

Meeting Minutes  
Thursday, July 19, 2018

HB1186 Groundwater Human Consumption Work Group (HB1186 WG)  
DEQ Central Office, Suite 1400  
1111 E. Main Street, Richmond, VA  
14<sup>th</sup> Floor Conference Rooms

Members Present: Frank Harksen, Nina Butler, John Aulbach, Allen Knapp, Ted Henifin, Doug Powell, Bill Gill, Keith Martin, Andrea Wortzel, Sandi McNinch, Morgan Quicke, Nikki Rovner, Kristen Lentz, Louis Martinez, Peggy Sanner, Ben Rowe (for Martha Moore), and David Jurgens (for James Baker).

Members Absent: Andrew Clark, Brett Vassey, Charro Gauden, David Creason, James Baker, Kendall Tyree, Martha Moore, and Mike Kearns.

Other Participants: Jutta Schneider, Scott Kudlas, Brandon Bull, Trieste Lockwood, Gary Graham, Matt Wells, Nelson Daniel, Scott Johnson, Steven Edgemon, Drew Hammond, and Curt Thomas.

Meeting convened: 9:04 a.m.

Meeting adjourned: 11:30 a.m.

Minutes:

1. Welcome and Introductions [Jutta Schneider, DEQ]. Jutta Schneider welcomed the Work Group members and public attendees to the meeting, had attendees introduce themselves, and described the 14<sup>th</sup> floor facilities available to the attendees. A draft HB1186 WG Member List had been emailed to members and copies were available in the meeting room for public attendees (Attachment 1).
2. Review of Agenda and Ground Rules [Trieste Lockwood, DEQ]. The agenda and the work group ground rules were presented as drafts:
  - a. The draft agenda (Attachment 2) had been emailed to members and posted on the Virginia Regulatory Town Hall ([http://www.townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\meeting\103\27892\Agenda\\_DEQ\\_new\\_v1.pdf](http://www.townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\meeting\103\27892\Agenda_DEQ_new_v1.pdf)). Copies were available in the meeting room for public attendees. There were no changes proposed by the members to the draft agenda.

- b. The draft ground rules (Attachment 3) had been emailed to the members earlier and copies were available in the meeting room for public attendees. There were no changes proposed by the members to the draft ground rules.
3. Review and Discussion of the Current Process [Scott Kudlas, DEQ]. A white paper summary (Attachment 4) of applicable statutes, the current groundwater and surface permitting processes, and the implementation challenges was presented and explained to the group. Slides of the presentation are included as Attachment 5.
4. Review and Discussion of HB 1186 [Brandon Bull, DEQ]. The HB1186 WG is the result of: (i) House Bill 1186 (Attachment 6), which was passed by indefinitely with a letter by the House Committee on Agriculture, Chesapeake, and Natural Resources (ACNR) during the 2018 legislative session, and (ii) the letters to the DEQ from Hon. Danny Marshall, Chairman of the House ACNR Committee (Attachment 7) requesting that the DEQ review portions of § 62.1-44.36 of the Code of Virginia concerning the Commonwealth's water resources policy, analyze the proposed House Bill 1186, and consider options for prioritizing human consumptive use through the groundwater permitting process. During the legislative process DEQ reviews and provides an analysis for the Governor's Office of all introduced legislation that affects DEQ's programs. DEQ does not take a position on legislation unless the Governor takes a position on the bill. In the case of HB 1186, DEQ did not and has not taken any position on the bill. A presentation about what HB 1186 would have required if the bill had been approved by the General Assembly and signed by the Governor was presented to the WG. This presentation is included in the minutes as Attachment 7. HB 1186 would have made:
  - a. Findings: (1) The supply of groundwater in the Eastern Virginia Groundwater Management Area (EVGMA) is not sufficient to meet existing requirements; (2) there is substantial risk to economic growth because supplies are insufficient to meet needs of current permit holders and new users cannot be granted groundwater permits; (3) while public water suppliers (PWS) provide some nonhuman consumptive uses, water provided by PWS are the primary means by which citizens get water for human consumption; and (4) statute requires that when proposed uses are in conflict, human consumption shall be given preference over all other uses.

Observations by the HB1186 WG members:

- Finding (1) is not supported by the information available to the work group. More information is needed.
  - While finding (4) reaffirms prioritization of groundwater supplies favoring human consumption, statutes appear to be in tension concerning the priority of existing users.
- b. Timeline: A timeline is provided in the bill for addressing priorities for groundwater use in the EVGMA through the permitting process for groundwater withdrawals.

