



A-NPDC

ACCOMACK-NORTHAMPTON PLANNING DISTRICT COMMISSION
PO BOX 417 • 23322 FRONT STREET • ACCOMACK, VIRGINIA 23001
(757) 787-2936 • TOLL FREE (866) 787-3081 • FAX (757) 787-4221
WEBSITE: www.a-npdc.org

Eastern Shore of Virginia Ground Water Committee
January 16, 2024 10:00a.m.
ESVA Chamber of Commerce
19056 Parkway, Melfa VA



The committee's mandate is to "assist local governments and residents of the Eastern Shore in understanding, protecting and managing ground water resources, to maintain a ground water resources protection and management plan, to serve as an educational and informational resource to local governments and residents of the Eastern Shore, and to initiate special studies concerning the protection and management of the Eastern Shore ground water resource."

Virtual Attendance:

For Joining via

Computer:

1. Click this link: <https://zoom.us/j/7577872936?pwd=OTNJdmhCc3pWdVNUZ0ZWYnVldWpWUT09>
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#

Translation services available: Call 1-718-838-9317... #6980900. Press 1 for Spanish. Press 2 for Haitian Creole.

Servicios de traducción disponibles: Llame al 1-718-838-9317 ... # 6980900. Presione 1 para español.

Sèvis Tradiksyon Disponib: Rele 1-718-838-9317 ... # 6980900. Peze 2 pou kreyòl ayisyen.

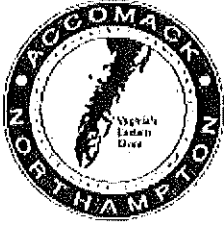


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Meeting Agenda

1. Call to Order
2. Public Participation
3. Minutes of the October 17, 2023 Meeting..... 3
4. December 2023 Financial Status Report..... 8
5. January 16, 2023 Staff Report 10
6. ARCADIS Work Authorization 15
7. GWC Public Comment to DEQ OWW Permitting Concerning Permit GW0053901..... 20
8. Residential Well Testing Program..... 21
9. New Membership..... 24
10. Past: October 17, 2023 Ground Water Consultant Report..... 28
11. Committee Attendance Record FY2024.....40
12. Attachments
13. Schedule Next Meeting (February 20, 2023 @ 10am; Board Room, Eastern Shore COC)
14. Adjourn



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MEMORANDUM

TO: Eastern Shore of Virginia Ground Water Committee
FROM: Kellen J. Singleton
Interdisciplinary Planner
Accomack-Norhampton Planning District Commission

DATE: January 16, 2023

SUBJECT: **October 17, 2023 Meeting Minutes**

Please see the attached October 17, 2023 Meeting Minutes for approval. There was no meeting held in November.

Approval from the Ground Water Committee is requested to accept the Meeting Minutes.



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Minutes of the October 17th, 2023 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, October 17th, 2023 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.

<u>Members Present</u>	<u>Members Absent</u>	<u>Others Present</u>
John Coker, Chairman	Mike Mason	Kellen Singleton, A-NPDC
Paul Muhly, Vice Chairman	Charles Kolakowski	Britt McMillan, ARCADIS
Ann Hayward Walker	Elaine Meil, Secretary	Curtis Consolvo, GeoResources*
Sue Mastyl	Grayson Chesser	Chris Pomeroy, Aqualaw*
Paul Grossman	Daniel Hershey	Joseph Betit, Earth Systems Management
Steve Sturgis		Myra Riley Taylor, Onancock Bayside Revitalization
		Eric Seavey, DEQ
		Weedon Cloe, DEQ
		ESSWCD
		Elvin Hess, Machipongo Resident
		William Leslie, Captalns Cove Resident
		Charlie K.

*Signifies Zoom participant

1. Call to Order

Chairman Coker called the meeting to order at 10:04 AM.

2. Public Participation

Ms. Riley Taylor commented and inquired on the needs and potential avenues to address Advanced Onsite Septic System requirements in Onancock's Bayside community.

Committee members advised her to contact the ANPDC and other community groups and resources that address residential wastewater improvements, noting the Makemie Park Sewage Improvement Project.

Chmn. Coker addressed Messrs. Hogg and Duffy's stated concerns during September's GWC meeting. Chmn. Coker advised the committee to prioritize large withdrawal sourcing from the surficial aquifer by encouraging use of irrigation ponds on the Eastern Shore noting that the current General Assembly policy regulatory change is ineffective.



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The committee discussed actions, updates, and well water access issues.

Mr. Betit observed that the committee needs to improve mic quality.

Mr. Betit informed the committee that Virginia does not make public concentrated animal feed operation (CAFO) information in contrast to Maryland and Delaware. Mr. Betit presented the committee with a map of CAFO impacts also advising the committee to plan for HRSD sewer water use, recharge impacts.

Committee members discussed timeline and potential impacts of HRSD sewer expansion.

Mr. Seavey informed the committee that the Eastern Shore has decreased its historical agricultural water use noting that the most significant regulatory burden is at the county level with the Chesapeake Bay Preservation Area wetland Resource Protection Area (RPA).

Mr. McMillan advised the committee to draft list of regulatory impediments to irrigation pond use. The group discussed dam regulations.

The committee discussed communication, public facing efforts, and strategies. Committee members recommended an annual well and septic forum as well as website access and interface improvements.

3. Minutes of September 19th 2023 Meeting

The draft minutes of the September 19th 2023 Meeting was presented.

Mem. Grossman moved to approve the minutes as presented. Seconded by Mem. Mastyl, the motion carried.

4. September 2023 Financial Report

The FY 2024 Financial Status Report as of September 30, 2023 was presented.

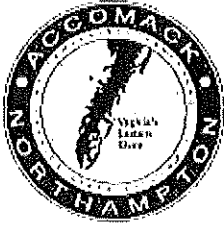
Total Bills Payable equaled \$1486.00; Balance equaled \$100,078.00

Mem. Grossman moved to approve the September FY 2024 Financial Status Report. Seconded by Vice Chmn. Muhly, the motion carried.

5. October 19, 2023 Staff Report

Staff updated the committee on:

- Causeway Bridge Replacement Project



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- Virginia Pollutant Discharge Elimination System Permit Numbers VAG-40, -52, -83, -84, -01, -11, -75, -25, -87, -64, VAR-05, -10, -40, and VAN-00
- VA Pollution Abatement Program Permit Numbers VPA-01079, -01035, -01080, -01047, -01076.
- Groundwater Withdrawal Permit GW0080000 - Afshan Farm; 1511 Townfield Drive, Cape Charles, VA 23310
- Groundwater Withdrawal Permit GW0053901 - Perdue Foods LLC; 22520 Lankford Highway, Accomack, VA 23301
- October 19, 2023 Public Meeting - FY 2024 Virginia Clean Water Revolving Loan Fund Intended Use Plan and Projects Targeted for FY 2024 Loan Assistance.
- Virginia Tech Research Project Focused on PFAS in Well Water
- Public Comments to the Virginia Department of Environmental Quality Office of Water Withdrawal Permitting Concerning Permit GW0080100

6. GWC Public Comment to DEQ Office of Water Withdrawal Permitting Concerning Permit GW0080100

The GWC was updated the on the status of GWC Public Comment concerning GW0080100 addressing inconsistencies and misstatements found in recent ground water withdrawal applications to Eric Seavey Manager, Office of Water Withdrawal Permitting.

Mr. Seavey will provide a response in the coming week. Mr. McMillan presented to the committee a visual explanation of the 80% Draw Down Criteria.

7. Residential Well Testing Program

Mem. Walker updated the committee on incorporations to the Residential Well Testing Program draft Scope and Standards as of October 11th document based on GWC feedback and suggestions.

8. October 17, 2023 Ground Water Consultant Report

Mr. McMillan updated the group on the specifics of new draft permits and renewals, Groundwater Withdrawal Permit GW0080000 - Afshan Farm and Groundwater Withdrawal Permit GW0053901 - Perdue Foods LLC. Technical analysis performed for DEQ by Aquavco determined that the requested amount (700,000,000 gal/yr) for Perdue Farms (GW0053901) did not meet the 80% drawdown criterion. Based on the historical withdrawals, it is reasonable to assume Perdue will need to find alternatives to the withdrawal specified in the draft Permit.

The group discussed Purdue's limited timeline to find an alternative source for water clarifying that the model reflects area use. Mr. McMillan informed the group that a list of area use can be provided.



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There is one other area where permitted groundwater levels are approaching the 80% drawdown criteria (as previously discussed in the May 2023 Groundwater Committee Meeting). This area is associated with the Tyson Farms permit.

The group discussed the accumulative impacts groundwater withdrawal in affected areas and modeling issues.

Mem. Grossman moved to draft a letter to DEQ concerning the Perdue Farms (GW0053901) Permit and the committee's concerns. Seconded by Mem. Walker the motion carried. GWC Advisor Mr. McMillan will draft a letter addressing committee concerns including the lack of well depth and corresponding five-year exploration period, lack of well history, generic language, and 10-year surficial aquifer exploration period.

Schedule Next Meeting & Adjournment

The next Committee meeting was scheduled for November 21, 2023 from 10AM-12PM at the ESVA Chamber of Commerce, Melba, VA.

The Meeting was adjourned at 12:10 PM.

