



Managing Water Resources

Water Supply Planning & Water Withdrawal Permitting

Chesapeake Bay Commission, Virginia Delegation

Bryant Thomas

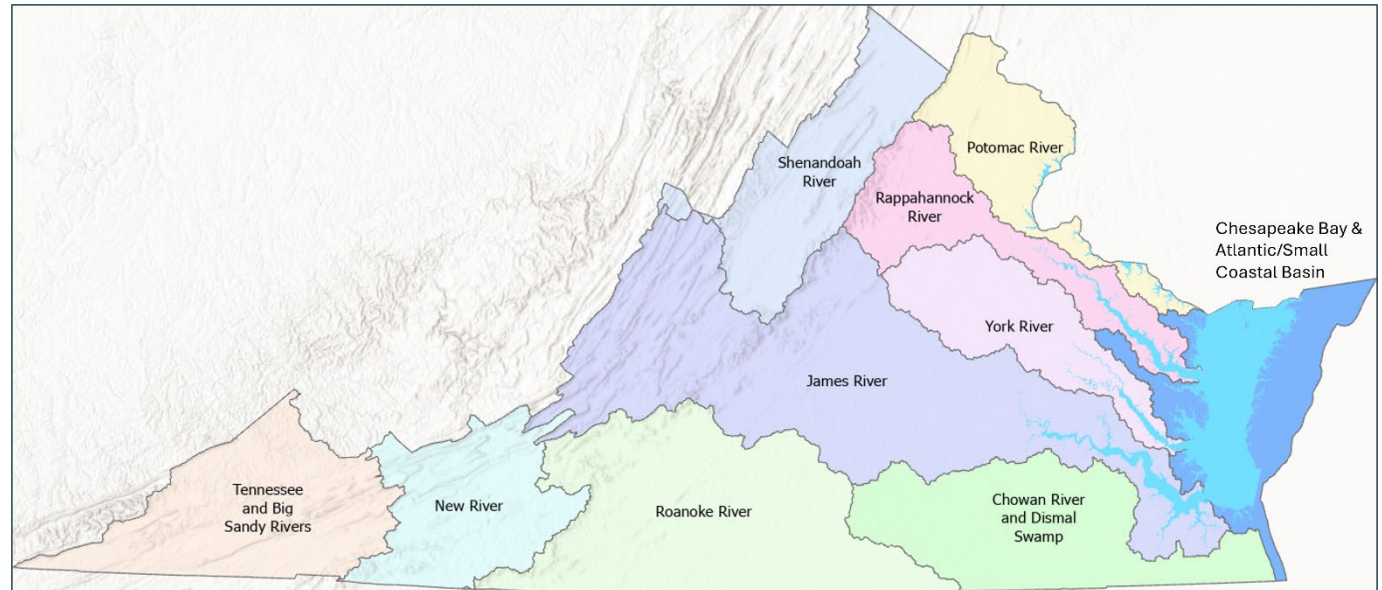
Water Resources Division Director

Virginia Department of Environmental Quality

August 18, 2026

Agenda

- Background - Water Resources Information
- Water Supply Planning
- Water Withdrawal Permitting
- Topics of Interest