Observations by the HB1186 WG members:

- Industry can't operate in an environment in which there is no certainty about the permitted water withdrawals. They need to be able to rely on using their permitted groundwater withdrawals to get the needed investment.
- There will be a negative economic impact on business resulting from a proposal like HB 1186.
- Private water companies should be treated the same as others.
- What is the basis for the 5% of total permitted groundwater withdrawal threshold for permit modifications? Does this only capture 2 permittees?
- This approach appears to undermine the science-based permitting process.
- Has anyone considered the implications of prioritizing permitted groundwater use on other permitting processes (like private well and waterworks permitting by Virginia Department of Health)?
- DEQ should have regulatory flexibility to provide for human consumption in the future.
- The premise that aquifer groundwater supplies are not sufficient is false and that should be included in the final report. Does something need to be added concerning Sustainable Water Initiative for Tomorrow?
- Finding (1) concerning insufficient groundwater supply is phrased in the present tense. The correct information concerning present supply should be provided in the report to the General Assembly. It may be that it is not a current problem, but the question of when it might become a problem in the future may need to be determined. Aquifer sustainability needs to be addressed.
- Permit reopening authority already exists and there are mitigation plans required by the permits. Is there a need for legislation to address necessary changes to existing permits?
- Under HB 1186, beginning July 1, 2023, DEQ would begin modifying permits and reducing permitted withdrawals for nonhuman consumption uses, but there is no guidance from whom to take the reductions. Will it be first in - last out, or an equal percentage from each permittee, or some other method of choosing how to make the reductions?
- Will these reductions be a one-time thing or will there be ongoing reductions as new human consumption needs emerge?
- There needs to be some common, integrated definitions of "human consumption" and "domestic use." Common definitions between state and federal statutes and regulations will help make Virginia Department of Health and DEQ permits congruent.
- The approach of the bill is too simplistic. The issue of prioritizing groundwater use is much more complex than the winner/loser procedure described in the proposal. It is an ongoing sustainability issue instead.

- Is the groundwater permitting system really so broken that the groundwater withdrawal permitting process can't allocate supplies using the scientific method in place?
  - It would be better to see if the current steps in place can work before large irreversible changes to the permitting process are made.
  - Making big changes in the permitting process before better information is available on whether there is a current or future problem is not the right way to go about this. The permitting process should retain as much flexibility as possible until a problem is determined by evidence. Communities can't recover lost market driven elsewhere by insecurity concerning water supplies.
  - There may be unintended consequences of making permits much more difficult to obtain. There may be more incentive for industrial/commercial users to bypass the reductions by breaking up larger projects into smaller unpermitted projects.
5. Review and Discussion of the Joint Legislative Audit and Review Commission (JLARC) recommendations [Scott Kudlas, DEQ]. Copies of recommendations 12 and 13 from the JLARC Report (October 2016) Human Consumption Considerations (Attachment 9) were emailed to the members earlier and were available in the meeting room for public attendees. HB 1186 may have been inspired by JLARC recommendations 12 and 13, so discussion of these might be useful.

Observations by the HB1186 WG members:

- There are JLARC recommendations other than numbers 12 and 13 that may have a greater impact. Also the JLARC report and GWAC recommendations have some common concerns.
- Recommendations assume that all permits are under review at the same time so that supplies and needs are known and human and nonhuman consumption needs are balanced out so that reductions can be made. That's just not the case. And you can't require a permitted user to come back for a revised permit a year after it is issued.
- The JLARC recommendations are not the way to make reductions. As of now, DEQ doesn't have the tools to make the adjustments required by recommendation 13. There are alternatives. It is important to get more information about the problem.
- JLARC recommendation 13 will create uncertainty for businesses that may face unknown permit withdrawal reductions. Businesses that require certainty will go elsewhere.
- There are a lot of gray areas about human consumption that are not addressed in the HB1186 definition, for example hospitals, breweries, mixed use users, residential nonhuman consumption. There needs to be more conversation about what is, and what is not human consumption.

