been working for decades to improve water quality

through numerous projects, including new retention basins, outfall improvements, sewer separation projects, and new conveyance sewers, that are helping the city reach the goals set by the General Assembly in SB 1064 (Stuart, 2020 Regular Session) to nearly eliminate CSOs into the James River by July 1, 2035.

Ms. Bingham stated that while the median household income (MHI) in the City of Richmond is well below the state average, the annual wastewater bill as a percentage of MHI is almost double that of the state average. The city's wastewater rates are among the highest in the Commonwealth due in part to the significant past investments made to control CSOs. Ms. Bingham stated that because the city's residents are unable to bear the significant wastewater rate increases necessary to meet the mandate set by SB 1064, the city will need state funding of approximately \$500 million by fiscal year 2029 to initiate the contracts necessary to meet the 2035 deadline.

II. Conclusion

The Commission voted unanimously to formally recommend a budget amendment for the 2025 Regular Session of the General Assembly that would (i) provide \$300,000 to DEQ to conduct a study, in coordination with Virginia Tech, to determine technically feasible locations within the Eastern Virginia Groundwater Management Area (EVGMA) to recommend water treatment upgrades for Virginia municipal water systems modeled on the Hampton Roads Sanitation District SWIFT project and the cost of such upgrades and (ii) provide \$2 million to DEQ to install five additional multi-well research stations to gather additional groundwater data to study the upper portion of the EVGMA.

The Commission also voted unanimously to formally recommend legislation in concept that would direct DEQ to convene a stakeholder group to (i) study the state's stormwater and wastewater grant programs to determine the most effective and efficient methods to promote the utilization of such programs and (ii) consider the total life cycle capital and operating costs per pound of pollutants removed as possible criteria for projects funded by such programs.

The Commission voted and endorsed legislation, to be patroned by Senator Surovell, that would permit a water or wastewater utility to petition the State Corporation Commission for the approval of an eligible infrastructure replacement and enhancement plan, as defined in the bill. The bill also permits a public utility that provides both water and wastewater services to request, in a general base rate proceeding, that the State Corporation Commission allocate a portion of the public utility's wastewater service revenue requirement for recovery through water service base rates, allocate a portion of the public utility's water service revenue requirement through wastewater base rates, or combine the public utility's water service and wastewater service revenue requirements.

The Commission voted and endorsed HB 1295 (Campbell, 2024), which directs the State Board of Health to adopt regulations to utilize point-of-use or point-of-entry drinking water treatment or filtration to remove or significantly reduce concentrations of contaminants of concern that meet or exceed any maximum contaminant level or health advisory for the same contaminant adopted by the U.S. Environmental Protection Agency. The bill would also establish the Rural Water Supply Program and Fund to allow the Department of Health's Office of Drinking Water to test and treat contaminated drinking water for individuals on private wells and small rural public water systems.

Additional information about the State Water Commission's activities is available through its website at <http://dls.virginia.gov/commissions/swc.htm>.

Respectfully submitted,

Senator Scott A. Surovell, Chairman

Delegate Paul E. Krizek, Vice-Chairman

Senator Bill DeSteph

Senator David W. Marsden

Senator Russet Perry

Senator Richard H. Stuart

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