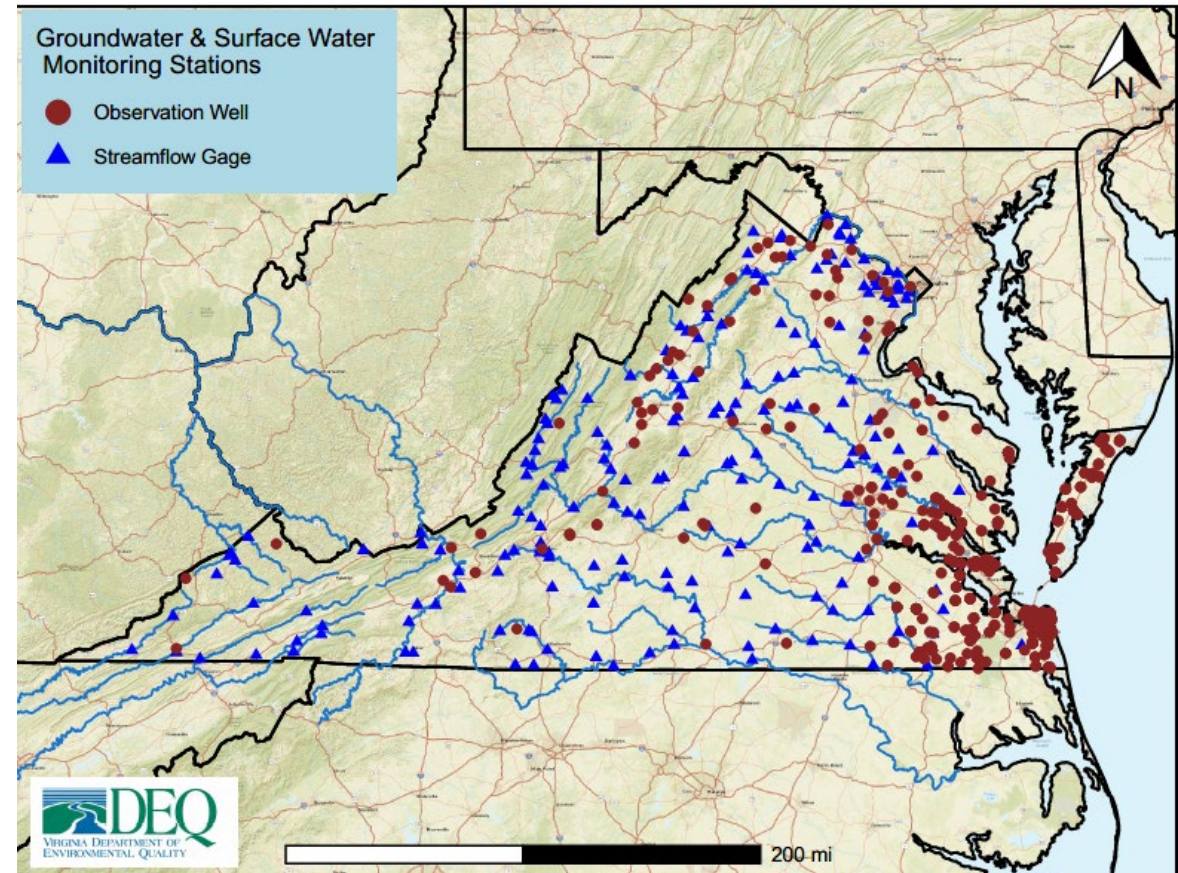


Background

Water Resources Information

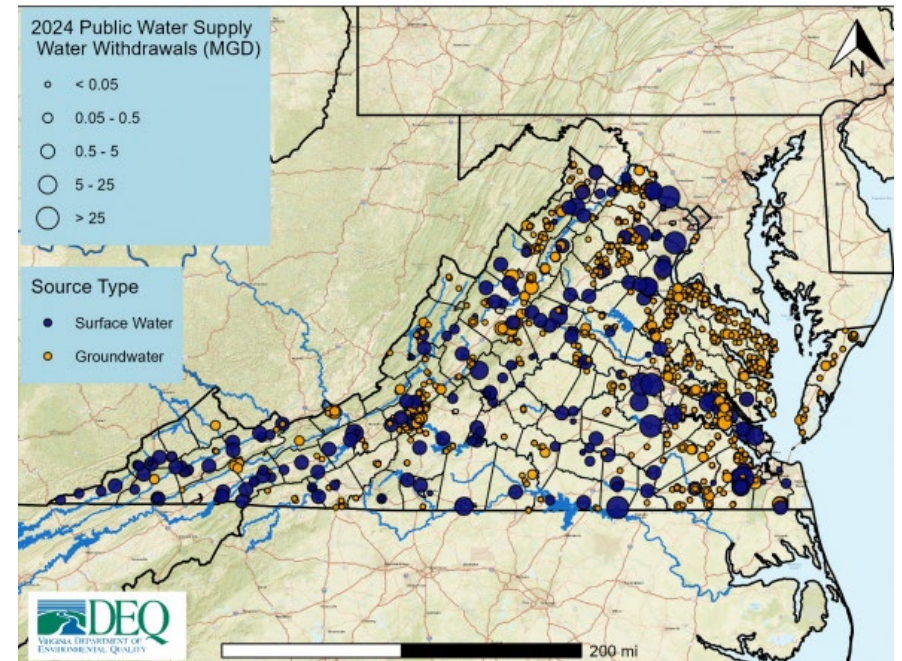
Surface and Groundwater Monitoring

- DEQ Groundwater Characterization & Monitoring
 - 375 total observation wells in VA
 - 310 operated by DEQ
- DEQ Surface Water Investigations
 - 194 stream flow gages in VA
 - 88 operated by DEQ
- Both programs work in close partnership with the USGS
- All data are published on the USGS National Water Dashboard