- What about permitted human consumption withdrawal limits high enough for seasonal surges, like Virginia Beach has during the summer?
  - As a statement of principle, the HB 1186 proposal and JLARC recommendation 12 prioritize human consumption and that is fine. It is just not doable in the form prescribed in HB 1186. Do we even ever see a day in which there are conflicts in groundwater supplies that would make prioritizing necessary?
  - What about the scientific permit review process? Doesn't that include a review of groundwater supplies?
  - Are there other states doing anything like this (prioritizing human consumption use at the expense of nonhuman consumption uses)?
6. Public Comment: One speaker: The Office of Drinking Water at VDH needs to have a voice during this discussion. DEQ staff noted that DEQ asked the VDH Commissioner to nominate a member of the WG, and there is a VDH representative on the WG.
7. Action Items:
- a. The next meeting will be in the DEQ Central Office 14th floor conference rooms at 1111 E. Main Street, Richmond, Virginia on Tuesday, August 7, 2018 beginning at 1:00 p.m. The group will be notified of any changes (which also will be published on the Virginia Regulatory Town Hall).
  - b. If members have other thoughts on the HB 1186 proposal, the white paper, or anything else, please send them to Gary Graham at [gary.graham@deq.virginia.gov](mailto:gary.graham@deq.virginia.gov) prior to July 30. Gary will send them out for consideration by the other members.
  - c. If members have thoughts on the status quo, that should also be part of the conversation. Please pass those to Gary, also.

Attachments:

1. Draft Member List
2. Draft Meeting Agenda.
3. Draft Ground Rules.
4. White Paper: Virginia Department of Environmental Quality Interpretation and Implementation of Items 1-3 of § 62.1-44.36 of the Code of Virginia.
5. Presentation Slides of the Current Process Discussion (Minute 3).
6. House Bill 1186 proposed in the 2018 General Assembly.
7. Letters to DEQ from the Hon. Danny Marshall, Chairman, House Agriculture, Chesapeake, and Natural Resources Committee dated February 28, 2018 and April 5, 2018.
8. Presentation Slides of the HB 1186 Proposal Discussion (Minute 4).
9. JLARC recommendations 12 and 13.

## HB1186 Groundwater Human Consumption Work Group

## Members

<b>NAME</b>	<b>AFFILIATION</b>
Allen Knapp	Virginia Department of Health
Andrea Wortzel	Troutman Sanders
Andrew Clark	VA Homebuilders Association
Bill Gill	Smithfield Foods
Brett Vassey	Virginia Manufacturers Association
Charro Gaulden	International Paper
David Creason	VA Water Well Association
Doug Powell	James City County
Frank Harksen	Hanover County
James Baker	City of Chesapeake
Jeff Gregson	Jeff Gregson Associates
John Aulbach	Aqua Virginia
Keith Martin	VA Chamber of Commerce
Kendall Tyree	VA Soil and Water Conservation District
Kristen Lentz	Norfolk Department of Utilities
Louis Martinez	Newport News Waterworks
Martha Moore	Virginia Farm Bureau Federation
Mike Kearns	Sussex County Service Authority
Morgan Quicke	Richmond County
Nikki Rovner	The Nature Conservancy
Nina Butler	WestRock
Peggy Sanner	Chesapeake Bay Foundation
Ron Harris	Newport News Waterworks
Sandi McNinch	Virginia Economic Development Partnership
Ted Henifin	Hampton Roads Sanitation District

HB1186 GROUNDWATER HUMAN CONSUMPTION WORK GROUP

Meeting 1 Agenda

July 19, 2018 (9 am to 12 noon)

DEQ, 1111 East Main Street, Richmond VA

14<sup>th</sup> floor

(Please check in at the front desk on the ground floor of the building)

1. Welcome and Introductions
2. Review of Purpose and Ground Rules
3. Review and Discussion of Current Process

Break

4. Review and Discussion of HB 1186 Proposal
5. Review and Discussion of New Ideas/Proposals
6. Public Comment Forum
7. Review of Action Items
8. Wrap up

## **HB1186 GROUNDWATER HUMAN CONSUMPTION WORK GROUP**

### **GROUND RULES**

#### **PARTICIPATION**

**The Department of Environmental Quality (DEQ) has established this work group to evaluate issues raised by House Bill 1186 during the 2018 General Assembly Session; specifically to consider developing options for prioritizing human consumptive water use through the groundwater withdrawal permit process.**

This work group's membership is representative of industrial and municipal water users, public and private water providers, developers and the economic development community, agricultural, environmental and conservation organizations, and state agencies. Individuals with experience in water supply management issues for groundwater and surface water have been selected to participate on the work group.

The work group meetings are subject to the requirements of the Virginia Freedom of Information Act. This means that meetings of the work group, including any meeting of three or more members of the work group discussing the business of the work group, must be open to the public and public notice must be provided on the Virginia Regulatory Town Hall website of the date, time and location of work group meetings.

