

**EASTERN VIRGINIA GROUNDWATER MANAGEMENT ADVISORY
COMMITTEE AND THE DEPARTMENT OF ENVIRONMENTAL
QUALITY**

**Bank of America Building – 3rd Floor Multipurpose Meeting Room
1111 East Main Street, Richmond, VA 23219**

**September 30, 2024
10:30 AM**

MEETING MINUTES

Committee Members Present	
John Aulbach – Aqua Virginia	Mark Bennet -USGS
Ethan Betterton – Virginia Chamber of Commerce	Cathy Binder – King George Service Authority
Jason Early - Stantec	Mike Gerel – Chesapeake Bay Foundation
Joey Hiner – Southeast Rural Community Assistance Project, Inc. (SERCAP)	Whitney Katchmark – Hampton Roads Planning District Commission
David Jurgens – City of Chesapeake Utilities	Robert Pickett – VA Association of Soil & Water Conservation Districts
Jonathan Rak - DEQ	Jake Tabor – Virginia Farm Bureau Federation
Nathan Thomson – James River Association	

Committee Members’ Alternates Present	
Chris Pomeroy (Alternate for Paul Retel)	City of Suffolk & Western Tidewater Water Authority
Jim Taylor (Alternate for Nina-Mary Butler)	WestRock
Jamie Heisig-Mitchell (Dan Holloway)	Hampton Roads Sanitation District (HRSD)
Daniel McLaughlin (Alternate for Dr. Kevin McGuire)	Virginia Water Resources Research Center
Anthony Creech (Alternate for Dr. Karen Shelton)	Virginia Department of Health
Ivy Ozmon (Alternate for Whitney Katchmark)	Hampton Roads Planning District Commission
Vicki Smith (Alternate for Bob Carteris)	City of Norfolk

The following committee members were absent from the meeting: Dana Adkins of the Chickahominy Tribe; Stewart Leeth of Smithfield Foods, Inc; John ‘Odell of the Virginia Well Drillers Association; Doug Powell of the James City County Service Authority; Kellan Singleton of the Accomack-Northampton Planning District Commission; Robert Wayland Citizen-at-Large; and Andrea W. Wortzel Mission H20.

Technical Support Staff Present	
Brian Cambell - DEQ	Matt C. Richardson - DEQ
Wes Myers - DEQ	Liz McKercher - DEQ
Sam Jasinski - DEQ	Scott Morris - DEQ
Weedon Cloe - DEQ	Gouri Mahadwar - DEQ
Morgan Emanuel - DEQ	Dallin Walker - DEQ
Todd Beach - DEQ	Eric Seavey - DEQ
Preston Kirby - VDH	William K. Norris - DEQ
Natalie Spage - DEQ	

Interested Parties	
Virginia Tech/PARML – Mark Widdowson	Tauxemont Community Association - Glenda Booth
JCSA - Doug Powell	Virginia Agribusiness Council – Brad Copenhaver
Chickahominy Tribe – Joe Hunt	

Meeting Notes

Welcome and Introductions:

Mr. Weedon Cloe, Manager of the DEQ Office of Water Supply, welcomed members to the first meeting of the Eastern Virginia Groundwater Management Advisory Committee for FY2025. He thanked everyone for attending and identified the available handouts for the meeting.

Handouts:

- Agenda,
- Draft Minutes/Notes for the June 24, 2024, EVGWMAC Meeting,
- DEQ Groundwater Projects for FY25 – Weedon Cloe
- Presentation – HRSD Staff. *“Sustainable Water Initiative for Tomorrow”*

Mr. Cloe went over some housekeeping items, including location of facilities and emergency evacuation procedures. He introduced the newest members of the committee, Jim Taylor from WestRock, Mike Gerel from the Chesapeake Bay Foundation, Jonathan Rak from DEQ, Vicki Smith from the City of Norfolk, Cathy Binder from the King George Service Authority, and Anthony Creech from the Virginia Department of Health.

Meeting Agenda:

Mr. Cloe went over the planned meeting agenda outline.

