



A-NPDC

ACCOMACK-NORTHAMPTON PLANNING DISTRICT COMMISSION

P.O. BOX 417 • 23372 FRONT STREET • ACCOMAC, VIRGINIA 23301
(757) 787-2936 • TOLL FREE (866) 787-3001 • FAX: (757) 787-4221
WEBSITE: www.a-npdc.org

Minutes of the January 18th, 2022 Meeting Eastern Shore of Virginia Ground Water Committee

The meeting of the Eastern Shore of Virginia Ground Water Committee was held at 10:00 AM on Tuesday, January 18th, 2022 in the hybrid format – virtually on the Zoom Platform and in person – in the conference room of the Eastern Shore Chamber of Commerce in Melfa, VA.

Virtual Attendance:

For Joining **via Computer:**

1. Click this link:

<https://zoom.us/j/7577872936?pwd=QTNJdmhCc3pWdVNUZ0ZWYnVjJdWpWUT09>

2. If prompted, enter the Meeting ID: 757 787 2936

3. If prompted, enter the Passcode: 7577872936

For joining **via Phone (calling in):**

1. Dial 1-646-558-8656

2. When prompted for meeting code enter 7577872936#

3. When prompted to identify as host or participant, enter #

4. When prompted for password, enter 7577872936#

Members Present	Members Absent	Others Present
Paul Muhly, Chairman	Charles Kolakowski	Jessica Steelman, A-NPDC
John Coker, Vice Chairman	Taylor Dukes	Jason Pope, USGS*
Daniel Hershey	Mike Mason	Joe Grist, VDEQ*
Grayson Chesser*	Roberta Kellam	Britt McMillan, ARCADIS*
Paul Grossman	Jackie Phillips	Bill Savage, ESSWCD
		Randy McFarland, retired USGS*
		Grace Holmes, DEQ*
		Sue Mastyl, CBES/Resident*
		Cathy Plant, VDH*

**signifies Zoom participant*



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NOTE: NO QUORUM

Call to Order

Chairman Muhly called the meeting to order at 10:11 AM.

Public Comment

Sue Mastyl – “Although the new regulation encouraging use of the Columbia aquifer is a good first step, and may be as far as DEQ can go, I'm skeptical whether it will actually change anyone's actions. I think it will be important to track new permit applications, to see if this does move any large withdrawals to the Columbia. In the meantime, I'd urge the committee to look at other ways to incentivize drilling in the Columbia, including addressing the misperceptions of drillers and others. With sea-level rise, the Yorktown-Eastover will be further threatened, making use of the Columbia even more critical.”

Member Comment

Grayson Chesser – Discussed sentiment that the [article in the Bay Journal](#) is misleading; discussion ensued.

Review of the April 20, 2021 Minutes

The draft minutes of the April 18th, 2021 meeting were presented

FY 2022 Financial Status Report

The FY 2022 Financial Status Report as of December 2021 was presented. Total Bills Payable equaled \$6,893.40; total revenues received equaled \$13,156.75.

Staff confirmed that the budget request to the counties did include the increased funding.

Staff Update

Committee Attendance Record

The FY2022 Committee Attendance Record was recorded.

Environmental Reviews and Permits

VA Pollutant Discharge Elimination System Program –
None.

VA Pollution Abatement Program –
None.

Consent Orders –
None.



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Groundwater Withdrawal Permits –

Public Notice – Environmental Permit

Purpose of notice: To seek public comment on a draft permit from the Department of Environmental Quality for the withdrawal of groundwater in Northampton, Virginia.