During work group meetings, one chair will be left open at the table where a member of the public can sit temporarily to present information or comment on the deliberations of the work group. Members of the public will be encouraged to communicate their concerns through a member of the work group who represents their interests but the open chair is available if the member of the public feels it necessary to address the work group directly to add information that has not been considered. Members of the work group will not ask members of the public to sit at the table with them during discussions, in order to ensure that representation remains balanced.

#### **DOCUMENTATION OF STAKEHOLDER INPUT**

The primary purpose of the work group is to seek information on possible options for prioritizing human consumptive use through the groundwater withdrawal permitting process. The information and options presented by work group members during this process will be included in DEQ's report to the House Agriculture, Chesapeake and Natural Resources Committee. A copy of the DEQ report will be provided to each work group member.

As part of the work group process, DEQ will ask members to develop and present proposals, and to express positions of support, non-support or no position for each of the proposals developed and discussed by the work group members. Members will also have an opportunity to provide their considerations, objections and supporting statements as part of the process.



## **WORK GROUP MEETINGS**

Work group meetings will be facilitated by DEQ staff. The facilitator will support the deliberative process and help to ensure that the process runs smoothly by emphasizing the “Guidelines for Discussion” below. The facilitator will render such services in a neutral manner. The facilitator will prepare an agenda for each meeting and distribute it to the work group prior to each meeting along with any documents that may be proposed for discussion. DEQ staff will draft meeting summaries to maintain a clear and reliable record of deliberations and discussion. Such summaries will be provided to work group members for their comments and corrections in the event of inaccuracies.

## **OBLIGATIONS OF WORK GROUP MEMBERS**

Work group members will attend scheduled meetings. They will come to such meetings prepared for the subject matter of the meetings. Members shall act in good faith and in a respectful manner in all aspects of these discussions whether during meetings or during communications with others, including the media outside of meetings. They shall also keep the long term interests of the Commonwealth in mind as they participate in the process.

Work group members will communicate their interests and concerns to each other and be open about points of concern or disagreement. They will present proposals and counterproposals to explore proposed options as thoroughly as possible. Members will maintain contact with constituencies throughout the process to obtain feedback on proposals. Work group members will fully express their concerns with, or support for any of the proposals under discussion. Any member may withdraw from the process at any time by notifying the facilitator in writing.

## **GUIDELINES FOR DISCUSSION**

- Listen with an open mind and heart - it allows deeper understanding and, therefore, progress.
- Speak one at a time; interruptions and side conversations are distracting and disrespectful to the speaker. "Caucus" or private conversation between members of the audience and people at the table may take place during breaks or at lunch, not during the work of the group.
- Be concise and try to speak only once on a particular issue, unless you have new or different information to share.
- Simply note your agreement with what someone else has said if you feel that it is important to do so, it is not necessary to repeat it.
- Review materials to be discussed prior to meetings so you are prepared to participate in the discussion. Do not assume that the work group will revisit issues previously discussed at later meetings.
- If you miss a meeting, get up to speed before the next one as the group cannot afford the luxury of starting over.
- Focus on the issue, not the speaker - personalizing makes it impossible to listen effectively.
- If possible, present options for solutions at the same time you present the problems you see.
- Stay positive.
- Turn off all cell phones; take and make all calls outside the room.

White Paper: Virginia Department of Environmental Quality Interpretation and  
Implementation of Items 1-3 of § 62.1-44.36 of the Code of Virginia

**VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY INTERPRETATION AND IMPLEMENTATION  
OF ITEMS 1-3 OF § 62. 1-44. 36 OF THE CODE OF VIRGINIA**

**Introduction**

Section 62.1-44.36 of the Code of Virginia provides, in part:

Being cognizant of the crucial importance of the Commonwealth's water resources to the health and welfare of the people of Virginia, and of the need of a water supply to assure further industrial growth and economic prosperity for the Commonwealth, and recognizing the necessity for continuous cooperative planning and effective state-level guidance in the use of water resources, the State Water Control Board is assigned the responsibility for planning the development, conservation and utilization of Virginia's water resources.

