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The Chesapeake Environmental Protection Association (CEPA) supports House Bill 1296. This legislation will develop a Managed Aquifer Recharge (MAR) pilot program to demonstrate the feasibility of MAR technology to protect Maryland's groundwater aquifers. MAR will provide the Maryland Department of Environment with a critical tool for sustaining groundwater resources. The pilot program will also give the Department the tools and experience to assess and develop regulations that ensure that receiving aquifers are protected and not degraded. MAR is a technology that the public does not understand well; therefore, regulations must be developed to assure the public that it is safe. These regulations must address the concerns of all stakeholders, including the public, local jurisdictions, technical experts, and regulators.

Maryland's aquifers have been declining for decades, with some currently unusable. They are stressed by overpumping by development, saltwater intrusion, natural contamination, and land subsidence. Future water demands from population growth, land-use changes, and droughts will further stress the state's finite groundwater resources. The 2021 Groundwater Protection Program Report to the Maryland General Assembly outlines the critical issues facing several counties, especially those that depend on the coastal plain for drinking water.

MAR has been used successfully worldwide, including in the United States, for over a century. Orange County, California, and Hampton Roads, Virginia, currently have operating systems that inject geochemical-compatible treated wastewater directly into aquifers. Both systems have shown the ability to prevent saltwater intrusion and land subsidence. In addition, the in-ground stored water is not subject to evaporation losses and remains available for future use.

Although the MAR concept is easy to understand, implementing it requires specific geotechnical and engineering expertise to prevent harm to a precious natural resource. Each proposed site will have unique geochemical properties. The public needs to be reassured that MAR is safe. Since COMAR regulations govern groundwater use, the Department of Environment must develop regulations incorporating MAR as a permitted use. The regulations should address the following areas of concern:

- Input from all stakeholders, including the public, local jurisdictions, technical experts, and regulators,
- Justification of the need for a jurisdiction to employ MAR

- Total operating system risk analyses to ensure system reliability,
- Treatment of recharge water that guarantees compatibility with native groundwater,
- Advanced analysis technology, such as mass spectroscopy, indicates that contaminants in the reclaimed water are well below the minimum detectable levels of current technology,
- Aquifer capacity to receive recharged water,
- Ability to recover recharged water, especially in the case of a system failure, and
- Monitoring and failure mitigation measures of system components over extended periods to prevent aquifer contamination.

Maryland has had water management problems historically. In the early 1980s, droughts alarmed the legislature, requiring MDE to produce an annual groundwater protection report. Since then, other droughts have had severe impacts. Overpumping aquifers by development has had the most significant effect, leading to declining aquifer water levels and saltwater intrusion. The confined aquifers contain a finite amount of water, which, for the most part, is adequate for the near future. However, as the groundwater report indicates, many aquifers are showing stress from overuse and are becoming contaminated locally. Without intervention, these aquifers will become increasingly unusable. MAR is a tool that should be explored to address the sustainability of the state's aquifers.

Therefore, CEPA supports House Bill 1296 for developing a Managed Aquifer Recharge (MAR) pilot project.