1. Welcome and Introductions

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2. Review and Approval of 09/30/2024 Agenda.
3. Review and Approval of the 06/24/2024 Meeting Minutes
4. DEQ Groundwater Projects for FY25 - Weedon Cloe
5. Presentation – HRSD Staff. *Sustainable Water Initiative for Tomorrow Update*
6. PAROC/DEQ – Scott Morris
7. New Business – Updates and or topics of interest from Committee Members
8. Public Comment Forum
9. Next Meeting
10. Wrap Up

Approvals:

- **Agenda:** The committee approved the tentative agenda as presented.
- **Meeting Minutes – 04/23/2024:** One correction was made to the minutes to correct the date of the minutes. The committee then approved the minutes as presented.

ACTION ITEM: DEQ staff will finalize the meeting minutes and post them as “Final” to Town Hall.

Presentation: Weedon Cloe, Office of Water Supply Manager “*Preview of Upcoming DEQ Groundwater Studies*”

Weedon Cloe gave a brief presentation on pending FY25 groundwater projects underway by DEQ. Topics included:

- **Ongoing Expansion of Monitoring Network:** DEQ is currently undergoing an expansion of the State Observation Well monitoring network. DEQ, using a special appropriation from the General Assembly, is currently contracted with USGS. The West Point extensometer is currently planned to be in operation with the month. DEQ currently has 9 climate response network wells drilled, but as the date of the meeting a 10th well is in the process of being drilled in Stafford County. The remaining drills will be in place of the spring of 2025. Once the Climate Response wells have been drilled, DEQ will begin drilling 19 chloride monitoring wells.
- **Statewide Groundwater Monitoring Network:** These wells will provide an improvement on the statewide groundwater monitoring network. Mr. Cloe showed the committee a map of the locations of the planned wells.
- **Focus on SWIFT Region:** The proposed chloride monitoring wells will allow DEQ to do discrete, quarterly groundwater level monitoring, as well as allowing DEQ to do more sampling. At some locations it will allow for continuous conductivity logging. The additional chloride and climate response wells are a direct result of the efforts of the committee.
- **Senate Joint Resolution 25:** Senate Joint Resolution 25 is a mandate by the General Assembly to study the groundwater supply in the Commonwealth. DEQ will spearhead a

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one-year study of the supply east of I-95. DEQ is midway through the development of a plan and are currently working with Aquaveo for completion of their annual model updates and conducting simulations, which will provide DEQ with more updated information. DEQ is also working with USGS to utilize some of their methods (Zone Budget Analysis) for the study.

DEQ also received funding to add one full-time member to the groundwater team. DEQ is currently undergoing an internal reorganization of staff to support the study. The position of a groundwater monitoring team lead was advertised and recently closed. DEQ is currently reviewing applicants and expects to have the position filled shortly. This will free up other DEQ employees and streamline the study objectives.

- **Virginia Coastal Plain North of Fredericksburg:** This is a complex area of the coastal plain that has not been studied in detail. DEQ and USGS are planning preliminary studies to determine what wells in the area are suitable for water-level monitoring, the age of the water in the area, and the bedrock depth in the area. This study will provide DEQ with more data to make better informed decisions.
- **Questions:** Mr. Cloe opened the floor to questions at this point. There were two questions from the committee.
 - *Will the data from the studies conducted under SJ25 be made available to the public on the DEQ website?*
Once the report has been published it will be placed on the website.
 - *Are the annual model updates that Aquaveo is working on the normal simulations?*
Right now, it is just the normal update.

ACTION ITEM: The department will post the Presentation on the DEQ Website.

Presentation: Jamie Heisig-Mitchell, HRSD Chief of Water Quality “*HRSD SWIFT: Progress Update for the Eastern Virginia Groundwater Management Advisory Committee*”

Weedon Cloe introduced Jamie Heisig-Mitchell who will be giving the second presentation today. Jamie is the Chief of Water Quality for HRSD. Topics included.

- **HRSD provides wastewater conveyance and treatment service to 20 cities and counties of SE Virginia and the Eastern Shore:** Ms. Heisig-Mitchell began by giving an overview of HRSD and SWIFT. The Hampton Roads Sanitation District (HRSD) is a wastewater authority in southeast Virginia. They provide service to 20 cities and counties, which amounts to roughly 20% of the population of the Commonwealth. They maintain 14 treatment facilities across the region.
- **SWIFT applies multiple rounds of advanced water treatment to produce water that:** The Sustainable Water Initiative for Tomorrow (SWIFT) program is a water management solution to address multiple water challenges. SWIFT takes water that has already gone through advanced wastewater treatment, and then puts that water through

additional rounds of advanced water treatment. This water can then be used to recharge the Potomac Aquifer.