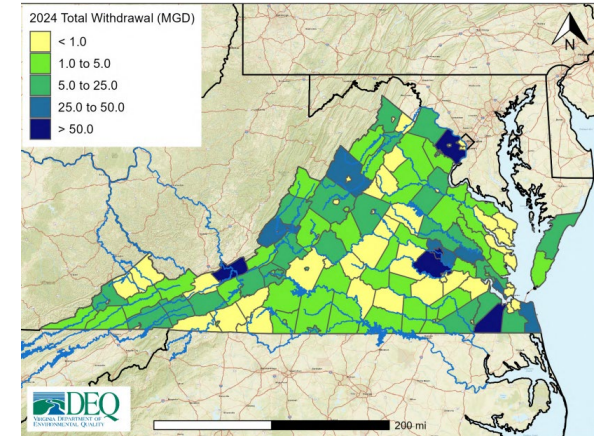
Water Use – Water Withdrawal Reporting

- Water withdrawals are required to be reported to DEQ annually pursuant to §62.1-44.38 and 9VAC25 -200
 - Surface Water and Groundwater withdrawals
 - > 1 Mgd for crop irrigation
 - > 10,000 gal/day other
 - Reportable Withdrawals include:
 - PWS, industrial, mining, commercial, agriculture, power generation
 - DEQ prepares an Annual Water Resources Report

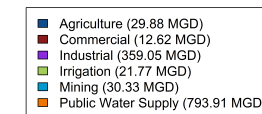
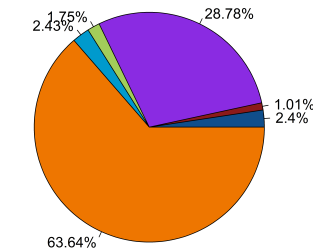


Water Use – Water Withdrawal Reporting Summary from the 2025 Annual Report

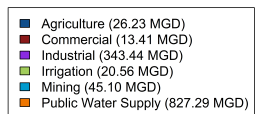
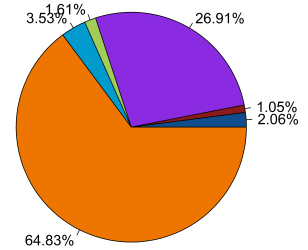
- **1,157** facilities reported
- Total reported withdrawals: **5.44 BGD**
 - Power generation made up **76.5%** of this total
 - Decrease of 3.1% from the prior 5-yr avg
- **Excluding power generation...**
 - Total reported withdrawals: **1.28 BGD**
 - Surface water: **1,125 MGD**
 - Groundwater: **151 MGD**
 - Increase of 2.3% over the prior 5-yr avg
 - Surface water comprises 88% of reported withdrawals
 - Major use types: Public Water Supply & Industrial



(a) 2019-2023 Average Withdrawals



(b) 2024 Total Withdrawals



Water Use – Water Withdrawal Reporting Summary from the 2025 Annual Report

- Unpermitted withdrawals represented 78% of reported withdrawals excluding power generation
- 81% of Surface Water withdrawals are unpermitted
- Annual report is available on DEQ's website
- Reporting data is publicly available on DEQ's water withdrawal [dashboard](#)

Table 2: 2024 Permitted and Unpermitted (Excluded) By Use Type Withdrawals (MGD)

Use Type	Annual Withdrawal Amount		% of Total	
	Unpermitted	Permitted	Unpermitted	Permitted
Groundwater				
Agriculture	0.05	1.06	0.04	0.70
Commercial	1.98	2.13	1.31	1.40
Industrial	18.48	35.59	12.20	23.50
Irrigation	0.46	1.24	0.31	0.82
Mining	32.52	0.00	21.48	0.00
Public Water Supply	31.88	26.03	21.05	17.19
Total Groundwater	85.37	66.05	56.38	43.62
Surface Water				
Agriculture	24.72	0.39	2.20	0.03
Commercial	8.12	1.19	0.72	0.11
Industrial	280.96	8.42	24.98	0.75
Irrigation	18.81	0.05	1.67	0.00
Mining	12.44	0.15	1.11	0.01
Public Water Supply	571.11	198.27	50.78	17.63
Total Surface Water	916.16	208.46	81.46	18.54



