

Establishing a Pilot Program in Anne Arundel County to Improve Water Supply and Water Quality

Anne Arundel County is seeking regulatory approval to investigate technologies and approaches for providing long-term benefits to water supply resiliency and nutrient management challenges through applied scientific research under the guidance of the Maryland Department of the Environment (MDE). This legislation proposes a carefully monitored managed aquifer recharge pilot program as a step toward addressing water resource challenges.

Desired Outcome of Legislation

1. Support innovative, integrated, proven, long-term sustainable solutions to meet water resource challenges impacting local water supplies and the Chesapeake Bay.
2. Recognize that managed aquifer recharge can be an innovative, resilient solution, validated through an informed applied scientific research and pilot programs.
3. Request that MDE work with the County and independent experts to complete the applied scientific research, via piloting, to collect data necessary to validate managed aquifer recharge and establish definitive performance metrics.
4. Develop regulations and guidelines that are informed by treatment objectives.



There are proven technologies for safely treating reclaimed wastewater to drinking water quality to replenish aquifers. Such technologies, already regulated and used in neighboring Virginia, across the United States, and around the world, could be beneficial for implementation in Maryland. **This technology also removes PFAS, pharmaceuticals and personal care products prior to aquifer recharge.**

Key Tenets



Protect human health.



Protect and strengthen the Potomac aquifer group, of which Anne Arundel County is the largest user in the State of Maryland.



Use sound science and approaches.



Safe Drinking Water Act provides guiding principles for treatment approaches.



Keep regulators and key stakeholders informed with open communication at each step of the way.



Validate at key decision points including independent experts to keep the program moving forward.

Needs for Water Resiliency and Nutrient Planning

- Anne Arundel County and other Maryland jurisdictions rely solely on groundwater for drinking water supply.
- Groundwater levels are dropping across the region, risking the long-term availability of groundwater for use as drinking water.
- Continued decline of the aquifer water levels increases the risk of land subsidence and saltwater intrusion.
- Sustainable groundwater resiliency should be implemented in advance of water supply constraints.
- Nutrient discharges to surface water continue to impact local streams, rivers, and the Chesapeake Bay.
- Climate change is increasing and accelerating the impacts of nutrients on our local waterways.

Applied Scientific Research Approach

Anne Arundel County has implemented an applied scientific research program to investigate the use of MAR within the County. Should current testing continue to show success, the County intends to proceed with the design and subsequent installation of a demonstration scale facility. Multiple regulatory review steps will be included prior to implementation of the demonstration facility. The 500,000 gallon-per-day facility will allow for demonstration of the full MAR concept, including treatment and underground injection, on a small, localized scale.



Managed Aquifer Recharge improves the sustainability of our groundwater resources