Copy test:

Paul Muhly, Vice Chairman

Elaine K. N. Meil, Secretary



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MEMORANDUM

TO: Eastern Shore of Virginia Ground Water Committee
FROM: Sandy Taylor
Administrative Director
Accomack-Norhampton Planning District Commission

DATE: January 16, 2023

SUBJECT: **December 2023 Financial Statement**

Committee approval of the Financial Statement is requested.



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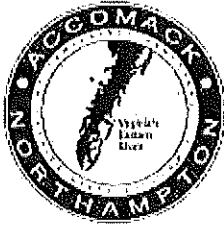
EASTERN SHORE OF VIRGINIA GROUND WATER COMMITTEE Financial Statement-December 2023 Fiscal Year 2024

	Annual Budget	Current Activity	YTD Activity	Balance
Ground Water Consultant Appropriations:				
Accomack County	\$ 14,251.00	\$ 0.00	\$ 7,125.50	\$ 7,125.50
Northampton County	7,415.00	\$ 0.00	\$ 3,707.50	3,707.50
Subtotal	\$ 21,666.00	\$ 0.00	\$ 10,833.00	\$ 10,833.00
Ground Water Modeling Run Appropriations:				
Accomack County	\$ 1,500.00	\$ 0.00	\$ 0.00	1,500.00
Northampton County	1,500.00	0.00	\$ 0.00	1,500.00
Subtotal	\$ 3,000.00	\$ 0.00	\$ 0.00	\$ 3,000.00
Ground Water Committee Staff Support:				
Accomack County	\$ 12,276.00	\$ 1,889.00	\$ 6,707.00	5,569.00
Northampton County	7,724.00	\$ 973.00	\$ 3,685.00	4,039.00
Subtotal	\$ 20,000.00	\$ 2,862.00	\$ 10,392.00	\$ 9,608.00
Ground Water Member Fees:				
Accomack County	\$ 2,640.00	\$ 50.00	\$ 487.50	2,152.50
Northampton County	2,640.00	\$ 217.50	\$ 381.25	2,258.75
Subtotal	\$ 5,280.00	\$ 267.50	\$ 868.75	\$ 4,411.25
USGS Ground Water Model:				
Accomack County	\$ 7,500.00	\$ 0.00	\$ 0.00	7,500.00
Northampton County	7,500.00	\$ 0.00	\$ 0.00	7,500.00
Subtotal	\$ 15,000.00	\$ 0.00	\$ 0.00	\$ 15,000.00
Ground Water Plan Project Implementation				
Accomack County	\$ 26,854.00	\$ 0.00	\$ 0.00	26,854.00
Northampton County	15,827.00	0.00	\$ 0.00	15,827.00
Subtotal	\$ 42,681.00	\$ 0.00	\$ 0.00	\$ 42,681.00
Total Revenues				
	\$ 107,627.00	\$ 3,129.50	\$ 22,093.75	\$ 85,533.25

Bills Payable as of December 31, 2023

DUE TO	DESCRIPTION	DATE	AMOUNT
A-NPDC	Staff Support	11/01/2023 - 12/31/2023	\$ 2,862.00
Board Members	Meeting Fees	17-Oct-23	\$ 267.50
Arcadis	Consultant	17-Nov-23	\$ 0.00
Total Bills Payable			\$ 3,129.50

Allocated Funds	Prior Year		
	Funds	Expenditures	Balance
Ground Water Modeling Run	\$14,000.00	\$14,000.00	\$ 0.00
Ground Water Plan Project Implementation	44,847.00	0.00	\$ 44,847.00
Total Allocated Funds	\$ 58,847.00	\$ 14,000.00	\$ 44,847.00



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MEMORANDUM

TO: Eastern Shore of Virginia Ground Water Committee
FROM: Kellen J. Singleton
Interdisciplinary Planner
Accomack-Northampton Planning District Commission

DATE: January 16, 2023

SUBJECT: **January 16, 2023 Staff Report**

Environmental Reviews and Permits:

N/A

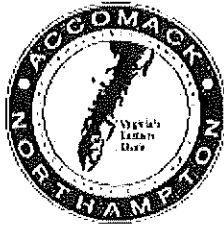
VA Pollutant Discharge Elimination System Program :

- Domestic Sewage Discharges of Less than or Equal to 1,000 Gallons per Day (VAG40)
- Seafood Processing Facilities (VAG52)
- Remediation of Contaminated Sites and Hydrostatic Tests (VAG83)
- Discharges of Stormwater Associated with Industrial Activity (VAR05)
- Non-Metallic Mineral Mining (VAG84)
- Concentrated Animal Feeding Operations (VAG01)
- Concrete Products Facilities (VAG11)
- Vehicle Wash and Laundry Facilities (VAG75)
- Non-Contact Cooling Water Discharges (VAG25)
- Pesticides Discharges (VAG87)
- Watershed Permit for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed (VAN00)
- Potable Water Treatment Plants (VAG64)
- Discharges of Stormwater from Construction Activities (VAR10)
- Discharges of Stormwater from Small MS4s (VAR40)
- Fundraising Car Wash Guidelines

For details please see:

[https://www.deq.virginia.gov/permits/water/surface-waters-vpdes#:~:text=The%20Clean%20Water%20Act%20established,Discharge%20Elimination%20System%20\(VPDES\)](https://www.deq.virginia.gov/permits/water/surface-waters-vpdes#:~:text=The%20Clean%20Water%20Act%20established,Discharge%20Elimination%20System%20(VPDES))

VA Pollution Abatement Program :



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Facility	Permit Number	City / County	Permit Action	DEQ Admin Office	Application Received	Application Complete	Draft Permit Sent to Owner
Accomack County Leachate Treatment Facility	VPA01079	Accomack County	Reissuance	Tidewater	12/11/2020	1/20/2021	
Tyson Farms Inc - Temperanceville	VPA01035	Accomack County	Reissuance	Tidewater	10/6/2020	5/12/2021	
Atlantic Town Center Clean Water Plant	VPA01080	Accomack County	Issuance	Tidewater	4/11/2011		
Kuzzens Incorporated	VPA01047	Northampton County	Reissuance	Tidewater	2/28/2022	5/27/2022	
Perdue Foods LLC - Accomack	VPA01076	Accomack County	Reissuance	Tidewater	9/9/2022		

Consent/Enforcement Orders:

N/A

Groundwater Withdrawal Permits:

Groundwater Withdrawal in Accomack County, Virginia - GW0044201

Public comment period: January 12, 2024– February 12, 2024

Applicant name, address and permit number: Town of Chincoteague, Inc.; 6150 Community Drive, Chincoteague Island, VA 23336; GW0044201

Name and location of water withdrawal: Town of Chincoteague; 6510 Community Drive, Chincoteague Island, VA 23336

Groundwater Withdrawal in Accomack County, Virginia - GW0079000

Public comment period: January 12, 2024– February 12, 2024

Applicant name, address and permit number: Robin Rinaca; P.O. Box 400, Melfa, VA 23410; GW0079000

Name and location of water withdrawal: Eastern Shore Nursery of Virginia; 29465 Beacon Road, Melfa, VA 23410

Groundwater Withdrawal in Northampton County, Virginia - GW0070501

Public comment period: December 29, 2023 – January 29, 2024

Applicant name, address and permit number: Fern Point Limited Partnership; 6158 Fern Point Road, Franktown, VA 23354; GW0070501

Name and location of water withdrawal: Jones 3 Farm; Bayford Road, Franktown, VA 23354

Groundwater Withdrawal in Accomack County, Virginia - GW0070301

Public comment period: December 29, 2023 – January 29, 2024

Applicant name, address and permit number: Jeffery L. Shelley; 34372 Shelley Farm, Painter, VA



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23420; GW0070301

Name and location of water withdrawal: Shelley Farm; 34372 Shelley Farm, Painter, VA 23420

Groundwater Withdrawal in Accomack County, Virginia - GW0037302

Public comment period: December 22, 2023 – January 22, 2024

Applicant name, address and permit number: Shore Real Estate Group, LLC.; 23700 Commerce Park, Beachwood, OH 44122; GW0037302

Name and location of water withdrawal: Shore Health and Rehab; 26181 Parksley Road, Parksley, VA 23421

For details please see: <https://www.deq.virginia.gov/permits/public-notices/water/water-withdrawal>

Upcoming Events/Meetings:

Date and Time	Meeting Title	Board	Scope
Mar-05 2024 (Tue) 6:00 pm	Public Hearing - Virginia Pollution Abatement (VPA) Regulation and General Permit for Animal Feeding Operations and Animal Waste Management (9 VAC 25-192)	State Water Control Board	H

Old Business:

Website Updates and Optimization

On December 7 PDC planning and administrative staff met to develop a plan of action to address esvaplan.org and specifically the GWC web content and presence. Plan to address issues include:



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- Improving esvaplan.org overall Site Engine Optimization (SEO)
 - Offloading old website presence, a-npdc.org
 - Improving webpage crawlability
 - Keyword optimization
- Moving up GWC landing page in website hierarchy to main “Planning” page
- Expanding main page navigation bar to include direct dropdown menu link to GWC landing page
- Establishing and incorporating cross-functional collaboration with website management
- Hiring to replace staff and improve planning capacity. Interviews have taken place.