Water Supply Planning

Regional Water Supply Planning

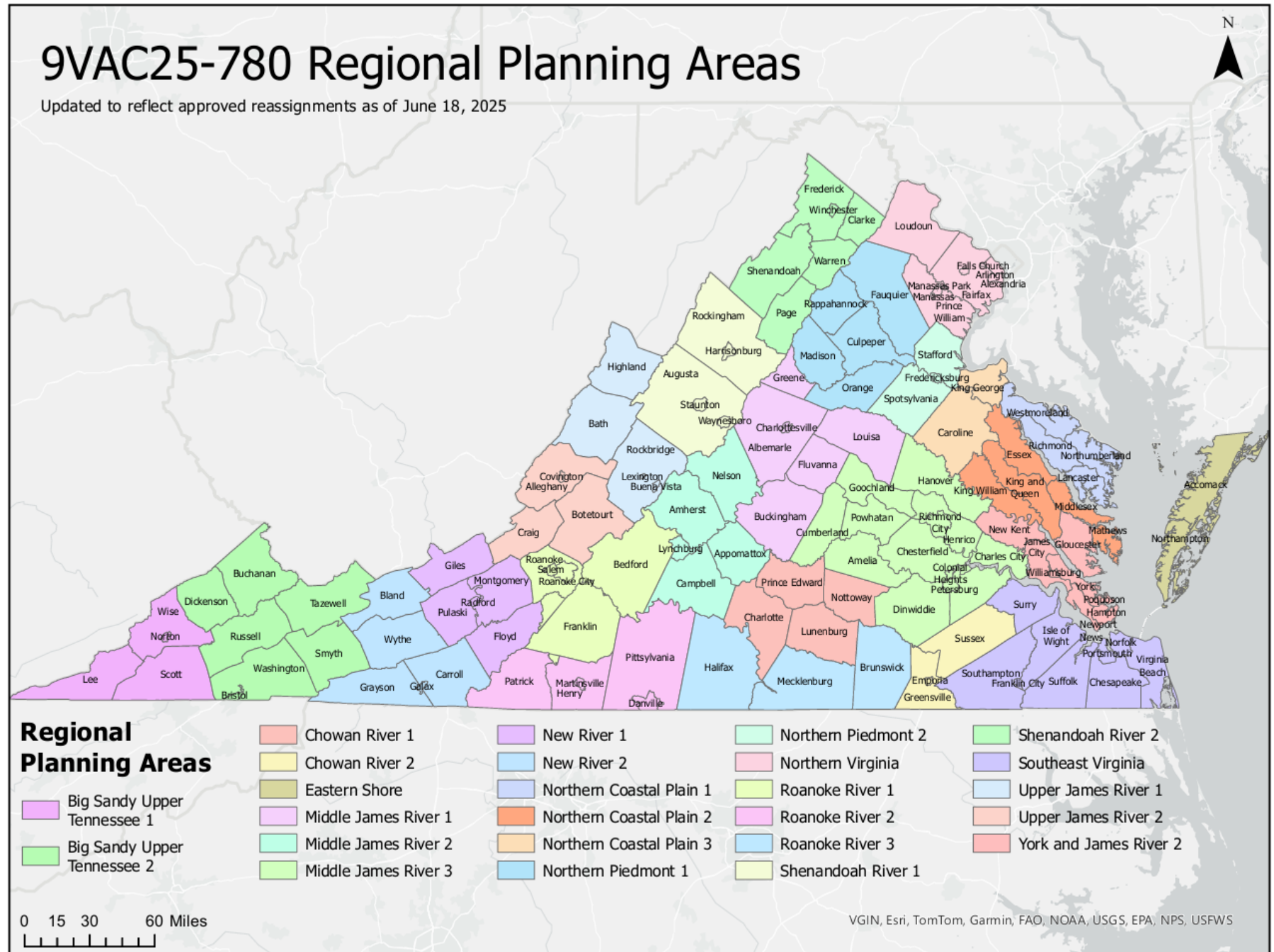
Local and Regional Water Supply Planning ([§62.1-44.38:1](#) and [9VAC25-780](#))