- **SWIFT provides multiple regional benefits:** The first two benefits from this program that are directly beneficial to the citizens of Hampton Road are reducing discharges to the Chesapeake Bay. Recharging the aquifer also helps to reduce land subsidence. Lastly, it creates a sustainable source of groundwater.
- **Initial phase of SWIFT full-scale implementation will include AWT & MAR facilities at James River and Nansemond:** Feasibility studies for this program began in 2014. In 2016 HRSD began piloting two different treatment trains, one of which was chosen as the treatment moving forward. The treatment train chosen is able to match the TDS value of the Potomac Aquifer. The SWIFT research center was completed in 2018. This is a demonstration scale facility with one recharge well, with a capacity of 1 mgd. This is the only full operational facility; however, two other facilities are currently targeted for adding SWIFT facilities. The James River facility is currently under construction. Upon completion it will have a capacity of 16mgd. Recharging will begin in 2026. The Nansemond facility will be complete in 2029 and will have a capacity of 34 mgd.
- **SWIFT phase 1:** SWIFT phase 1 includes the two planned facilities and nutrient upgrades. The contract to design and build the Nansemond SWIFT was just awarded. The Virginia Initiative facility presents a potential third facility. The plan is to pause after two facilities and see what additional benefits might be needed, and if they are, then more SWIFT facilities will be added.
- **James River ANRI/SWIFT Facility:** Construction on the James River facility is 57% complete, currently on track for a 2026 start-up date, and a \$534M estimated construction budget.
- **Prior to project kick off:** Ms. Heisig-Mitchell showed the committee a picture of the site prior to the beginning of construction on the SWIFT facility.
- **Project site in June 2024:** Ms. Heisig-Mitchell showed the committee a picture of the site as it appeared in June of 2024. Construction is currently on target to complete in 2026. This will involve 10 recharge wells. There are also 2 monitoring well nests, making 8 monitoring wells in total. HRSD is working with USGS to install a fifth extensometer that will be collocated with James River SWIFT. This will allow HRSD to know sooner rather than later what the large-scale impact of the recharge will be. The site has not been set in stone yet.
- **Capital projects to close BHTP and meet nutrient discharge targets:** Closing Boat Harbor is key to both nutrient reductions and increasing capacity of recharge. The Boat Harbor facility is on the northside of the Monitor Merrimac Bridge. That facility will be closed, and the flow will be moved down to the Nansemond facility.

- **Boat Harbor Pump Station Conversion:** Boat Harbor is 35% of the way to being converted to a pump station, with several additional features. Boat Harbor is currently on track for a 2026 start-up date and has an estimated construction budget of \$169 million.
- **New pump station achieves HRSD’s goals for cost effective treatment, nutrient management, and resiliency:** Boat Harbor will have stations for wet weather storage, diurnal equalization and grit removal, in addition to the intermediate pump station and the transfer pump station.
- **Slide 13: Boat Harbor Force Main #1:** Force Main 1 is the aquatic piece of the new facilities at Boat Harbor. It is currently 57% complete. Force Main 1 is on track for a 2026 start-up date and has an estimated construction budget of \$164 million.
- **Graph:** Ms. Heisig-Mitchell presented a graph outlining the placement of Force Main 1, as well as showing how the remaining pipes will be installed.
- **Nansemond ANRI Facility:** Construction on the Nansemond facility is 47% completed. Nansemond is on track for a 2026 start-up date and has an estimated construction budget of \$300 million.
- **Prior to project kick off:** Ms. Heisig-Mitchell showed the committee a picture of the site prior to construction beginning.
- **Nansemond TP Improvements:** Ms. Heisig-Mitchell showed the committee a plan for the layout of the facility.
- **Proposed SWIFT Facility at Nansemond:** The SWIFT facility will be placed on the north end of the property closer to the water. The Nansemond facility will have 16 recharge wells.
- **Revisit the Schedule:** The construction costs currently total over \$1 billion. Because of the cost, HRSD has paused to examine SWIFT phase 1. The 50 mgd is currently half of what HRSD believed they could build out to. Modeling indicates that SWIFT have still had a beneficial impact.
- **Questions:** Ms. Heisig-Mitchell opened the floor to questions at this point. There were two questions from committee members.
 - *Is there framework or testing in place looking at PFAS coming into the facility and PFAS going back out?*
PFAS monitoring is included as part of the indicated and regulatory monitoring. The removal is done through granular activated carbon. Tight control is kept over the carbon to ensure that PFOA is less than 4 nanograms per liter, and that is at the SWIFT research center.
 - *What is the timing of the new extensometer?*

We are in discussions now, with the hope being to start construction within the year. The goal is to have it installed before the facility is completed to provide baseline data.