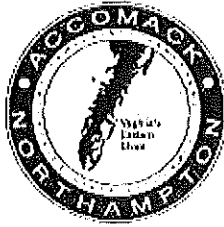
Staff has reached out to a-npdc.org domain owner to offline old site. Staff has also reached out to current contracted esvaplan.org developer to optimize current site. Planning and administrative staff have established interdepartmental management practices to improve and manage site content.

Mr. Eric Seavey-Manager, Office of Water Withdrawal Permitting 10/18/23 Response to GWC Public Comment to DEQ Office of Water Withdrawal Permitting Concerning Permit GW0080100:

Good morning Mr. Singleton,

This email is in response to the Eastern Shore of Virginia Ground Water Committee comments received for the Cherrystone Campground draft groundwater withdrawal permit, GW0080100.

The statements in the Fact Sheet that “significant water withdrawal from the Columbia aquifer has the potential to stress the aquifer and increase saltwater intrusion” and “the Yorktown-Eastover aquifer provides potable groundwater whereas the Columbia aquifer does not” were incorporated incorrectly in the Fact Sheet. The section regarding the alternatives analysis in the Fact Sheet shall be amended to remove these statements and updated to more accurately represent general aquifer conditions on the Eastern Shore. The decision to provide site specific Alternate Source Investigations of the surficial aquifer by the Board was directed solely to poultry farms on the Eastern Shore. While not required by statute or regulation, DEQ has required on a case-by-case basis that an Alternate Source Investigation of the surficial aquifer be completed for some facilities that are not poultry farms. A site-specific alternate source investigation targeting the surficial aquifer was not a requirement of the Cherrystone Campground draft permit. This was due in part to the facilities location, being on a peninsula directly next to the Chesapeake Bay, placing it in close proximity to brackish surface water



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on three sides. Significant water withdrawal from the Columbia aquifer at this location for the facility has a potential to increase the chloride concentrations in the surficial aquifer, chloride monitoring was included as a requirement in the permit.

Thank you.
Eric Seavey

New Business:

GWC Member Status

At its meeting of December 14, 2023, the Accomack County Board of Supervisors (BOS) appointed Mem. Mastyl to succeed Mr. Paul Muhly as citizen currently filling BOS Designee seat.

Staff thanks Mr. Paul E. J. Muhly for his dedicated service over two terms. A Rochester, New York native and U.S. Army Veteran, Mr. Muhly actively represented constituents, advocated for effective governance, and contributed significantly to groundwater preservation and economic development on the Eastern Shore. Staff expresses heartfelt gratitude for his impactful contributions and hopes that he continues his work and advocacy for the quality and sustainability of Eastern Shore groundwater.



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MEMORANDUM

TO: Eastern Shore of Virginia Ground Water Committee
FROM: Kellen J. Singleton
Interdisciplinary Planner
Accomack-Norhampton Planning District Commission

DATE: January 16, 2023

SUBJECT: **ARCADIS Work Authorization**

Committee approval of the ARCADIS Project Year 2024 Work Authorization is requested.
See below.



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EXHIBIT B WORK AUTHORIZATION 2024 Project Year

This Work Authorization is entered into by and between ARCADIS U.S., Inc. ("ARCADIS") and Accomack-Norhampton Planning District Commission ("Client"). This Work Authorization incorporates by reference the Professional Service Agreement entered into by the Parties dated October 1, 2019 (the "Services Agreement"). The Services Agreement is hereby amended and supplemented as follows:

GENERAL DESCRIPTION OF BASIC SERVICES

Client hereby authorizes ARCADIS to perform the following general scope of Basic Services:

Provide technical assistance to the Eastern Shore of Virginia Groundwater Committee and the A- NPDC for the 2024 project year (October, 1 2023 - September 30, 2024).

ADDITIONAL SERVICES

The Basic Services described above do not include the following Additional Services which, upon written request from Client, will be performed by ARCADIS in accordance with the terms of this Work Authorization:

If authorized in writing by the Client, ARCADIS shall furnish or obtain from Additional Services of the types described below. These services are not included as part of Basic Services. These will be paid for by Client as indicated below in the "Compensation for Services" section.

Additional Services: (i.) Assist in the updates of the Eastern Shore Ground Water Supply Protection and Management Plan. (ii.) Provide technical assistance with emerging projects. (iii.) Assist in implementing research and monitoring to support the Committee's Surficial Aquifer Statement of Principal

CONTRACT RENEWAL TERMS

The initial contract term shall be limited to one year. The contract may be renewable for five additional one-year terms through 2025 Fiscal Year at the option of the Client by means of a letter requesting renewal.

COMPENSATION FOR SERVICES

4.1 Lump Sum Method

4.1.1 Client shall pay ARCADIS a lump sum fee of **\$21,666** for Basic Services (Attachment 1.1) provided under this Work Authorization, which shall be paid by Client as follows: On a quarterly basis upon submission of an invoice by ARCADIS to the A-NPDC on:

January 1, 2024 for Q1 Services (October 1, 2023-December 31, 2024)

April 1, 2024 for Q2 Services (January 1, 2024-March31, 2024)

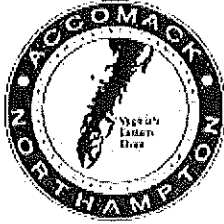
July 1, 2024 for Q3 Services (April 1, 2024-June 30, 2024)

October 1, 2024 for Q4 Services (July 1, 2023-September 30, 2024)

4.1.2 Client shall pay ARCADIS for Additional Services as follows:

A lump sum fee of **\$3,000** for one or more of the following, with prior approval from client:

- Update the Eastern Shore of Virginia Groundwater Protection and Preservation Plan, last updated May 2017, to include new information on the Groundwater Aquifer System, current water use, resource vulnerability, research efforts, and research needs. Provide a brief memo update to the Committee when completed for approval. *This plan is to be updated every 5 years*



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- Provide technical assistance with emerging projects.
- Assist in implementing research and monitoring to support the Committee's Surficial Aquifer Statement of Principal

The Client will identify the task to be completed under these Additional Services. The one-time payment will be made following submission of an invoice by ARCADIS to the A-NPDC within this project year.



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ATTACHMENT 1.1 BASIC SERVICES

TASK 1 GROUNDWATER COMMITTEE MEETINGS

A. Attend regional ESVGWC Committee meetings and provide technical support of Committee actions in an advisory role during targeted meetings. Meetings may require preparation to discuss routine agenda items and presentation of technical issues. We have assumed in-person attendance at 4 of the 10 meetings held during the year with virtual attendance at meetings not attended in-person; the A-NPDC will host and conduct the meetings.

B. For each meeting, a memo will be provided to include in the Committee packet that goes out a week prior to the meeting.

TASK 2 TECHNICAL DOCUMENTATION

A. Prepare technical documentation to support discussions at the Committee meetings and assist the Committee in providing technical responses to issues.

TASK 3 GROUNDWATER PERMIT REVIEWS

A. When requested by the Committee, provide independent review of groundwater withdrawal permits that are submitted to the Department of Environmental Quality (DEQ) and provide technical review of applications and conformance to the Eastern Shore Ground Water Management Plan and the Eastern Shore Ground Water Model. A comment letter or presentation will be delivered to the Ground Water Committee for each application reviewed.

TASK 4 IMPLEMENT GROUNDWATER COMMITTEE WORK PLAN

A. Work with the Ground Water Committee and the A-NPDC to implement the approved Work Plan based on the Preservation Plan. Priorities that can be completed directly by the Committee are:

- > Monitor and review Federal and State regulations.
- > Coordinate and/or track independent research on the Eastern Shore.
- > Provide technical assistance to A-NPDC staff. A-NPDC staff will serve as the sole liaison between the public and the Consultant and between the Committee and the Consultant.

B. Work with the Ground Water Committee and A-NPDC to develop funding mechanisms, and to coordinate with local, state, and federal agencies and institutions to implement these objectives.

C. Priorities which will require additional funding to implement, and should be pursued by the Committee to the extent possible are:

- > Support the Drinking Water Clinics;
- > Assist the counties and independent towns in developing Protection Measures, such as Site Plan Review or Resource Protection Ordinances;
- > Implement public education on groundwater and well head protection.

TASK 5 PROGRES SUMMARY TABLES

A. Prepare quarterly and annual progress summary tables summarizing present status of services provided, on-going programs, new groundwater development and permits, and new or proposed groundwater initiatives.

- > Quarterly Progress Summary Tables should be submitted as follows:



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- **January 1, 2024** for Q1 Services only (October 1, 2023 - December 31, 2023)
 - **April 1, 2024** for Q2 Services only (January 1, 2024 - March 31, 2024)
 - **July 1, 2024** for Q3 Services only (April 1, 2024 - June 30, 2024)
 - **October 1, 2024** for Q4 Services only (July 1, 2024 - September 30, 2024)
- > Annual Progress Report submitted by **October 1, 2024** and should include the following for services provided throughout the full project year:
- Narrative (a compilation of the project year's GWC Meeting Memos)
 - All four (4) Quarterly Progress Summary Tables
 - Presentation materials (as appendices)

TASK 6 PREPARE ANNUAL STATE OF THE EASTERN SHORE OF VIRGINIA WATER RESOURCE SUMMARY

- A. The Annual Use and Water Level Trend Summary shall be updated by September 1, 2024 and will include:
- a. Water Use:
 - i. VDEQ permitted monthly and annual groundwater use for calendar year 2023
 - ii. VDEQ reported monthly and annual water use (including surface water) for calendar year 2023
 - iii. An evaluation of the water sources used (irrigation ponds, surficial aquifer, Yorktown-Eastover aquifers)
 - iv. Spatial distribution of water withdrawals
 - v. Measured W
 - b. Water Level Declines:
 - i. Present actual water level trends measured in DEQ State Observation Wells (SOWs) for the period of record for each monitoring well.
 - ii. Present DEQ model predicted groundwater use and predicted permitted use drawdown for calendar year 2023
 - iii. Identify available water levels relative to the DEQ permit threshold (80-percent drawdown criterion). Note that in 2023, at least one permit (Perdue Farms) required a reduction in their permit withdrawal amount due to an exceedance of the permit threshold.
 - c. The Annual Summary and Water Level Trends will be presented at the September 2024 meeting as maps and figures accompanied by a brief summary report discussing use, water level trends, and areas where available groundwater is limited.



