

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

**EASTERN VIRGINIA GROUNDWATER
MANAGEMENT ADVISORY COMMITTEE 2022
ANNUAL REPORT**

**TO THE HONORABLE GLENN YOUNGKIN,
GOVERNOR, THE GENERAL ASSEMBLY, AND THE
STATE WATER COMMISSION**

NOVEMBER 2022

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EXECUTIVE SUMMARY

The Eastern Virginia Groundwater Management Advisory Committee (EVGMAC) was reestablished effective July 1, 2020 pursuant to legislation enacted following the 2020 Virginia General Assembly session.¹ The Director of the Department of Environmental Quality (DEQ) appoints members of the EVGMAC. DEQ convenes the EVGMAC at least four times each fiscal year, and during each meeting DEQ updates the EVGMAC on activities related to groundwater management in the Eastern Virginia Groundwater Management Area and solicits EVGMAC members to present topics and analysis at future meetings. DEQ prepares and submits this report of the EVGMAC's examinations to the Governor, the General Assembly, and the State Water Commission by November 1 of each year pursuant to § 62.1-256.2 of the Code of Virginia.

INTRODUCTION

The Eastern Virginia Groundwater Management Advisory Committee (EVGMAC) was reestablished effective July 1, 2020 pursuant to legislation enacted following the 2020 Virginia General Assembly session.² The purpose of the EVGMAC is to serve “as an advisory committee to assist the State Water Commission and the Department [of Environmental Quality (DEQ)] in the management of groundwater in the Eastern Virginia Groundwater Management Area.”³ The Eastern Virginia Groundwater Management Area includes all of the Commonwealth east of Interstate 95, except for the Eastern Shore, which is a separate groundwater management area.⁴

The first iteration of the EVGMAC was established pursuant to legislation adopted by the 2015 General Assembly.⁵ Pursuant to the 2015 legislation, the first iteration of the EVGMAC completed its activities in 2017 and the committee's enabling legislation expired on January 1, 2018. The final report submitted by the first iteration of the EVGMAC is available on [DEQ's Eastern Virginia Groundwater Management Advisory Committee website](#).

¹ 2020 Va. Acts Ch. 805.

² *Id.*

³ Va. Code Ann. § 62.1-256.2.

⁴ 9VAC25-600-20 A (“The board hereby orders the declaration of the eastern part of Virginia as a groundwater management area. This area shall be known as the Eastern Virginia Groundwater Management Area. This area encompasses the counties of Charles City, Essex, Gloucester, Isle of Wight, James City, King George, King and Queen, King William, Lancaster, Mathews, Middlesex, New Kent, Northumberland, Prince George, Richmond, Southampton, Surry, Sussex, Westmoreland, and York; the areas of Caroline, Chesterfield, Fairfax, Hanover, Henrico, Prince William, Spotsylvania, and Stafford counties east of Interstate 95; and the cities of Chesapeake, Franklin, Hampton, Hopewell, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg.”).

⁵ 2015 Va. Acts Chs. 262 and 613.

MEMBERSHIP

Members of the Eastern Virginia Groundwater Management Advisory Committee (EVGMAC) are appointed by the Director of the Department of Environmental Quality (DEQ) pursuant to § 62.1-256.2 of the Code of Virginia. Membership of the EVGMAC is to “be composed of nonlegislative citizen members consisting of representatives of industrial and municipal water users; representatives of public and private water providers; developers and representatives from the economic development community; representatives of agricultural, conservation, and environmental organizations; state and federal agency officials; and university faculty and citizens with expertise in water resources-related issues.”⁶

Pursuant to § 62.1-256.2 of the Code of Virginia in September 2020 the DEQ Director appointed the following persons and organization representatives to serve as members of the EVGMAC:

Martha Moore – Farm Bureau

Stephen Schoenholtz – Virginia Water Resources Research Center

Kurt Stephenson – Virginia Tech

Hope Cupit – Southeast Rural Community Assistance Project, Inc.

Robert Wayland – Citizen at large

Robert Pickett – Virginia Association of Soil and Water Conservation Districts

Keith Martin – Virginia Chamber of Commerce

Anna Killius – James River Association

Peggy Sanner – Chesapeake Bay Foundation

Nina Butler – WestRock Company

Stewart Leeth – Smithfield Foods, Inc.

Andrea Wortzel – Mission H2O

Kellan Singleton – Accomack-Northampton Planning District Commission

David Jurgens – City of Chesapeake

Christopher Miller – King George County

Doug Powell – James City Service Authority

Al Moor – Western Tidewater Water Authority

⁶ Va. Code Ann. § 62.1-256.2.

Jay Bernas – Hampton Roads Sanitation District (HRSD)

John Aulbach – Aqua Virginia

John O'Dell – Virginia Water Well Association

Chief Stephen Adkins – Chickahominy Tribe

Dr. Colin Greene – Virginia Department of Health (VDH)

Mark Bennett – U.S. Geological Survey (USGS)

John Loftus – Virginia Economic Development Partnership (VEDP)

MEETINGS

The Department of Environmental Quality (DEQ) is to convene meetings of the Eastern Virginia Groundwater Management Committee (EVGMAC) at least four times each fiscal year.⁷ During each meeting, DEQ is required to “(i) update the [EVGMAC] on activities pertaining to groundwater management in the Eastern Virginia Groundwater Management Area and (ii) [to] solicit members to present topics and analysis for examination at future meetings.”⁸ The first meeting of the EVGMAC in the fiscal year covered by this report took place on October 25, 2021 and additional meetings were held on May 11, 2022, June 7, 2022, and July 14, 2022.