ACTION ITEM: The department will post the Presentation on the DEQ Website.

Presentation: Potomac Aquifer Recharge Committee

Mr. Scott Morris, Direct of the Water Department, gave an update on the most recent PAROC meeting.

Discussion: At the most recent meeting PAROC discussed groundwater monitoring wells, gaps in the system, and plans to address those gaps. These plans included timing and funding. DEQ is currently evaluating locations for wells. DEQ staff are meeting with USGS and PAROC members. The current goal is for this subgroup is to meet monthly and present to PAROC in December. The presentation will cover what wells are available for monitoring, and what new wells may need to be installed. DEQ also has an ongoing study with SJ25. DEQ is also considering using existing resources to upgrade wells to provide continuous monitoring. Mr. Morris requested that the group postpone any discussions on groundwater trading until a presentation on existing wells could be completed, as well as the completion of the SJ25 study, as this will affect any modeling and funding discussions. DEQ will give an update at the next EVGWMAC meeting.

Discussion: Mr. Morris opened the floor for comments and questions from committee members.

- *As long as it is placed on the next agenda so that we don't lose track of it. The philosophical discussion can often happen parallel with the technical discussions.*
Agreed
- *I appreciate sequence you are getting at. There is a lot of interest around the room in developing this program, so it might be helpful to take the ideas that were outlined and map them out to give us a visual timeline of what the program might look like.*
Definitely a discussion point. Any program would be in its infancy, so I don't know how accurate of a picture I could paint. I was thinking more along the lines of postponing until we get more data. We can definitely go through and outline a timeframe of where we think we can have that initial discussion, but I don't know if we'll be able to map it out completely.
- *I think we're saying kind of the same thing.*
If everyone is supportive of that that as part of the next agenda, we'll include that as part of the package that goes out.
- *As far as the SJ25 study goes it would be, it's been a while since we looked at how simulated water levels compare to measurements. Just to see how good the model is. Having that information would help to evaluate the impact of replenishment.*
The approach that is being taken for SJ25 is somewhat of a new approach. It's a zone analysis, and that would help us with that discussion as well.
- *It didn't sound like, someone asked if it was just an annual report?*
That's not just an annual report. Step one is to have the annual report done as usual and then build off of that. We're looking at ways to enhance the report in several areas to help

us map out what areas of the coastal plain would be best for the objectives of the study. The zone budget analysis would produce a hydrologic budget for each of those geographic areas. The intention of SJ25 was also to identify gaps in data that we have, as well as funding needs going forward.

- *That certainly addresses one of the concerns, especially with water supply planning across the state. It doesn't necessarily mean your comparing the performance of the models. It's not doing an apples-to-apples comparison. You're not going to create a second model to vet the first or go back and look calibrating the existing model from SJ25 that's not the intent. We are looking for ways to compare simulated water levels against water levels*
- *That's a step I am excited about and just wanted to confirm was happening.*
- *Outside of SJ25 we need to evaluate the model. Everyone is making business decisions based on this, we need to know if we're close. We are investing in this, and we need assurances that the models are matching what is in the ground.*

I understand that.

- *On the trading topic we are collectively working on developing these new tools, between the groundwater monitoring network and USGS maybe developing a new model, but with respect to groundwater trading we had a presentation in April, and coming at it from a technical perspective, what are the metrics of trading. What are we trading? Are we looking at volumes of water, at critical cells? That is something that I think can be considered parallel.*

Completely agree we could consider that parallel. Unfortunately, I do have a finite resource of staff. In order to get all of these jobs done I do have to prioritize. Unless I get additional funding, I have to prioritize.

- *That may be something this committee can help with.*
I do believe the first step is making sure we don't have any data gaps. The next step is discussing any type of framework, and the impact from both a policy and economic perspective. The impact on permittees. That is all phase two in my mind.
- *Agreed. If we could overlap on the timeline that Jamie was asking for, we have a whole bunch of big permits that expire in about 2-3 years, and then the timeline of what you are discussing and the permit timeline, that's day after tomorrow. Those are going to be very relevant discussions in the permitting process.*

I think we can definitely give you a timeframe for this., and then present that to the group and see if that is amenable to everybody. But we will keep that on the agenda.