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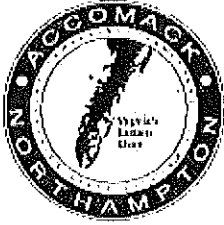
MEMORANDUM

TO: Eastern Shore of Virginia Ground Water Committee
FROM: Kellen J. Singleton
Interdisciplinary Planner
Accomack-Norhampton Planning District Commission

DATE: January 16, 2023

SUBJECT: GWC Public Comment to DEQ Office of Water Withdrawal Permitting Concerning Permit GW0053901

GWC advisor Britt McMillan with addition and assistance from Chmn. Coker and staff has drafted and delivered a Public Comment concerning GW0053901 addressing concerns found in recent ground water withdrawal applications to Eric Seavey - Manager, Office of Water Withdrawal Permitting. GWC letter and Mr. Seavey's response below.



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Eastern Shore of Virginia Ground Water Committee

John Colan
Chairman

Fred Mully
Vice Chairman

Elaine Mel
Secretary

Britt McMillan
Technical Advisor

To: Eric Seavey, DEQ Central Office

eric.seavey@deq.virginia.gov

Re: Comment on Draft Perdue Farms (GW0053901) Permit

The Eastern Shore of Virginia Groundwater Committee has reviewed the draft Groundwater Withdrawal Permit for Perdue Farms that is currently under Public Comment. Based on the information provided, the Committee believes that the proposed withdrawal may conflict with the intent of the *Ground Water Supply Protection and Management Plan for the Eastern Shore of Virginia* and the *Virginia Ground Water Management Act* and may have a detrimental effect on the ground water resource. Therefore, the Eastern Shore of Virginia Groundwater Committee would like several issues clarified before the Ground Water Withdrawal Permit is issued."

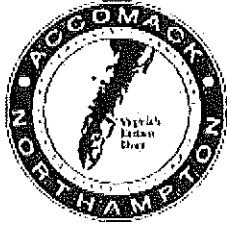
This draft permit is a renewal of an existing permit (GW0053900), issued April 1, 2012. The existing permit allowed for a maximum annual use of 700 million gallons per year (MG/yr). At the time the 2012 permit was issued, there was sufficient water in the middle Yorktown-Eastover aquifer to allow use of this amount. Under current conditions, the same 700 MG/yr withdrawal exceeds the 80% drawdown criteria established by the Groundwater Withdrawal Regulations. This resulted in establishment of a decreasing tiered withdrawal for the draft Permit, where the existing 700 MG/yr withdrawal is incrementally decreased to 650 MG/yr over an 11-year period. Based on historic groundwater use, 19 out of the past 20 years, Perdue Farms has used more than 650 MG/yr. Based on historic use, it is reasonable to expect that, unless Perdue Farms can locate alternative sources, current groundwater use will need to decrease.

The Groundwater Committee does not believe it is the intent of the regulations that current authorized withdrawals will be required to decrease use. Such changes can be very disruptive to the user. These changes are also contrary to the goal of the Committee's Groundwater Supply Protection and Management Plan that seeks to achieve sustainable use of the groundwater.

It is therefore of great concern to the Committee this non-sustainable condition has occurred. The Groundwater Committee also believes it is important to understand the reason that this forced reduction in withdrawal has occurred in order to avoid, to the extent possible, this occurrence for other permitted groundwater users. If the Groundwater Committee can be of assistance, the Committee will work with DEQ in identifying the root cause(s).

The Groundwater Committee recognizes that, under the Special Conditions, the requirement for an *Alternatives Source Analysis and Development Plan*. The Plan provides Perdue Farms a path to identify and implement alternative supplies to offset the reduction in groundwater use. The Special Conditions also provides an expedited schedule for preparation and execution of the Plan, beginning within 1-year after the permit is issue. The Groundwater Committee believes inclusion of this Plan and the expedited schedule helps to mitigate impacts of the reduced groundwater allocation and commends its inclusion in the Permit.

Accomack-Norhampton Planning District Commission
Address: PO Box 417 23372 Front Street Accomac, Virginia 23301
Phone: (757) 787-2936



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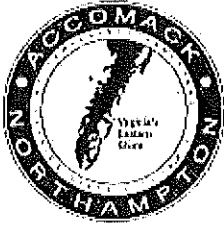
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Mr. Seavey November 28,2023 Email Response:

Good morning Mr. Singleton,

This email is in response to the Eastern Shore of Virginia Ground Committee comments received for the Perdue Foods LLC draft groundwater withdrawal permit, GW0053901. The Department agrees that the maximum annual withdrawal limit of 700 million gallons per year (Mgal/yr) passed the technical evaluation run in 2012 and did not exceed the 80% drawdown criteria established by the Groundwater Withdrawal Regulations. The technical evaluation run in April of 2023, simulated a new critical cell in the Middle Yorktown-Eastover Aquifer for the annual withdrawal limit of 700 Mgal/yr. The facility's withdrawal limits have been tiered down to a maximum passing annual withdrawal of 650 Mgal/yr to address the critical cell. The groundwater model for the Eastern Shore of Virginia is updated annually and incorporates new and updated permitted maximum withdrawals. The increase in cumulative permitted withdrawal limits in the general area of Perdue Foods LLC are believed to be a contributing cause for the new critical cell simulated for the Perdue Foods LLC in 2023. The Department will continue to issue permits with conditions that ensure the protection of the groundwater resources of the Eastern Shore of Virginia.

Thank you.
Eric Seavey



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MEMORANDUM

TO: Eastern Shore of Virginia Ground Water Committee
FROM: Kellen J. Singleton
Interdisciplinary Planner
Accomack-Norhampton Planning District Commission

DATE: January 16, 2023

SUBJECT: **Residential Well Testing Program**

Subcommittee Program Scope and Standards Update

Attached for review is the draft scope as of 10/11/23. GWC Advisor McMillan will complete technical revisions. The following are notes of consideration:

- An update to the ground water resources protection and management plan.
- Residential water testing services procurement and contacts.
- Addition of interior residential water testing to program e.g., lead.
- Development of a "GW 101 Fact Sheet" for domestic use.
- Health and Safety Plan (HASP) development.
- Residential test results distribution methods.

The draft budgets \$84,528 for Residential Well Testing Program implementation.



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WEBSITE: www.a-npdc.org

MEMORANDUM

TO: Eastern Shore of Virginia Ground Water Committee
FROM: Kellen J. Singleton
Interdisciplinary Planner
Accomack-Northampton Planning District Commission

DATE: January 16, 2023

SUBJECT: **New Membership**

Information for New Members

Mems. Walker and Grossman have drafted an information guide for new membership. Following for review is the draft information guide as of 11/13/23.



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Eastern Shore Groundwater Committee

Information for New Members

The Eastern Shore of Virginia Ground Water Committee (GWC) is a bi-county committee formed in 1990 by Accomack and Northampton Counties to study and plan for ground water protection. The 11-member committee meets monthly and includes elected officials, citizens, and local government staff. The Accomack-Northampton Planning District Commission (A-NPDC) staffs the committee and a consulting hydrogeologist advises the committee prepares monthly technical reports, and coordinates with the Virginia Department of Environmental Quality and the US Geological Survey (USGS).

Current Members

Chairman: John Coker

Vice Chairman: Paul Muhly

Committee Members:

- Accomack County - Paul Muhly, Grayson Chesser, Daniel Hershey, Susan Mastyl
- Northampton County - John Coker, Paul Grossman, Steve Sturgis, Ann Hayward Walker,
- Non-voting Ex-officio - Elaine Meil, Charles Kolakowski, and Mike Mason

A-NPDC Staff - Kellen Singelton

Consulting Hydrologist - Britt McMillan, Arcadis

Groundwater Management Area

The Eastern Shore of Virginia is one of six areas designated by the US Environmental Protection Agency (USEPA) as a Sole Source Aquifer within the Mid-Atlantic area (Federal Region 3). EPA designated the Columbia – Yorktown-Eastover Multi-aquifer System a sole source aquifer, effective May 9, 1997.

The Sole Source Aquifer (SSA) Program, which is authorized by Section 1424(e) of the Safe Drinking Water Act, allows communities to petition the USEPA for protection when a community is dependent on a single source of drinking water and there is no possibility of a replacement water supply to be found.

On June 17, 2013, the State Water Control Board adopted amendments (9VAC25-600-20) that declared the Eastern Shore of Virginia as a groundwater management area, known as the Eastern Shore Groundwater Management Area. It encompasses the counties of Accomack and Northampton.