The Board shall continue the study of existing water resources of this Commonwealth, means and methods of conserving and augmenting such water resources, and existing and contemplated uses and needs of water for all purposes. Based upon these studies and such policies as have been initiated by the Division of Water Resources, and after an opportunity has been given to all concerned state agencies and political subdivisions to be heard, the Board shall formulate a coordinated policy for the use and control of all the water resources of the Commonwealth and issue a statement thereof. In formulating the Commonwealth's water resources policy, the Board shall, among other things, take into consideration but not be limited to the following principles and policies:

- (1) Existing water rights are to be protected and preserved subject to the principle that all of the state waters belong to the public for use by the people for beneficial purposes without waste;
- (2) Adequate and safe supplies should be preserved and protected for human consumption, while conserving maximum supplies for other beneficial uses. When proposed uses of water are in mutually exclusive conflict or when available supplies of water are insufficient for all who desire to use them, preference shall be given to human consumption purposes over all other uses;
- (3) It is in the public interest that integration and coordination of uses of water and augmentation of existing supplies for all beneficial purposes be achieved for the maximum economic development thereof for the benefit of the Commonwealth as a whole; . . .

The sections that follow describe how the Virginia Department of Environmental Quality (DEQ) interprets and implements this language, and the practical impact of those decisions, with respect to both groundwater<sup>1</sup> and surface water<sup>2</sup> in the localities within the Eastern Virginia Groundwater Management Area (EVGMA).<sup>3</sup>

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<sup>1</sup> The Ground Water Management Act of 1992 (Act of 1992) defines "ground water" as "any water, except capillary moisture, beneath the land surface in the zone of saturation or beneath the bed of any stream, lake, reservoir or

## Existing Water Rights

“(1) Existing water rights are to be protected and preserved subject to the principle that all of the state waters belong to the public for use by the people for beneficial purposes without waste . . . .”<sup>4</sup>

### State Waters, Generally

Water is defined broadly in the Code of Virginia to include “all waters, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction and which affect the public welfare.”<sup>5</sup> The Code of Virginia is inconsistent in its approach to defining existing water rights. In Title 62.1 Chapter 2, State Policy As to Waters, the Code of Virginia clearly states that the intent of the General Assembly is that waters of the Commonwealth should be regulated and this regulation may reasonably subject existing water rights holders to limitations on their use of these waters.<sup>6</sup> However, the same chapter provides: “Nothing in this chapter shall operate to affect any existing valid use of such waters or interfere with such uses hereafter acquired, nor shall it be construed as applying to the determination of rights in any proceeding now pending or hereafter instituted.”<sup>7</sup> Further, the Code of Virginia requires DEQ to balance different beneficial uses in making decisions. The term “beneficial use” is defined in an inconsistent manner in several statutes and regulations, with several variations

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other body of surface water wholly or partially within the boundaries of this Commonwealth, whatever the subsurface geologic structure in which such water stands, flows, percolates or otherwise occurs.” VA. CODE ANN. § 62.1-255. While the Code of Virginia uses the term “ground water,” this paper will use the more conventional term “groundwater” unless referring specifically to terms in the Code of Virginia.

<sup>2</sup> The Code of Virginia defines “surface water” as “any water in the Commonwealth, except ground water, as defined in § 62.1-255.” VA. CODE ANN. § 62.1-242.

<sup>3</sup> The State Water Control Board designates a “ground water management area” when it finds that: (A) any one of the following conditions exist: 1) “[g]round water levels in the area are declining or are expected to decline excessively;” 2) “[t]he wells of two or more ground water users within the area are interfering or may reasonably be expected to interfere substantially with one another;” 3) “[t]he available ground water supply has been or may be overdrawn;” or 4) “[t]he ground water in the area has been or may become polluted;” and B) “further finds that the public welfare, safety and health require that regulatory efforts be initiated.” VA. CODE ANN. § 62.1-257. The EVGMA includes all of Virginia east of Interstate 95 except for the Eastern Shore, which is its own separate ground water management area. 9 VA. ADMIN. CODE § 25-600-20.

<sup>4</sup> VA. CODE ANN. § 62.1-44.36.

<sup>5</sup> VA. CODE ANN. § 62.1-10.

<sup>6</sup> See VA. CODE ANN. § 62.1-11, which provides: “A. Such waters are a natural resource which should be regulated by the Commonwealth. B. The regulation, control, development and use of waters for all purposes beneficial to the public are within the jurisdiction of the Commonwealth which in the exercise of its police powers may establish measures to effectuate the proper and comprehensive utilization and protection of such waters. . . . E. The right to the use of water or to the flow of water in or from any natural stream, lake or other watercourse in this Commonwealth is and shall be limited to such water as may reasonably be required for the beneficial use of the public to be served; such right shall not extend to the waste or unreasonable use or unreasonable method of use of such water. F. The quality of state waters is affected by the quantity of water and it is the intent of the Commonwealth, to the extent practicable, to maintain flow conditions to protect instream beneficial uses and public water supplies for human consumption.”