Public comment period: December 17, 2021 to January 17, 2022

Permit name: Groundwater Withdrawal Permit issued by DEQ, under the authority of the State Water Control Board

Applicant name, address and permit number: Mount Warren Farms, LLC; P.O. Box 12809 Norfolk, VA 23541; GW0068701

Name of facility and location of water withdrawal: Mount Warren Farm; 6507 Seaside Rd. Exmore, VA 23350

Project description: Mount Warren Farms, LLC has applied for a reissuance of a permit for agricultural use in Northampton, Virginia. The permit would allow the applicant to withdraw a maximum of 17,900,000 gallons per year and 6,600,000 gallons per month. The groundwater withdrawal will support crop irrigation as well as cleaning and filling farm equipment. The proposed withdrawal will utilize the Columbia (water table) aquifer at a depth between 0 feet to 60 feet below the land surface at the withdrawal site. An aquifer is a body of rock or layer of sediment in the ground in which groundwater is stored and transported. DEQ has made a tentative decision to issue the permit.

Area of Impact: The "Area of Impact", or the radial distance from the wells that computer modeling predicts the aquifer may experience one foot of drawdown due to the withdrawal, can be found in the "Technical Evaluation" attachment to the draft permit package linked below.

Contact for public comments, document requests and additional information: Laura Galli, Central Office, 1111 East Main St. Suite 1400, Richmond, VA, 23218 Phone: (804) 573-5674; E-mail: Laura.galli@deq.virginia.gov; FAX: (804) 698-4178.

The draft permit package can be downloaded [here](#).

Environmental Impact Reviews –

None.

Other Items

Mileage & Meeting Stipend – Language to be amended in the bylaws and voted upon at the next meeting. Consensus passes.

Remote Participation of GWC Members – The policy adopted by the Accomack County BOS on 3/17/2021 found in the Code of Virginia 2.2-3708.2 could be reworded and adopted by the Committee. This would allow a member for medical or personal reasons for 25% of annual meetings to participate and vote remotely.

Language to be added to the bylaws and voted upon at next meeting. Consensus passes.

Increased Budget Request - Over the last few months, an increase in operating funds was discussed. The Chairman and Vice Chair have decided on asking for increases of \$40k from Accomack and \$20k from Northampton for the following:

1. To get more actively involved in residential shallow well testing in both counties, mainly in lower economic areas where wells are failing or are of such poor quality the water is unusable. The ESAAA is presently involved in a water quality improvement project for both counties. Here is an opportunity for the GWC to join forces with them and help get the job done. The



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data mined from the testing results will increase our information and knowledge of the Columbia Aquifer.

2. To reach out to the public with more educational information about both wells and septic systems on the Shore.

Renaming of the GWC's Annual Award – Staff requests a motion at the next meeting to rename the GWC Annual Award The Gene Hampton Ground Water Committee Award. Consensus passes.

Bio to post on GWC page of the PDC website commemorating Gene Hampton and the change in naming award in his honor:

With the passing of Eugene "Gene" Hampton on October 6, 2021, members supported a motion to rename the GWC's award in his honor. He was a long-time member of the Committee from Northampton County and a retired geologist with the USGS. He was a Fellow of the Geological Society of America. A native of Washington state, he and his wife retired to the Shore where he supported many local civic activities and causes. He had a talented "green thumb" and loved to garden.

Scott Kudlas received his plaques for 2019 and 2020, passing along his gratitude.

New Member Needed from Northampton – In progress.

Research & News

Email from Jason Pope 9/23/2021 –

In order to address some questions and comments about groundwater withdrawals that came up at the Groundwater Committee meeting this week, I thought I would follow up with some information resulting from recent analyses we have been working on at the USGS with assistance from VDEQ. As I indicated in a previous email, we would be willing to provide detailed presentations of this information to the committee at a convenient time. Our work on these topics is nearing completion, but it is still in progress, so I'll provide just a brief summary for now.

From groundwater withdrawal data furnished to us from VDEQ databases and our supplementary analyses, average yearly withdrawals of groundwater from wells (2016 to 2020) total almost 3,200 million gallons (3.2 billion gallons), which equates to a daily average of over 8.5 million gallons. The average withdrawal rate appears to range from about 7 Mgal/day in December to over 12 Mgal/day in July.