- Regulatory Amendments:
 - designate **Regional Planning Areas** primarily based on river basin,
 - require localities within each Regional Planning Area to submit a **single, jointly developed regional water supply plan**, and
 - require that regional water supply plans **identify water supply risks** and **propose regional strategies to address these risks**
- Amendments effective **October 9, 2024**
- Regional Water Supply Plans due **October 9, 2029**

Map of the 25 Regional Planning Areas

9VAC25-780 Regional Planning Areas

Updated to reflect approved reassignments as of June 18, 2025



Water Supply Planning – Funding for RPAs

FY2025/FY2026

- GA appropriated **\$462,000**

FY2027/FY2028

- GA appropriated **\$1,962,000**





Water Withdrawal Permitting

Water Withdrawal Permitting – Statute & Regulations

Groundwater

- **Statute:** Ground Water Management Act of 1992
 - **Regulation:** Groundwater Withdrawal Regulations (9VAC25-610)

Surface Water

- **Statute:** State Water Control Law, specifically, § 62.1-44.15:22.
Water withdrawals and preservation of instream flow
 - **Regulation:** Virginia Water Protection Permit Program Regulation (9VAC25-210)

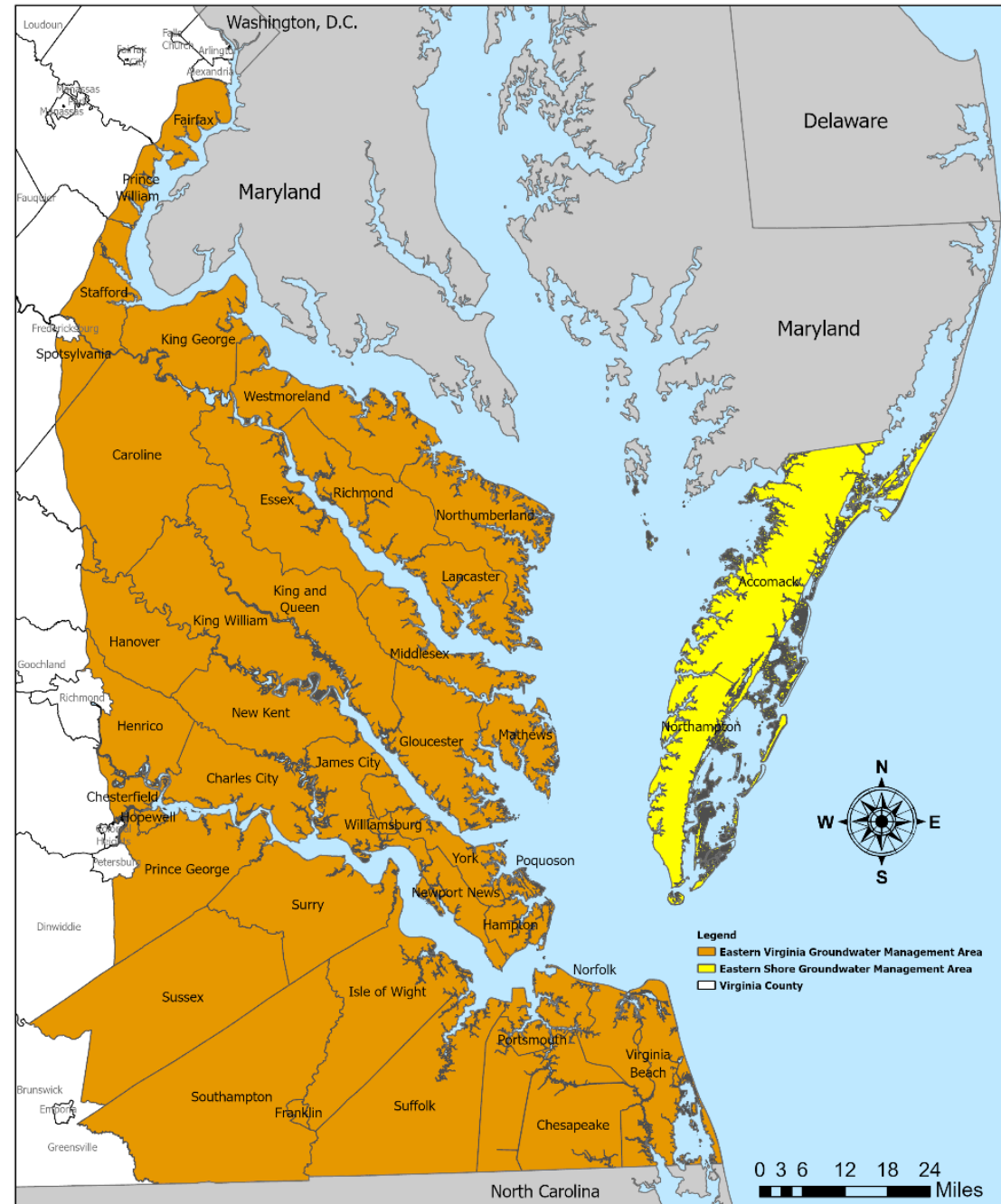
Groundwater Withdrawal Permits

Who Needs a Groundwater Withdrawal Permit?

- Only applies in a Groundwater Management Area
- A user whose groundwater withdrawals exceed 300,000 gallons in a month
