ADOBE/LAWRENCE

1 POTOMAC RIVER

THREAT: Sewage pollution; data center development

STATES: Virginia, Maryland, Washington, D.C.

SUMMARY

The Potomac River is the economic lifeline and cultural heart of our nation's capital. But earlier this year, the largest sewage spill in U.S. history fouled the Nation's River, raising alarms for public health and aging water infrastructure. Congress must invest to strengthen water infrastructure. Moreover, rapid development of data centers in the watershed poses an expanding threat to river health and the resilience of drinking water supplies. State leaders must urgently establish common-sense safeguards on all data centers and evaluate cumulative impacts on water resources.

THE RIVER

The Potomac River Basin is home to more than 7 million people across Maryland, Virginia, West Virginia, Pennsylvania, and Washington, D.C., and serves as the primary source of drinking water for the nation's capital and many other cities and towns. Flowing over 380 miles from the Appalachian Highlands to the Chesapeake Bay, the Potomac's tributaries include the Shenandoah, Monocacy, Anacostia, North Branch, and South Branch rivers. The river supports internationally renowned recreational trout fisheries in its headwaters and some of the East Coast's most significant oyster, blue crab, and striped bass commercial fisheries.

Residents and visitors in D.C. and across the watershed value the river for its recreation opportunities, including fishing, boating, swimming, hiking, and wildlife watching.

The Potomac River Basin is home and ancestral territory to numerous indigenous communities and sovereign Tribal nations, including the Monacan, Rappahannock, Patawomeck, and Piscataway, among others that hold relationships to the land since time immemorial and continue to serve as guardians and caretakers.

THE THREAT

Earlier this year, in the largest sewage spill in U.S. history, a major wastewater pipe failed, sending 200 to 300 million gallons of untreated sewage into the Potomac River and nearby C&O Canal. The January failure of the Potomac Interceptor sewage line in Montgomery County, Maryland, closed a stretch of river upstream of Washington, D.C. to all public access.

The main drinking water collection point for Washington, D.C. is upstream of the spill and was not affected. But a smaller, secondary collection point downstream of the spill was shut down and out of service.

Many of the region's wastewater pipes, particularly in and around Washington, D.C., are approaching or have passed their 50-year service life. The Potomac Interceptor sewage pipe is over 60 years old. Untreated sewage poses a major public health threat. Bacteria levels in the Potomac River near the site of the spill were over 4,000 times higher than the safe recreational limit. Failure to address aging wastewater infrastructure on the Potomac puts the river at risk of ongoing contamination and threatens public health, local businesses, and wildlife.

In addition, the Potomac River watershed faces an unprecedented surge in data center development, particularly in northern Virginia and portions of Maryland. The region currently has over 300 data centers and is on track to have a total of about 1,000 centers occupying roughly 200 million square feet of buildings — enough to cover 3,472 football fields — on an estimated 20,000 acres of land. These facilities pose a significant and growing threat to both water quality and water quantity, yet are being approved without meaningful transparency, regulatory review, and assessment of cumulative impacts.

Data centers require enormous volumes of water for cooling and energy production, placing new pressure on drinking water supplies already stressed by increasingly extreme weather, population growth, and toxic contamination. Many proposed and approved facilities are located on or near contaminated sites, upstream of drinking water intakes that serve millions of residents. Data centers themselves are potential sources of toxic contaminants. Hundreds of millions of computers and their components treated with toxic PFAS (per- and polyfluoroalkyl substances, known as "forever chemicals") may end up in local landfills, and back-up generation at these facilities requires the delivery and storage of millions of gallons of diesel fuel. Without comprehensive planning, these developments increase the risk of pollutants entering the river during and post construction.

The scale and pace of data center expansion is particularly concerning. Projects are often reviewed individually, rather than as part of a watershed-wide analysis, masking their combined impacts on stormwater runoff, chemical spill response, management of hazardous materials, groundwater withdrawals, and flood risk. In many cases, there is little to no requirement for advanced stormwater treatment, long-term remediation planning, or disclosure of water use and discharge data. This lack of oversight creates dangerous gaps in understanding how these facilities affect downstream communities, ecosystems, and drinking water treatment costs.

In addition to these challenges with new data centers, many of the region's wastewater pipes, particularly within and around Washington, D.C. proper, are approaching or have passed their 50-year service life. The Potomac Interceptor sewage pipe, which is where the January overflow stemmed from, is over 60 years old. The combination of new water pollution from data centers and a quickly aging wastewater system that can result in unexpected spikes of pollution will cumulatively put a strain on the Potomac that is completely unavoidable.

Underscoring the importance of the Potomac River and its water supplies, the Interstate Commission on the Potomac River Basin found that a significant disruption from threats like infrastructure failures or natural disasters in D.C.'s water supply could result in a loss of $15 billion in gross regional product (GRP) and hundreds of millions of dollars in tax losses.

WHAT MUST BE DONE

To protect the Potomac River and its water supplies – and to ensure communities nationwide have strong water infrastructure – Congress must reauthorize critical water infrastructure funding bills. The current State Revolving Fund bill – the main source of federal water infrastructure funding – will expire on Sept. 30, 2026. Failure to act will create significant funding challenges not just for states responsible for the Potomac, but all states across the country. Furthermore, a secondary source of water

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infrastructure funding — the Sewer Overflow and Stormwater Grant program — also expires in September. Without reauthorization, communities won't have funds for urgent sewer and stormwater upgrades.

In addition, state leaders and regulators in Virginia and Maryland must ensure that the pace of data center development does not outstrip the region's ability to protect water supplies and river health.

They must require full disclosure of water withdrawals, discharges, and stormwater management plans for all data center projects, with information made publicly accessible. Second, states should conduct a comprehensive environmental assessment of cumulative watershed-level impacts, including effects on water quality, water availability, ecosystems, fisheries, recreation, and downstream treatment costs. Case-by-case project reviews are insufficient given the scale of development underway.

Leaders should urgently establish safeguards for clean and sustainable water resources before approving new data center development. Furthermore, jurisdictions must evaluate the cumulative impacts that data centers and their supporting infrastructure have on the Potomac watershed. Strengthened stormwater and wastewater discharge standards, facility siting, solid waste management, contaminated site remediation requirements, chemical spill prevention and response, and long-term monitoring must be part of any future approvals.

By prioritizing transparency, coordinated planning, and public engagement, decision-makers can ensure that economic development does not come at the expense of clean drinking water and the health of the region's rivers and communities.

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TAKE ACTION:

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