The first meeting of the EVGMAC during the fiscal year covered by this report was held on October 25, 2021. The primary agenda item for the meeting was a comprehensive presentation on expected aquifer conditions based on 2020-2021 annual total permitted simulations for the Eastern Virginia and Eastern Shore Groundwater Management Areas by Todd Wood of AQUAVEO (DEQ's modeling contractor). These simulations evaluate the areas that fall below the regulated water level in each aquifer in an aquifer system (for each Groundwater Management Area) based on both the current use and the full permitted use of groundwater. These simulations evaluate the aquifer's ability to sustain the respective groundwater withdrawal scenario for the next 50 years. Following the presentations, committee members discussed modeling assumptions and data uncertainty, groundwater withdrawal volumes, and the possibility of inclusion of the Hampton Roads Sanitation District's (HRSD's) Sustainable Water Initiative for Tomorrow (SWIFT) project projections in the model. The secondary agenda item was an update on DEQ's groundwater management program. This included an update on more recent long-term scientific study by USGS and DEQ, an update of water level monitoring hydrograph results, and updates on several legislative items including: 1) the development of General Permits for use of the surficial aquifer in the Groundwater Management Areas to be presented to the State Water Control Board; 2) updates on the water withdrawal annual maintenance fee workgroup report required by legislation adopted by the General Assembly; 3)

⁷ *Id.*

⁸ *Id.*

progress on a developing regulations necessary to comply with legislation adopted by the General Assembly requiring water audit and leak detection and repair plans to be submitted with water withdrawal permits; and 4) water supply planning regulatory amendments required by legislation adopted by the General Assembly. The meeting concluded with committee members offering ideas on addressing several areas of potential future work.

The May 11, 2022 meeting was comprised of an update from DEQ on groundwater monitoring drilling plans. Scott Kudlas noted that a recommendation from the EVGMAC's 2017 Report requested that the General Assembly fund expanded groundwater monitoring. The General Assembly initially appropriated this funding in 2020 but due to the pandemic it was delayed until Fiscal Year 2022. The presentation by Mr. Kudlas included an overview of the monitoring that was funded, including: drought monitoring well network wells, saltwater intrusion monitoring wells, and a West Point Extensometer. He provided an overview of ongoing and long-term well maintenance needs for the monitoring network and current funding levels. In the future additional funding may be necessary to address these issues.

The June 7, 2022 meeting explored the status of the USGS hydrogeologic framework revision for the area southwest of the James River. Sam Caldwell with USGS presented new drilling information revealing that altitudes of some hydrogeologic units of the Virginia Coastal Plain aquifer system differ by as much as 50 feet from those previously known. The presentation included an overview of new geophysical logs, sediment cores, and cuttings as well as revised interpretations to existing data. Revisions to the USGS groundwater framework in this area provides information needed for withdrawal permitting decisions by DEQ.

The July 14, 2022 meeting engaged the committee with an update on the HRSD (SWIFT project, which was requested by the members in a previous meeting. The presentations from Jamie Mitchell and Dan Holloway of HRSD comprised the entire agenda of this meeting. Ms. Mitchell's presentation focused on the federal Underground Injection Control (UIC) permitting for the first full scale project and the technical aspects associated with the injection of large volumes of water into the Potomac aquifer. There was significant discussion of the conditions related to PFOA and PFAS compounds, the recommended permit changes HRSD has proposed in response, and the rationale for these recommendations. The hydrogeologic presentation, provided by Mr. Holloway, updated the committee on design and operational changes made to the full-scale injection wells to improve the long-term ability to avoid well and aquifer clogging. The committee determined that in the next fiscal year the committee will engage in further discussion related to groundwater monitoring and funding, ongoing modeling activities, and further updates on SWIFT.

APPENDIX A - § 62.1-256.2 OF THE CODE OF VIRGINIA

§ 62.1-256.2. (Expires July 1, 2025) Eastern Virginia Groundwater Management Advisory Committee established; sunset.

A. The Department of Environmental Quality (the Department) shall establish the Eastern Virginia Groundwater Management Advisory Committee (the Committee) as an advisory committee to assist the State Water Commission and the Department in the management of groundwater in the Eastern Virginia Groundwater Management Area. Members of the Committee shall be appointed by the Director of the Department and shall be composed of nonlegislative citizen members consisting of representatives of industrial and municipal water users; representatives of public and private water providers; developers and representatives from the economic development community; representatives of agricultural, conservation, and environmental organizations; state and federal agency officials; and university faculty and citizens with expertise in water resources-related issues. The Department shall convene the Committee at least four times each fiscal year. Members of the Committee shall receive no compensation for their service and shall not be entitled to reimbursement for expenses incurred in the performance of their duties.

B. During each meeting of the Committee, the Department shall (i) update the Committee on activities pertaining to groundwater management in the Eastern Virginia Groundwater Management Area and (ii) solicit members to present topics and analysis for examination at future meetings. The Committee may develop specific statutory, budgetary, and regulatory recommendations, as necessary, to enhance the effectiveness of groundwater management in the Eastern Virginia Groundwater Management Area.

C. The Department shall annually report the results of the Committee's examinations and related recommendations, and any responses from the Department, to the State Water Commission, the Governor, and the General Assembly no later than November 1 of each year.

D. The provisions of this section shall expire on July 1, 2025.