Website

<https://www.esvaplan.org/planesva/ground-water-management/eastern-shore-of-virginia-ground-water-committee/>

Important Documents

- *Hydrogeologic Framework of the Virginia Eastern Shore.* 2019. USGS.
<https://pubs.usgs.gov/sir/2019/5093/sir20195093.pdf>



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- *Eastern Shore of Virginia Groundwater Resource Protection and Preservation Plan*. 2013. A-NPDC and the Eastern Shore of Virginia Groundwater Committee <https://www.a-npdc.org/wp-content/uploads/2016/05/ESVAGroundwaterResourceProtectionAndPreservationPlan2013comp ress.pdf>
 - This is an update of the first plan which was developed in 1992. This plan provides an overview of Eastern Shore groundwater management (80+ pages).
 - This plan reflects a sustainable, systematic approach (p. 1.2-1) to using and managing the groundwater resource
 - To sustain the aquifer capacity, this plan describes threats to groundwater capacity and quality and provides this guidance: the Virginia Department of Environmental Quality (VDEQ) regulates all withdrawals greater than or equal to 300,000 gallons/month. Under these regulations, the VDEQ:
 1. Requires that all pump intakes are above the top of the aquifer and
 2. Groundwater levels are not lowered below the 80% criterion
- Add: Paul's jurisdiction diagram
- Add: Paul's 80% diagram
- The Virginia Eastern Shore Groundwater Model <https://www.usgs.gov/centers/virginia-and-west-virginia-water-science-center/groundwater-flow-modeling>
- Others?

Mandate

The committee's mandate is to "assist local governments and residents of the Eastern Shore in understanding, protecting and managing ground water resources, to maintain a ground water resources protection and management plan (see above), to serve as an educational and informational resource to local governments and residents of the Eastern Shore, and to initiate special studies concerning the protection and management of the Eastern Shore ground water resource."

What does the Mandate mean regarding our role and activities?

The Committee meets monthly to discuss eastern shore ground water issues and review proposed ground water withdrawals over 300,000 gals per month, which are permitted by DEQ. Proposed permits are reviewed by the GWC's Consulting Hydrologist; his monthly report to the GWC is included in each meeting packet. Under our mandate, the GWC can provide comment to DEQ on proposed permits. Occasionally, EPA sends federal projects to the GWC for review as part of a Memorandum of Understanding related to our Sole Source Aquifer.

The mandate implies that members should be open to learn about various relevant technical aspects of groundwater and groundwater management. This technical knowledge is important for the members to engage with groundwater and drinking water agencies in protecting and managing ground water resources on the Eastern Shore. This knowledge also is useful in providing educational and informational resource to local governments and residents of the Eastern Shore.

The documents listed above are excellent sources of directly relevant information. Various fact sheets and presentations on the website provide additional information and details on specific topics, e.g.,



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Paleochannels and Saltwater Intrusion <https://www.esvaplan.org/planesva/ground-water-management/publications-resources/>

GWC Programs

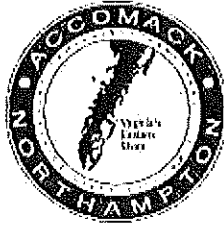
- Residential Well Testing, others added as needed
- Groundwater Committee Projects and Programs on the website, under which is also Permits and Tracking.
- Past projects are also listed on the website

Meetings

- The Board Room at the ESVA Chamber of Commerce, Melfa VA
- Monthly (except July and December), 3rd Tuesday from 10 am – noon
- Attendance in person or virtual
- Typical agenda structure: Call to Order, Public Participation, Previous Meeting Minutes, Financial Status Report, A-NPDC Staff Report, Ground Water Consultant Report, additional topics, e.g., NASA PFAS Status Update, Residential Well Testing Program

Meeting Materials

- The meeting materials to be covered in the agenda are compiled into a packet and distributed via email by A-NPDC staff before each monthly meeting
- Posted at: <https://www.esvaplan.org/planesva/ground-water-management/eastern-shore-of-virginia-ground-water-committee/>



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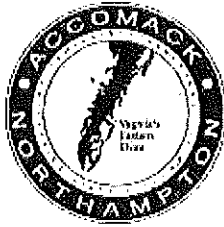
MEMORANDUM

TO: Eastern Shore of Virginia Ground Water Committee
 FROM: Britt McMillan
 Principal Hydrogeologist
 Arcadis
 DATE: October 17, 2023
 SUBJECT: October 17, 2023 Ground Water Consultant Report

Technical/Regulatory/Educational Items

- Two new draft permits has been published in October 2023: Perdue Farms (GW0053901) and Afshan Farm (GW0080000) for a total of 21 draft permits to date this year. Perdue Farms is a permit renewal for a withdrawal that has been active since 1971. Afshan Farm is a new permit for Poultry House operations. DEQ is accepting public comment on the draft Perdue permit through October 30, 2023 and public comment on the draft Afshan Farm permit through November 6, 2023. Copies of 1) the draft Permit, 2) associated Fact Sheets that provide information on the basis for the permit conditions, and 3) instruction on providing public comment are available on the DEQ website under the heading "Contact for public comments, document requests and additional information":
<https://www.deq.virginia.gov/permits/public-notices/water/water-withdrawal>

Facility		Type	Aquifers				New	Draft Permit (Gal)		Perce n-tile	Public Comment Deadline
Permit No	Name		S	U	M	L		Monthly	Annual		
GW0079800	Rogers Poultry Farm	A					Y	740,000	3,000,000	3%	6-Mar
GW0070900	Jones 1 Farm	A/P	✓ (98%)	✓			Y	16,570,000	58,000,000	89%	6-Mar
GW0070600	Doughty-Drewer	A		✓			Y	52,281,000	106,009,000	96%	6-Mar
GW0079900	Tran Thoa Farm	A/CA				✓	Y	857,200	3,620,000	5%	6-Mar
GW0044601	Captains Cove	P		✓	✓		N	21,900,000	107,000,000	97%	13-Mar
GW0049900	Tyson Farms	I		✓	✓	✓	N	61,890,000	588,960,000	99%	13-Mar
GW0067101	Bull Farm	A		✓			N	43,700,000	94,700,000	95%	3-Apr
GW0049601	Trails End	P	✓ (1/2-1/2)	✓			N	3,740,000	25,200,000	78%	3-Apr
GW0065901	Christian Ames	A/P	✓ (82%)	✓			N	48,060,000	93,660,000	95%	3-Apr
GW0053501	Triangle Mobile Home	P		✓	✓		N	539,400	6,350,000	23%	10-Apr
GW0072400	The Ivy Farm	A		✓	✓		Y	2,250,000	10,000,000	49%	June 12
GW0065701	Machipongo Farm	A	✓ (1/3%)	✓			N	18,070,000	65,170,000	90%	June 5
GW0069601	Hog Neck Farm	A	✓ (100%)				N	19,059,000	40,780,000	76%	July 3
GW0046001	Ballard Brothers	I		✓	✓	✓	N	1,370,000	12,900,000	62%	July 24
GW0039202	Sunset Beach	P	✓ (90%)	✓				1,600,000	7,500,000	29%	
GW0033101	Accomack Offices	P		✓				600,000	6,000,000	22%	Aug 21
GW0069701	David's Nursery	A		✓			N	25,877,000	125,261,000	97%	Aug 28
GW0042502	YMCA Silver Beach	P		✓				930,000	5,350,000	17%	Aug 28



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GW0080100	Cherrystone Campground	P		✓	✓	N	3,340,000	11,800,000	60%	Oct 2
GW0053901	Perdue Farms	I		✓	✓	N	78,000,000	700,000,000 to 650,000,000	100%	Oct 30
GW0080000	Afshan Farm	A		UNK		N	1,216,860	4,725,900	13%	Nov 6

Notes:

Type: A = Agriculture
 CA = CAFO (Confined Animal Feeding Operation)
 I = Industrial
 P = Public Water Supply

Aquifers: S = Surficial aquifer (the % indicates the percent of the total withdrawal from the surficial aquifer)
 YTEO = Yorktown-Eastover aquifer system
 U, M, L = Upper, Middle, Lower YTEO

New: Y = New Permit
 N = Re-issued Permit

Percentile: Compares annual amount to other permitted withdrawals on the Eastern Shore. For a percentile of 75%, 75% of the permits are less than the draft permit and 25% are greater. Large withdrawals (> 75-percentile) are presented in orange.