 - 300,000 gallons equates to:
 - approximately 20-30 homes or
 - 1" of irrigation applied over 11 acres or
 - operation of a well with a 125-gpm yield for 40 hours
- **New and existing users of any type of use, except as excluded under 9VAC25-610-50. Exclusions include:**
 - oil and gas exploration
 - temporary construction dewatering
 - groundwater remediation activities
 - geophysical investigations
 - springs

Groundwater Management Areas

- Two Ground Water Management Areas in Virginia
 - Eastern Shore (yellow)
 - Eastern Virginia (orange)
- 374 GW withdrawal permits



Groundwater Withdrawal Permit Conditions

- Technical Evaluations are performed to ensure sustainable groundwater resources
- Limits on monthly and annual groundwater withdrawals
- Water Conservation and Management Plan:
 - Water audit plan and leak detection and repair plan
- Special conditions can include:
 - Geophysical logs
 - Pump set depth
 - Alternate source investigation/development plan
 - Well abandonment
 - Water quality/level monitoring
 - Aquifer test



Virginia Water Protection (VWP) Surface Water Withdrawal Permits

When is a surface water withdrawal permit needed?

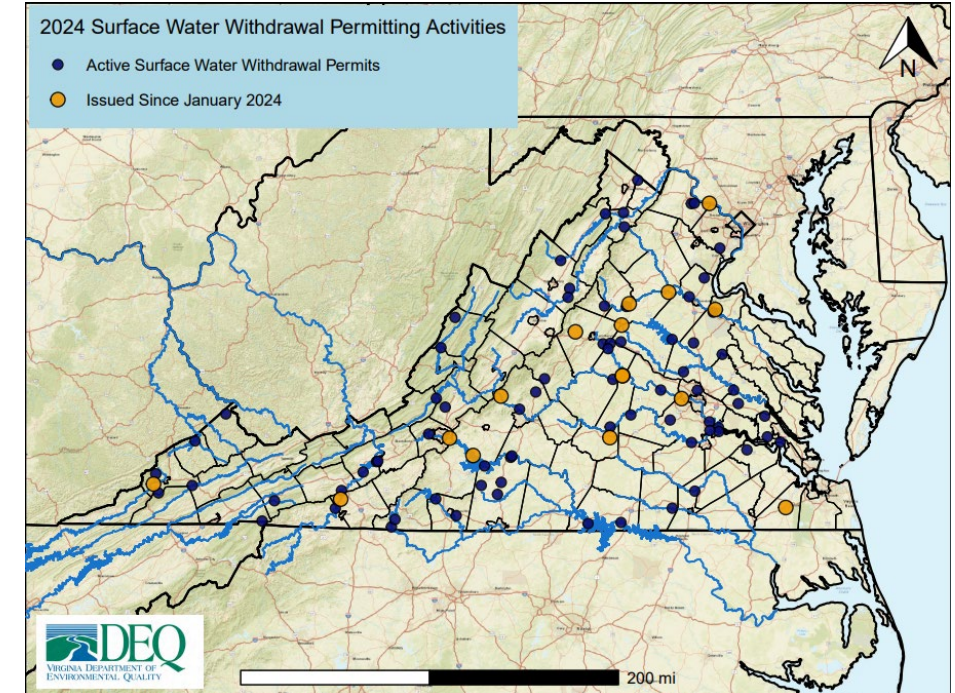
- From non-tidal waters
 - Non-agricultural $\geq 10,000$ gallons per day
 - Agricultural ≥ 1 million gallons per month
- From tidal waters
 - Non-agricultural ≥ 2 million gallons per day
 - Agricultural ≥ 60 million gallons per month