Based on average yearly withdrawal rates, about 12% of withdrawals are for municipal public supply, 14% are for agriculture and irrigation, 32% are domestic withdrawals from private wells, and 42% are for commercial and industrial purposes. We don't have the withdrawal breakdown by aquifer finalized yet, but it appears that over 70% of the reported wells are screened in the confined Yorktown-Eastover aquifer. This summary information is consistent with what we knew from previous data and analyses.

Aside from reported withdrawals from close to a thousand wells and estimated domestic withdrawals from private wells, it appears there are substantial additional reported withdrawals from agricultural ponds that we should be able to better quantify after additional analysis.

In response to a comment that came up during the committee meeting, I want to point out that the importance of private well withdrawals to the groundwater budget has long been acknowledged by



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scientists and managers. The 2009 groundwater model developed by the USGS and currently used by VDEQ for regulating Eastern Shore groundwater withdrawals includes estimated domestic withdrawals, and we have improved and refined those estimates for inclusion in the model revision currently underway.

Ground Water Consultant Report

Technical/Regulatory/Educational Items

State Water Control Board Meeting (December 14, 2021)

General Permit for Use of Surficial Aquifer on the Eastern Shore [9 VAC 25 - 910]: Adopted final regulation

General Permit for Use of the Surficial Aquifer in a Groundwater Management Area [9 VAC25-920]: Adopted proposed regulation. Next step is public comment.

Department of Environmental Quality Groundwater Withdrawal Public Notice:

Draft Groundwater Withdrawal Permit for Mount Warren Farms, LLC GW0068700

Reissuance of a historic based permit

Requested amount:

Monthly Maximum:	6,600,000 gal/month	(212,903 gpd avg)
Annual Total:	17,900,000 gal/yr	(49,041 gpd avg)
Permit Total:	179,500,000 gal	(32,763 gpd avg)

Wells:

Three wells: 165,00569, 165,00570, 165,00571,

Source Aquifer: **Columbia (surficial)**

Maximum well screen depth 62 feet

Intended Use:

Tomato irrigation (plasticulture). Current crop is soybeans and the farm will transition to tomato farming, planned for the spring of 2023.

42.67 ac will be irrigated

Justification of amount requested:

Because the current crop is soybeans, there are no historical withdrawals for the farm for the tomato plasticulture operation.

Groundwater use over the period 2009-2015 for Bowen Farm (GW0065600) was used to calculate use for Mount Warren Farms. The actual amount used by Bowen Farm was adjusted by the number of acres irrigated (gal/ac). This factor was then applied to the irrigatable acres for Mount Warren Farms (see table below)

Mount Warren Farm Use Projections

Amount	Historical Time Period	Projected Amount		Requested Amount (gal)
		Bowen Farm Gal/ac	Mount Warren Farms (gal)	
Monthly Max	August 2011	153,200	6,537,000	6,600,000
Annual Total	Jan – Dec 2009	418,154	17,841,000	17,900,000
Permit Total	2009 – 2015 ¹	280,441 ²	179,482,000	179,500,000

¹ DEQ reviewed water use records for Bowen Farm in January 2021 to ensure the requested amounts did not change based on more recent use.



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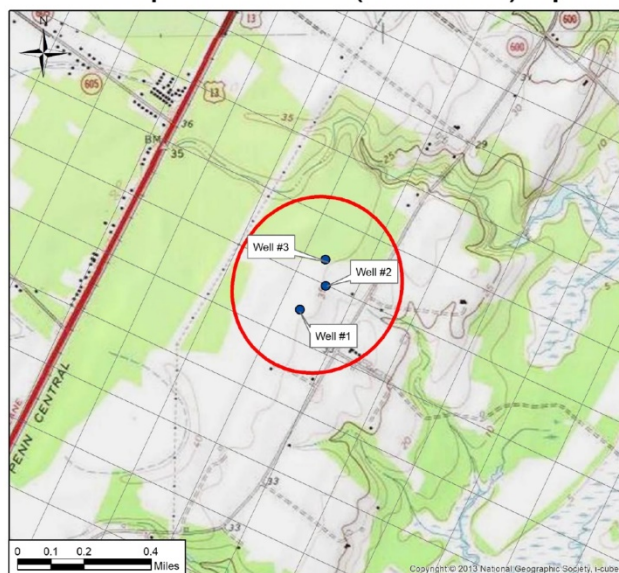
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² Amount is the average annual over the 8-year period of record. Permit total for Mount Warren Farms was calculated by multiplying the annual average by 15-years and the irrigatable acres (42.67 ac)