Facility		Special Conditions		
Permit No	Name	WQ	Alt	Other
GW0079800	Rogers Poultry Farm		✓	Geophy Logs, Pump Intake
GW0070900	Jones 1 Farm			Pond Control
GW0070600	Doughty-Drewer		✓	Pump Intake, Pond Control and Metering
GW0079900	Tram Thoa Farm		✓	
GW0044601	Captains Cove	✓		
GW0049900	Tyson Farms	✓	✓	Pump Intake, GW Levels, Two new SOW Well Clusters (8 SOW wells)
GW0067101	Bull Farm		✓	Pond Control
GW0049601	Trails End	✓		
GW0065901	Christian Arnes			Geophy Logs, Pump Intake, Pond Control and Metering
GW0053501	Triangle Mobile Home			Geophy Logs
GW0072400	The Ivy Farm			Pump Intake
GW0065701	Machipongo Farm		✓	Aquifer test completed March 12, 2012
GW0069601	Hog Neck Farm			No special requirements
GW0046001	Ballard Brothers	✓		Chloride monitoring, Well video logging and survey.
GW0039202	Sunset Beach			Pump intake and well video logging.
GW0033101	Accomack Offices			Well abandonment.
GW0069701	David's Nursery		✓	Well abandonment.
GW0042502	YMCA Silver Beach			Pump Intake and geophysical logging, well abandonment.
GW0060100	Cherrystone Campground	✓		Chloride monitoring, Well video logging, survey, and pump reset.
GW0053901	Perdue Farms	✓	✓	Tiered (decreasing) withdrawals, Alt Source Development Plan, Well Abandonment
GW0080000	Afshan Farm		✓	Pump Intake, Geophy Logs, video logging

Draft Perdue Farms (GW0053901) is for a "renewed" permit for an existing withdrawal. Perdue Farms has been in operation since 1971. Prior to the Groundwater Management Act of 1992, Perdue operated under Permit ES-044. The current permit was issued August 1, 2012 with an expiration date of July 31, 2022. The permit has been administratively continued until a new permit is issued. The amount requested is for the largest single withdrawal on the Shore. Withdrawal Amounts: The requested withdrawal amount was the same as the current permit (700,000,000 gal/yr and 78,000,000 gal/month). Technical analysis performed for DEQ by Aquaveo



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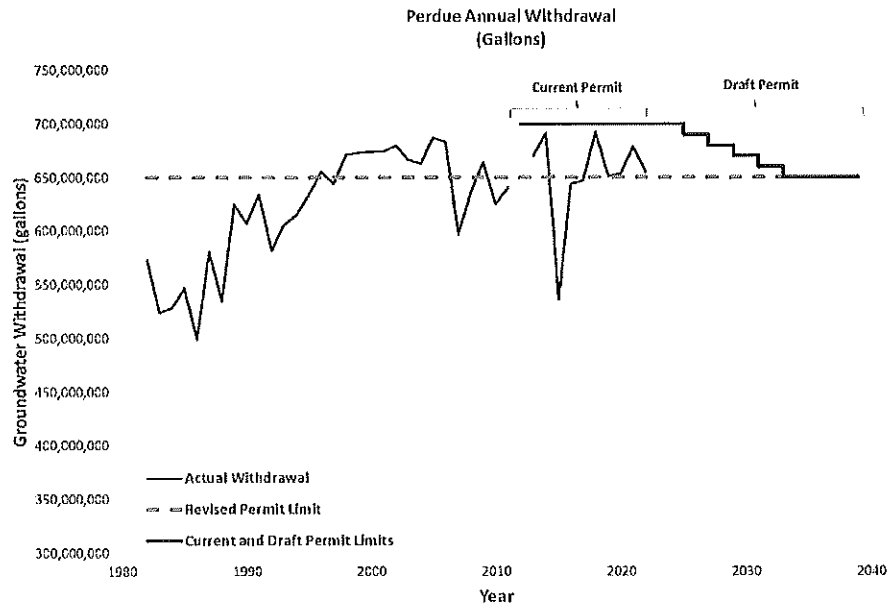
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determined that the requested amount (700,000,000 gal/yr) did not meet the 80% drawdown criterion (see below for definition of the 80% drawdown criterion). Based on additional modeling, Aquaveo determined that 651,000,000 gal/yr could be withdrawn and still meet the 80% drawdown criterion. To provide Perdue sufficient time to modify their withdrawal to meet the reduced withdrawal amount, DEQ has set the following Tiered schedule to reduce withdrawal from the current permitted amount to 650,000,000 gal/yr.

Year	Annual Withdrawal (gal/yr)	Number of Years Exceeded by Historical withdrawals
1-2	700,000,000	0
3-4	690,000,000	2
5-6	680,000,000	4
7-8	670,000,000	11
9-10	660,000,000	14
11-15	650,000,000	18

Below is a comparison of historical withdrawals to the current and draft permit limits. Prior to the 2012 permit, the withdrawal was limited to 2,637,850 gal/day under permit ES-044 (issued under the regulations that preceded the Groundwater Management Act of 1992).



The current Permit was issued August 1, 2012. Over the withdrawal period Perdue has maintained the calendar year total below both the original ES-044 and current Gw0053901 limits. However, beginning with the first Tier reduction to 690,000,000, there have been historical withdrawals that have exceeded the draft Permit amount (see table above). Groundwater use since 1996 has, with few exceptions, exceeded the draft Permit amount that will be in effect by year 11 of the Permit. Based on the historical withdrawals, it is reasonable to assume Perdue will need to find alternatives to the withdrawal specified in the draft Permit.



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The source of the reduction is the exceedance of the 80% drawdown criterion. The 80% drawdown criterion is established to prevent dewatering an aquifer and permanently reducing its potential yield (transmissivity or hydraulic conductivity). This is achieved by not allowing the water level in a confined aquifer from being lowered below the top of the aquifer (a confined aquifer, by definition, is groundwater that is under “pressure”, and the water level extends above the top of the aquifer. The specific definition of the 80% criterion is: “80% of the distance between the land surface and top of the aquifer” and is evaluated using the DEQ model for all permitted withdrawals in confined aquifers within the Area of Impact for that withdrawal (defined as the 1-foot drawdown). *A more detailed discussion of the 80% drawdown criterion will be provided separately.*

Permit/Model	Model		Middle Yorktown-Eastover Aquifer		
	Row	Col	Water Level (ft MSL)	80% Allowable Level (ft MSL)	Water (Head) above 80% Criterion (ft)
2012 Perdue Permit (700 MG/yr)			-125	-135	+10
2023 Perdue Permit (700 MG/yr)	121	51	-141	-131	-10
2023 Perdue Permit (651 MG/yr)	121	51	-130	-131	+1

Based on the Technical Analysis completed in 2012, there was 10-feet of head (water level) above the 80% allowable level in 2012. For the 2023 Technical Analysis (dated April 7, 2023), groundwater level for same amount (700 MG/year) was 10-feet below the 80% allowable level, for a change of 20-feet in the model simulated water levels over the past approximate 10-years.

Reducing the withdrawal amount to 650 MG/yr meets the criteria with 1-foot of head above the 80% allowable level.

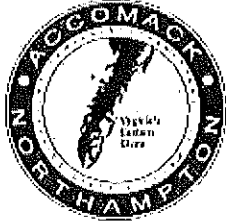
Special Conditions:

- a) Tiered groundwater withdrawal step-down from the current permit amount of 700 MG/year to 650 MG/year by the 11th year of the permit.
- b) Alternatives Source Analysis and Development Plan. Due within 1-year after the permit is issued. The Plan must include:
 - a. Site specific investigations for alternative sources of water, including alternative source aquifers. The alternative source investigation must include evaluating water quantity and water quality and the potential to replace “all or a portion of the groundwater currently being withdrawn from the upper, middle, and lower Yorktown-Eastover aquifers.
 - b. An Aquifer Test Plan and Aquifer Testing will be completed for any potential alternative aquifer.
 - c. The Plan will be implemented within 1-year after approval by DEQ.
 - d. An Alternatives Source Plan will be developed within two years following completion of the site specific investigations.
- c) Water Quality Monitoring quarterly (every 3 months) from four wells.
- d) Abandon Well #4 within 1 year after the permit is issued.

Additional Remarks:

The current amount Perdue is allowed to withdrawal (700 MG/year) cannot be re-permitted due to an exceedance of the 80% drawdown criterion. This is the first permit in the Eastern Shore of Virginia Groundwater Management Area where an existing permitted amount cannot be renewed.

We currently do not have sufficient information to determine why the previously (2012) acceptable withdrawal is not acceptable in 2023. It may be due to one or more changes over the past 10-years, including the model recalibration in 2019 and/or additional groundwater withdrawals permitted over the past 10-years.



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It is important to note that the exceedance of the 80% drawdown criteria occurred:

- Only in the middle Yorktown-Eastover aquifer and
- Only in a limited area within the Perdue well field

And does not mean the overall aquifer system is at capacity, rather only one aquifer (middle Yorktown-Eastover) in a limited area is at capacity.

While this principally affects the Perdue withdrawal, it could affect other (new or existing) permitted groundwater users that are using the middle Yorktown-Eastover aquifer and have either a large enough withdrawal or are close enough that their area of impact (1-foot drawdown) extends to the critical area.