New Business – Updates and/or Topics of Interest from Committee Members: Mr. Cloe went around the room and asked if there were any updates or topics of interest that the Committee Members wanted to inform the group of.

- *Members requested that groundwater trading be added to the agenda for the next meeting.*
- *Private Well regulations, which have been unchanged since 1990 have been finalized. They will be published October 4 and become official on November 6. We also have rainwater harvesting regulations right behind them. Those will be finalized November 20th.*
- *Just continue to execute the items in our groundwater permit that were alluded to earlier.*
- *The SERCAP project that seems to hit most closely to this is were doing work in Suffolk, looking at sea level rise and stormwater. That's what we have been focusing on at this point. The stormwater infrastructure and some of the private wastewater systems. When*

you have a high groundwater level, and you have those systems that haven't been maintained it is not good for the aquifer.

- *The James River Association has been really laser focused on surface water lately. Big thank you to Jonathan and Scott and your teams for your work on those complicated issues.*
- *We will be speaking later in October on infrastructure in Virginia, this groundwater trading and what we're doing will be part of that.*
- *I have had some discussions about this new model that is being conceptualized and I asked how we all participate in the decisions that go into that model, and it was suggested that we go through DEQ, which makes sense. I think the committee has a particular interest in how that is developed. Groundwater monitoring might be a good vehicle for providing some input on that. It goes into the data model cycle of we get information we update the model, but we have the data gaps we need to figure out.*

It's a cycle that operates on geological time to. Takes a while to do each step.

- *I think with the tools we have its faster than it used to be.*
- *In anticipation of working on regional water supply plans, we have been talking to some of the more rural areas about understanding their groundwater plans a bit better.*
The local and regional water supply planning amendments were recently released by the Governor's office, and they are in the Virginia registry right now, and will become effective on October 9th. What this will do is require regional planning efforts for water supply. Rather than having 48 or 49 local and regional plans. We're shifting to 26 regional plans. Our water supply analysis team is getting the guidance finalized now.
- *I do want to just say that the support that water utilities are getting out of DEQ and the level of effort of productivity, and I would say the same about VDH, really has been outstanding. So, I just want to say thank you for that.*
- *From a locality I would like to thank DEQ. Over the last year you have really helped King George out and get us on the right track. One thing I would like to see is some talk about the emerging critical cells.*

By next meeting we will definitely have the updates that Aquaveo provides, and hopefully by next meeting, and if not definitely the meeting after, we'll have a presentation with updates on critical cells.

Public Input Forum: Weedon Cloe asked if there was any public input. Three questions were asked.

Glenda Booth from Tauxemont Community Association

- *So, you talked about the SJ25 study, and the north of Fredericksburg study. Firstly, you said the plan is half done, so when will the plan be done? The study is due November 2026.*
It is due November 2026 correct. The outline has been created. We still have some interactions to do with the geological survey, the set-up, some work on the funding agreements. It has its own budget analysis. When I say its half done, the outline is there it's just time to move on it. Right now, we're also waiting on the data from Aquaveo. That's paramount in informing the framework
- *So, the north of Fredericksburg study will be done when?*
That is underway right now. We're in the first quarter of FY25, we expect an update fairly soon.

- *There was a question about the study being made available when it is done, my question is for these studies will there be an opportunity for public input as you are developing the study?*

The plan at this time is no. It will be an in-house publication, but we will provide it when it is complete.

Next Committee Meeting:

Weedon Cloe noted that for FY25 he is hoping to get meetings on a quarterly schedule. The next meeting is tentatively scheduled for December. DEQ will send out a Doodle -Poll in the near future to set the date and location for the meeting.

Adjournment:

Weedon Cloe noted that Bill Norris is no longer the point of contact for the committee, and that moving forward Morgan Emanuel will be serving that function. He also noted that all relevant material from meetings, including the meeting agenda, would be posted on Townhall. Mr. Cloe thanked all the members of the committee, the interested public, and Ms. Heisig-Mitchell for her presentation and closed the meeting. The meeting was adjourned at approximately 11:33 A.M.