Area of Impact:

Special Conditions:

Mount Warren Farm Area of Impact - Columbia (Water Table) Aquifer



 Columbia Aquifer Area of Impact

 VAHydroGW-ES Model Cells

Simulated drawdown at or exceeding one foot in the Columbia aquifer resulting from a 2-dimensional analytical simulation (Hantush-Jacob) of 50 years at 11,966,667 gallons per year from the Columbia aquifer. Maximum radius of one-foot drawdown (Area of Impact) occurs 0.4 feet from the pumping center.

Technical Evaluation performed by Aquaveo, LLC for the Virginia DEQ, Office of Surface and Ground Water Supply Planning April 28, 2021



Prior to withdrawal, documentation on pump settings must be provided to DEQ.

Comments:

The proposed withdrawal is from the Columbia (surficial) aquifer in an area outside of a paleochannel (south of the Exmore paleochannel).

Use of the surficial aquifer without relying on the Yorktown-Eastover aquifer for supplemental supply is commendable and is consistent with the Committee goals for sustainable use.

The amount requested appears to be reasonable (based on relevant actual use by another nearby farm)

The proposed withdrawal could have used the general permit regulations approved by the SWCB in December 2021 if the regulations were in place

USGS Report: Simulated Effects of Sea-Level Rise on the Shallow, Fresh Groundwater System of Assateague Island, Maryland and Virginia (USGS SIR 2020-5104)

<https://pubs.er.usgs.gov/publication/sir20205104>

Research that included measure groundwater levels and quality (specific conductance) from monitoring wells on the Island. Information was used in the development of a groundwater flow model that included a saltwater intrusion component to assess the effects of sea-level rise on the shallow groundwater system. Modeling analysis included both sea level rise and change in precipitation (recharge)



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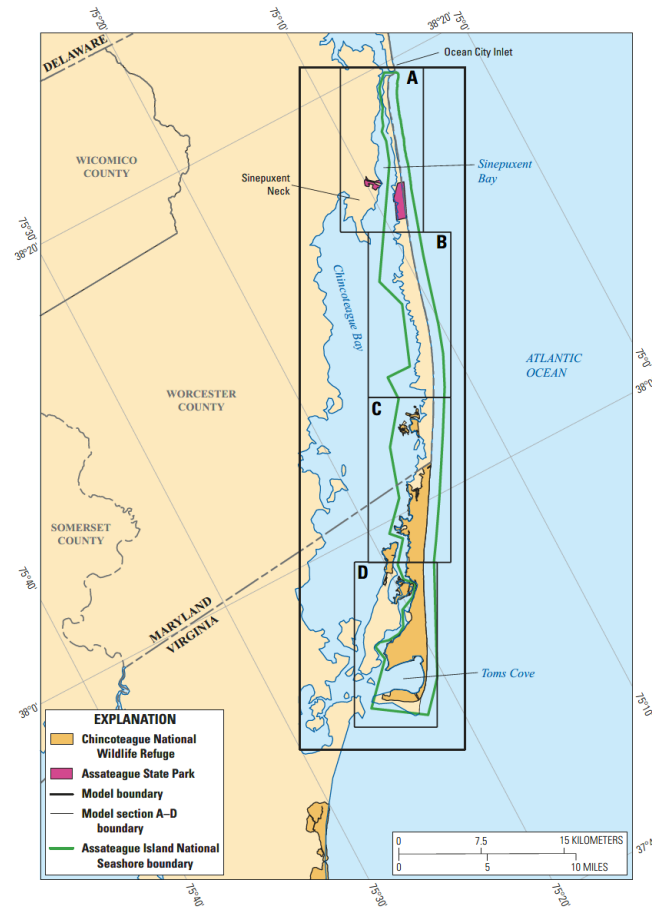
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Results of the study identified groundwater inundation, surface water inundation, and saltwater intrusion occurring over large areas of the Island