There is one other area where permitted groundwater levels are approaching the 80% drawdown criteria (as previously discussed in the May 2023 Groundwater Committee Meeting). This area is associated with the Tyson Farms permit. Based on modeling associated with the draft Tyson Farms permit (February 2023), there is an area within the Tyson well field where there is only 3-feet of available head (water level) for the upper Yorktown-Eastover aquifer:

Permit/Model	Model		Middle Yorktown-Eastover Aquifer		
	Row	Col	Water Level (ft MSL)	80% Allowable Level (ft MSL)	Water (Head) above 80% Criterion (ft)
Dec 2022 Tyson Permit (589 MG/yr)	61	54	-65	-68	+3

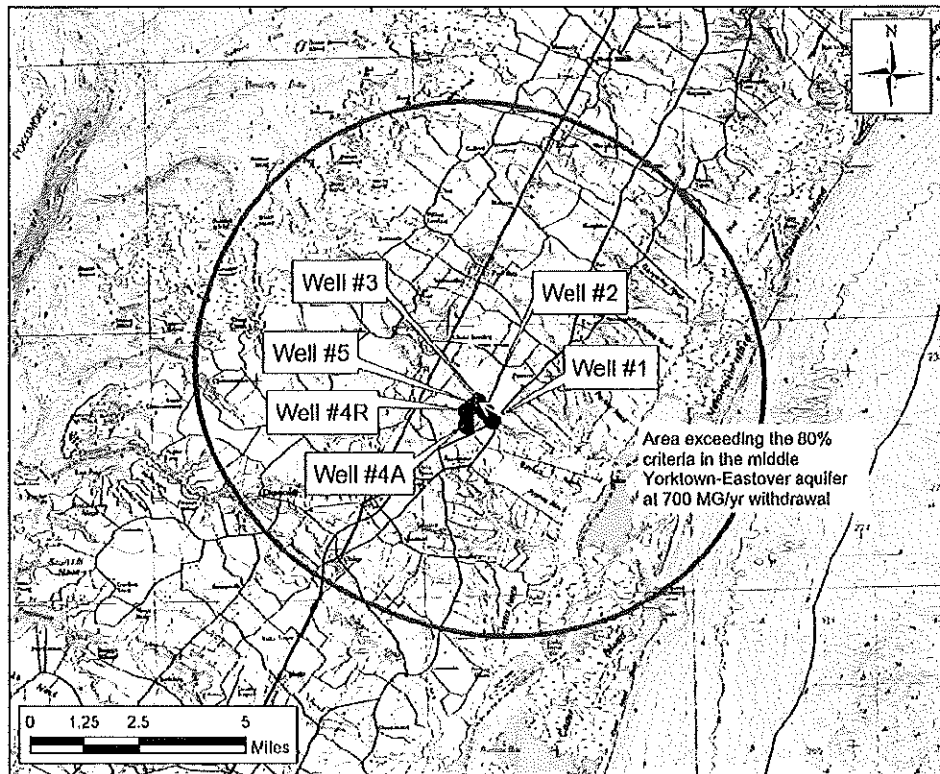
Like the limited head available for the middle Yorktown-Eastover aquifer in the Perdue area, there is limited head available for the upper Yorktown-Eastover aquifer in the Tyson area. This has the potential to affect other (new or existing) permitted groundwater users that are using the upper Yorktown-Eastover aquifer and have either a large enough withdrawal or are close enough that their area of impact (1-foot drawdown) extends to the critical area.



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Model Simulated Area of Impact for Current Permit Amount Perdue Foods Area of Impact - Middle Yorktown-Eastover Aquifer



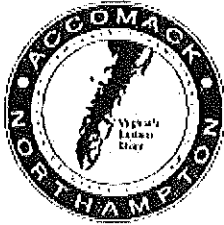
- MYE New Critical Cell
- Perdue Foods Wells
- Middle Yorktown-Eastover Aquifer Area of Impact

Simulated drawdown at or exceeding one foot in the Middle Yorktown-Eastover aquifer resulting from a 700,000,000 gallon per year, 50 year, multi-aquifer (Upper, Middle, and Lower Yorktown-Eastover) withdrawal using the VESM.

Maximum radius of one foot drawdown (Area of Influence) extends approximately 7.3 miles from the pumping center.

Technical evaluation performed by Aquaveo, LLC for the Virginia DEQ, Office of Water Supply
 April 11, 2023

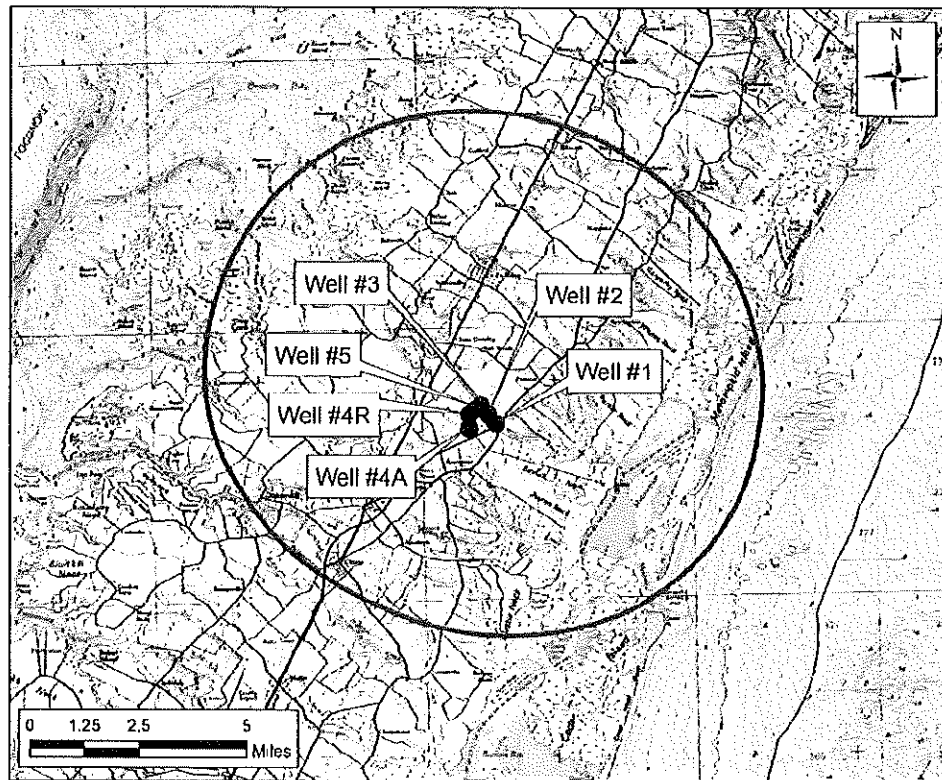




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Model Simulated Area of Impact for draft Permit Withdrawal Perdue Foods Area of Impact - Middle Yorktown-Eastover Aquifer



● Perdue Foods Wells ○ Middle Yorktown-Eastover Aquifer Area of Impact

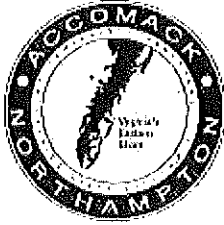
Simulated drawdown at or exceeding one foot in the Middle Yorktown-Eastover aquifer resulting from a 50-year, multi-aquifer (Upper, Middle, and Lower Yorktown-Eastover) withdrawal using the VESM. Withdrawal amount varies per pumping schedule described previously (starting at 700 MGY and decreasing 10 MGY every two years until it reaches 650 MGY).

Maximum radius of one foot drawdown (Area of Influence) extends approximately 7.1 miles from the pumping center.

Technical evaluation performed by Aquaveo, LLC for the Virginia DEQ, Office of Water Supply May 16, 2023



2. Afshan Farm (GW0080000) is for a new permit for six existing poultry houses. The poultry farm was previously named Banty Shanty Poultry Farm, and had applied for an initial groundwater permit in April 2021. The amount requested is for a relatively small amount, approximately 13% of the current permitted withdrawals are lower.



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Withdrawal Amounts: Projected groundwater demand was based on metered data from Holland Poultry Facility. Holland Poultry Facility has similarly sized houses. Well depths of 300-feet below ground surface are reported for three of the four wells. One well does not have a reported depth but is believed to be 300-feet also.

Alternative Sources: There is no discussion on use of the surficial aquifer as a potential alternative source of water. There is a statement that *“Site-specific data will be necessary to determine the viability of the surficial aquifer and to determine what portions of the use it can supply”*.

Special Conditions:

- **Geophysical Boreholes:** within 5-years of permit issuance, at least one borehole will be advanced and geophysical logs (SP, single point, short normal, long normal, and gamma) will be logged at a location and to a depth approved by DEQ. The geophysical logs will be used by DEQ to establish aquifer top and bottom depths.
- **Well construction:** within 5-years of permit issuance, a camera survey will be completed for all four production wells to determine 1) well depth, 2) casing size, 3) material, and 4) screen interval. Pump intake depth and well capacity will also be determined.
- **Pump Intake Depth and Reset:** within 90-days of pump intake determination, documentation from a certified well driller, or other source accepted by DEQ, will be submitted that the pump intakes are all above the depth established by DEQ.
- **Alternative Source Analysis and Development Plan:** *“While the application states generally that the surficial aquifer would not be viable, site-specific investigation is necessary to evaluate the surficial aquifer quality and availability.”* By 2033, an alternative source investigation must be completed and results submitted to DEQ by 2034 for review and acceptance. The investigation must provide pump test and water quality data from a test or production well screened in the surficial aquifer on or near the poultry farm.

Remarks: This is a relatively small withdrawal (87% of the permitted withdrawals are greater). While the surficial aquifer was not evaluated, there is the requirement to evaluate the source within 10-years of the permit issuance (by 2033) with results submitted to DEQ. The area is close to Tyson Farms although the area of impact does not quite extend to the Tyson Farms well field.