Exclusions from VWP surface water withdrawal permitting include:

- Any water withdrawal in existence on July 1, 1989; however, a permit shall be required if a new § 401 certification is required to increase a withdrawal
- Others as included in 9VAC25-210-310, including:
 - Firefighting
 - Hydrostatic pressure testing
 - Quarries
- 107 Surface Water Withdrawal Permits

VWP Surface Water Withdrawal Permit Conditions

- Permit evaluations are conducted to ensure beneficial uses are protected
 - Cumulative impact analysis
 - Consultation with natural resource agencies
 - VIMS is consulted for tidal water withdrawals
- Limits on daily, monthly, and annual water withdrawals
- Water audit plan and leak detection and repair plan
- Special conditions can include:
 - Flowby requirements
 - Time-of-Year restrictions
 - Mussel studies
 - Drought Management Plan
 - Monitoring and Operations Plan
 - Screen size/velocity requirements





Topics of Interest

Water Withdrawal Permitting – pre-1989 Excluded Withdrawals

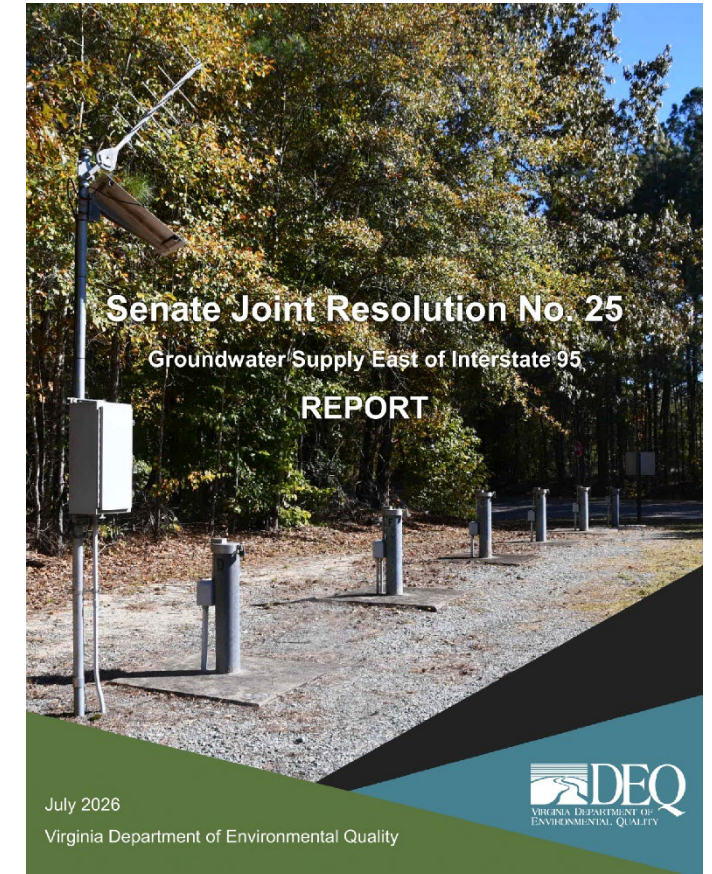
- DEQ intends to initiate a rule-making to update the regulation associated with surface water withdrawals
 - To define or clarify a pre-1989 withdrawal
 - Will provide consistency and certainty for water resources planning and permitting
- Plan to publish a NOIRA in 2026



Virginia Senate Joint Resolution 25

Report on GW Supply East of Interstate 95

- General Assembly passed joint resolution in 2024 Session
- Directed DEQ to study GW supply east of I-95, including historical and current trends in groundwater levels and quality, as well as future projections in light of newer industries such as data centers
- DEQ submitted report to General Assembly on July 24, 2026
- DEQ Director will presenting on the report and recommendations to State Water Commission on Thursday, August 20





Thank You