West side of the island, groundwater levels respond strongly to changes in precipitation (recharge). The response to saltwater intrusion is also most closely controlled by changes in precipitation. The west side is also more likely to be inundated as sea level rises due to the extremely low topography.

East side responds strongly to tidal events with saltwater intrusion more closely related to tidal events.

Study area:



Base from U.S. Geological Survey 1:2,000,000-scale
State boundary digital line graph, Albers Equal-Area Conic Projection
North American Datum of 1983 (NAD 83)

Figure 2. Study area and the model grid extent with sections A through D, Assateague Island, Maryland and Virginia.

Comments: This research provides important additional insights on response of the groundwater system to climate change.

The methodology can be adapted to other areas on the Shore.

The use of specific conductance to measure salt water content (similar to the EM surveys conducted by the USGS on the Shore) along with the water level recording has been discussed as a potential research tool in assessing saltwater intrusion. The research associated with this publication illustrates the potential beneficial use of this measurement.

Other Items:



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- i. Additional FY2021 Groundwater Committee activities. Continue update of the Eastern Shore Groundwater Protection Plan.

Upcoming Events/Meetings

REGULAR MEETINGS OF STATEWIDE AUTHORITIES, BOARDS, COMMISSIONS, AND COMMITTEES –

Public Hearing - Proposed Triennial Review Amendments to the Water Quality Standards (9VAC25-260)

A public hearing to receive comments on proposed amendments to the Water Quality Standards regulation, 9VAC25-260. The proposal appears in the Virginia Register of Regulations on January 17, 2022.

Date/Time: 2/22/2022 at 2:00PM

Location: Bank of America, 3rd Floor Conference Room, 1111 East Main Street, Richmond, VA

Contact: David C. Whitehurst, david.whitehurst@deq.virginia.gov, (804)774-9180

Public Hearing - Proposed Triennial Review Amendments to the Water Quality Standards (9VAC25-260)

A public hearing to receive comments on proposed amendments to the Water Quality Standards regulation, 9VAC25-260. The proposal appears in the Virginia Register of Regulations on January 17, 2022.

Date/Time: 3/1/2022 at 2:00PM

Location: Department of Environmental Quality, Valley Regional Office, 4411 Early Road, Harrisonburg, VA

Contact: David C. Whitehurst, david.whitehurst@deq.virginia.gov, (804)774-9180

MEETINGS ABOUT TOTAL MAXIMUM DAILY LOADS (or TMDLs) for IMPAIRED WATERS –

For more information about TMDLs in Virginia, click here for the [Virginia Department of Environmental Quality TMDL Web site](http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/TMDLDevelopment/ApprovedTMDLReports.aspx). TMDL reports are available

at <http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/TMDLDevelopment/ApprovedTMDLReports.aspx>.

VIRGINIA GENERAL ASSEMBLY WATER-RELATED MEETINGS –

For meetings of legislative committees and commissions, see <http://lis.virginia.gov/cgi-bin/legp604.exe?191+oth+MTG>. Links to information about General Assembly commissions, councils, and special interim committees coordinated by the Division of Legislative Services are available online

at <http://dls.virginia.gov/commissions.html>. The Virginia General Assembly Web site is <https://virginiageneralassembly.gov/>.



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Schedule Next Meeting & Adjournment

The next Committee meeting was scheduled for February 15, 2022 from 10A-12P at the ESVA Chamber of Commerce, Melfa, VA.

Chairman Muhly adjourned the meeting at 11:45 AM.

Copy test:

Paul Muhly, Chairman

Elaine K. N. Meil, Secretary

DRAFT