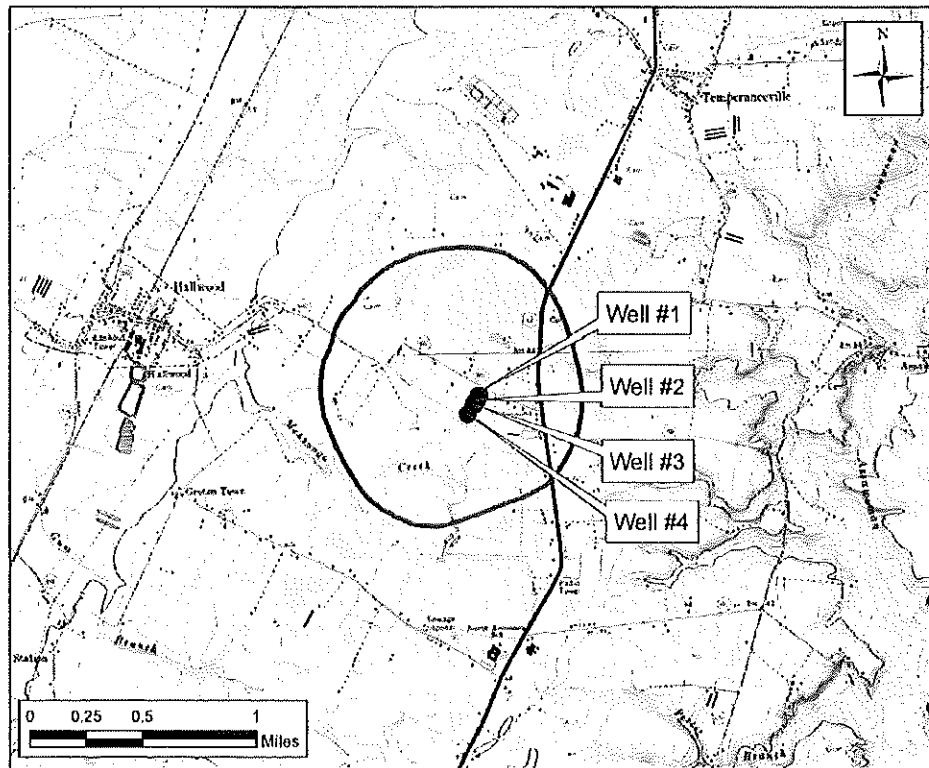
Based on well depth, it is likely that the wells are screened in either the middle or lower Yorktown-Eastover aquifer. If, based on the geophysical logs and camera survey, the wells are screened in the upper Yorktown-Eastover aquifer, it is likely the withdrawal will lower water levels in the Tyson Farms well field area where there is less than 3-feet of head (water level) remaining above the 80% drawdown criterion (critical surface).



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Model Simulated Area of Impact for draft Permit Withdrawal Afshan Farm LLC Area of Impact - Lower Yorktown-Eastover Aquifer



- Afshan Farm LLC Wells
- Lower Yorktown-Eastover Area of Impact

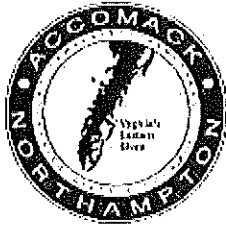
Simulated drawdown at or exceeding one foot in the Lower Yorktown Eastover (MYE) aquifer resulting from a 4,725,900 gpy, 50 year withdrawal from the Lower Yorktown-Eastover aquifer using the VAHydroGW-ES.

Maximum radius of one foot drawdown (Area of Impact) extends approximately 0.7 miles from the pumping center.

Technical evaluation performed by Aquaveo, LLC for the Virginia DEQ, Office of Water Supply March 30, 2023



3. **80-Percent Drawdown Criteria:** The recent new and renewed groundwater withdrawal permits increase the allowable withdrawals in the confined Yorktown-Eastover aquifer. The primary technical limitation to how much groundwater can be withdrawn from the confined aquifers is based on lowered water levels, as established in the regulations under 9VAC25-610 as the 80-percent Drawdown Criteria.



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- a. Within the Groundwater Management Area, the 80% drawdown criteria applies to confined aquifers. Surficial (Columbia) aquifers are exempt.
 - b. The 80% drawdown criteria sets the limit on how much the water levels can be lowered in a confined aquifer.
 - i. Before a permit is issued, as part of the technical evaluation,
 - ii. The criteria is defined as "...a point that represents 80% of the distance between the land surface and the top of the aquifer."
 - iii. "Compliance with the 80% drawdown criteria will be determined at the points where the predicted one-foot drawdown contour is predicted for the proposed withdrawal."
 - iv. The elevation that defines the 80% drawdown criteria is also referred to as the "Critical Surface".
 - c. The 80% drawdown criterion was exceeded in an area within the Perdue Foods well field for the middle Yorktown-Eastover aquifer for the current Perdue Foods permit, resulting in a reduction in the draft permitted amount. Additionally, there is less than 3-feet of water level (head) remaining above the 80% drawdown criterion for the upper Yorktown-Eastover aquifer in an area within the Tyson Farms well field.
 - d. Understanding how much water (drawdown) remains available and where groundwater is most limited are important in understanding future limitations to groundwater use and sustainability of the Yorktown-Eastover aquifer system.
 - e. A presentation will be provided that:
 - i. Illustrates application of the 80% drawdown criteria to the Eastern Shore.
 - ii. How exceedance of the criteria has affected withdrawals in the Eastern Virginia Groundwater Management Area.
 - iii. Identifies areas, based on the Aquaveo model simulations where drawdown from existing withdrawals will most likely limit future withdrawals on the Shore.
4. **Public Comments:** Previously, the Groundwater Committee responded to all draft Permits as part of the public comment phase. These comments were provided at a time DEQ gave the Groundwater Committee a "courtesy copy" of the draft Permit prior to the 30-day comment period. After DEQ ceased providing the courtesy copy and given the shorted time frame to address comments, this practice ceased. With the large number of recent draft permits it would be beneficial to comment on draft permits as necessary. Given the shortened response period (compared to the past), it is helpful to have structured response options along with individualized comments. Four structured response options are provided below:
- a. "The Committee believes that the proposed withdrawal is consistent with the intent of the *Ground Water Supply Protection and Management Plan for the Eastern Shore of Virginia* and the *Virginia Ground Water Management Act*, and that the draft permit provides adequate protection for the ground water resource. Therefore, the Eastern Shore of Virginia Groundwater Committee supports the proposed Ground Water Withdrawal Permit." *{add qualifying text, such as citing beneficial uses or concerns regarding implementation}*
 - b. "The Committee believes that the proposed withdrawal is substantially consistent with the intent of the *Ground Water Supply Protection and Management Plan for the Eastern Shore of Virginia* and the *Virginia Ground Water Management Act*, and that the draft permit provides protection for the ground water resource. Therefore, the Eastern Shore of Virginia Groundwater Committee does not object to the proposed Ground Water Withdrawal Permit." *{add qualifying text, such as citing beneficial uses or concerns regarding implementation}*
 - c. "Based on the information provided, the Committee believes that the proposed withdrawal may conflict with the intent of the *Ground Water Supply Protection and Management Plan for the Eastern Shore of Virginia* and the *Virginia Ground Water*



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Management Act, and may have a detrimental effect on the ground water resource. Therefore, the Eastern Shore of Virginia Groundwater Committee would like several issues clarified before the Ground Water Withdrawal Permit is issued." {add qualifying text that specifies the issues, such as definition of the impact area, water conservation requirements, or monitoring}

- d. "Based on the information provided, the Ground Water Committee believes that the proposed withdrawal may conflict with the intent of the *Ground Water Supply Protection and Management Plan for the Eastern Shore of Virginia* and the *Virginia Ground Water Management Act*, and may have a detrimental effect on the ground water resource. Therefore, the Eastern Shore of Virginia Groundwater Committee has concerns about the Draft Ground Water Withdrawal Permit and believes that a Public Hearing is appropriate to resolve these concerns." {add qualifying text that specifies the issues, such as definition of the impact area, water conservation requirements, or monitoring}



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MEMORANDUM

TO: Eastern Shore of Virginia Ground Water Committee
FROM: Kellen J. Singleton
Interdisciplinary Planner
Accomack-Norhampton Planning District Commission

DATE: January 16, 2023

SUBJECT: **Committee Attendance Record**

Committee Attendance Record

The FY2024 Committee Attendance Records are attached.



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EASTERN SHORE OF VIRGINIA GROUND WATER COMMITTEE FY 2024 ATTENDANCE RECORD

Member	Term Exp.	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
<i>ACCOMACK COUNTY</i>													
Paul Muhly	<i>Vice Chair; Next vote: July 2025</i>	*	X	X	X	*	*						
Dan Hershey	<i>June 2025</i>	*	X	X		*	*						
Grayson Chesser	<i>June 2023</i>	*	X	X		*	*						
Sue Mastyl	<i>April 2025</i>	*	X	X	X	*	*						
<i>NORTHAMPTON COUNTY</i>													
John Coker	<i>Chair; Next Vote: July 2025</i>	*		X	X	*	*						
Paul Grossman	<i>March 2024</i>	*	X	X	X	*	*						
Steve Sturgis	<i>July 2024</i>	*	X		X	*	*						
Ann Hayward Walker	<i>December 2024</i>	*	X	X	X	*	*						
<i>NON-VOTING EX-OFFICIO MEMBERS</i>													
Charles Kolakowski	<i>NA</i>	*				*	*						
Mike Mason	<i>NA</i>	*				*	*						
Elaine Meil	<i>NA</i>	*				*	*						
-	<i>Not a Member</i>			X						()			<i>Alternate Present</i>
*	<i>No Meeting Held</i>			NA									

