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New Report Finds Dangerous Nitrate Pollution in Maryland Drinking Water

Authors call on state, counties to fill in testing and data gaps on drinking water contamination on the Lower Eastern Shore and beyond

Dangerous nitrate pollution has contaminated private drinking water wells and public water utilities in several regions across the United States, posing a significant threat to people’s health. A new report from the Center for Progressive Reform (CPR) indicates that this problem has reached Maryland’s Lower Eastern Shore, an agricultural area that’s home to hundreds of concentrated animal feeding operations (CAFOs) and millions of chickens.

Nitrates form when manure and fertilizer break down. When manure is overapplied or mismanaged, rainfall or irrigation can cause nitrates to trickle down through soil into groundwater.

"A single poultry CAFO raising 82,000 laying hens can produce 2,800 tons of manure a year, more than three times the amount produced by the Maryland Zoo in Baltimore each year," said Darya Minovi, CPR Policy Analyst and co-author of Tainted Tap: Nitrate Pollution, Factory Farms, and Drinking Water in Maryland and Beyond. "Though private well testing data is limited, our investigation found indicators that CAFO pollution is contaminating the groundwater that residents rely on for their drinking water. Since nitrates are colorless, tasteless, and odorless, most families don’t even know that it’s in their water."

Minovi and co-author Katlyn Schmitt examined currently available data in Wicomico, Worcester, and Somerset counties. They found:

- Wicomico and Worcester counties have detected nitrates at levels exceeding the U.S. Environmental Protection Agency’s (EPA) safe drinking water threshold in roughly one out of every 25 private drinking water wells.

- An additional one out of 14 wells in those two counties had nitrate concentrations just below EPA’s threshold, which public health research suggests may be hazardous to people’s health.

- Nitrate contamination is also evident in public water utilities. Overall, at least 61,000 residents in the two counties are being or may be exposed to nitrate contamination from
public and private water sources.

- Somerset County also provided well testing records, but they were extremely limited and at times incomplete and unreadable.

Drinking water contaminated with nitrates can contribute to a host of health problems, including certain types of cancers, pregnancy complications, and blue baby syndrome, a condition that can be fatal to infants. Cancer (especially colorectal cancer) and infant mortality rates in Lower Eastern Shore counties are among the highest in Maryland.

"These findings are troubling on their own, but they raise larger questions," said Schmitt. "What don’t we know about nitrate contamination in private wells and public water sources on the Lower Eastern Shore? Are health hazards lurking just beneath the surface, unknown and unaddressed because of a lack of testing and transparency? Additional investigation and more testing are needed to determine the extent of nitrate pollution and its impacts in this region."

Maryland and other states are not doing enough to protect their residents from nitrates in drinking water. In a nationwide comparison of protective policies and programs for private wells, the report's authors found that Maryland ranked among the five states with the fewest policies. No state in the country requires periodic testing of private well water, and only a handful offer lower-cost test kits for families who want to test their water on a regular basis.

"Unfortunately, nitrates cannot be removed from water through boiling or chemical disinfection and require costlier treatment systems," said Minovi. "Well owners in Maryland and beyond are generally expected to take the safety of their drinking water into their own hands, even though many do not have the financial or technical means to do so. This results in disparate impacts on low-income families who cannot afford testing or household treatment of water contaminated with nitrates."

To better protect Marylanders from nitrates, the report's authors provide a set of recommendations, including the following:

- Establish safe drinking water standards for private wells and smaller community systems that are not covered by the federal Safe Drinking Water Act.

- Require the Maryland Department of Health or Maryland Department of the Environment to implement a well compensation program that helps cover the costs of well water testing, sampling, and analysis, along with any needed remediation or replacement, prioritizing funding for low-income residents.

- Require property owners wishing to sell their homes to test well water quality within six months of sale and disclose well water test results to potential buyers.

- Require landlords to test well water quality on leased property every three to five years and inform tenants of the results.
• Publish all water quality testing results for private wells on a public online portal operated by state and local health departments and require regular information-sharing between relevant state and local agencies and state-approved laboratories.


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