<sup>7</sup> VA. CODE ANN. § 62.1-12.

on a theme regarding surface water<sup>8</sup> and a different, simple definition of beneficial use for groundwater.<sup>9</sup> This creates challenges for DEQ staff in determining what amount of withdrawn water is protected for existing uses and how the existing use priority is intended to be applied.

### **Groundwater**

The Groundwater Act of 1973<sup>10</sup> (Act of 1973) required the State Water Control Board to issue certificates of groundwater rights based on the total yield of existing wells owned by each user.<sup>11</sup> By 1991, this process had resulted in 220 million gallons per day (mgd) of granted

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<sup>8</sup> See VA. CODE ANN. § 62.1-10 (Defining "[b]eneficial use" as "both instream and offstream uses. Instream beneficial uses include, but are not limited to, the protection of fish and wildlife habitat, maintenance of waste assimilation, recreation, navigation, and cultural and aesthetic values. Offstream beneficial uses include, but are not limited to, domestic (including public water supply), agricultural, electric power generation, commercial and industrial uses. *Public water supply uses for human consumption shall be considered the highest priority.*) (emphasis added). *But see* VA. CODE ANN. § 62.1-44.3, which includes a definition of beneficial use that does not explicitly establish any priority for "public water supply" (Defining "[b]eneficial use" as "both instream and offstream uses. Instream beneficial uses include, but are not limited to, the protection of fish and wildlife resources and habitat, maintenance of waste assimilation, recreation, navigation, and cultural and aesthetic values. The preservation of instream flows for purposes of the protection of navigation, maintenance of waste assimilation capacity, the protection of fish and wildlife resources and habitat, recreation, cultural and aesthetic values is an instream beneficial use of Virginia's waters. Offstream beneficial uses include, but are not limited to, domestic (including public water supply), agricultural uses, electric power generation, commercial, and industrial uses."). *See also* VA. CODE ANN. § 62.1-44.15:22 (the Virginia Water Resources and Wetlands Protection Program statute) ("Conditions contained in a Virginia Water Protection Permit may include but are not limited to the volume of water which may be withdrawn as a part of the permitted activity and conditions necessary to protect beneficial uses. *Domestic and other existing beneficial uses shall be considered the highest priority uses.*") (emphasis added). The Surface Water Management Act, approved contemporaneously by the General Assembly with the Virginia Water Resources and Wetlands Protection Program statute remains consistent with VA. CODE ANN. § 62.1-10 but adds the priority statement from VA. CODE ANN. § 62.1-44.15:22. *See* VA. CODE ANN. § 62.1-242 (Defining "[b]eneficial use" as "both instream and offstream uses. Instream beneficial uses include but are not limited to protection of fish and wildlife habitat, maintenance of waste assimilation, recreation, navigation, and cultural and aesthetic values. Offstream beneficial uses include but are not limited to domestic (including public water supply), agricultural, electric power generation, commercial, and industrial uses. *Domestic and other existing beneficial uses shall be considered the highest priority beneficial uses.*") (emphasis added). The regulatory framework in the Virginia Administrative Code maintains some of the same inconsistency in the statutes. The Virginia Water Protection Permit Regulations define "[b]eneficial use" as defined in VA. CODE ANN. § 62.1-44.3 but without the priority clause in § 62.1-44.15:22. 9 VA. ADMIN. CODE § 25-210-10. The Local and Regional Water Supply Planning regulation defines beneficial use the same as in VA. CODE ANN. § 62.1-10 but without either priority clause. 9 VA. ADMIN. CODE § 25-780-30.

<sup>9</sup> See VA. CODE ANN. § 62.1-255 (Defining "[b]eneficial use" as "includes, but is not limited to, domestic (including public water supply), agricultural, commercial, and industrial uses.").

<sup>10</sup> 1973 Va. Acts Ch. 443.

<sup>11</sup> Section 62.1-44.55(a) of the Act of 1973 provided: "There is hereby recognized and preserved the right of persons within critical groundwater areas to continue to apply ground water to beneficial uses to the extent of their beneficial uses thereof on the date such area is declared a critical groundwater area or on any date within two years prior to such date." *Id.* Additionally, § 62.1-44.55(b) provided: "Any person engaged in good faith at the time the groundwater area is declared critical, in the construction, alteration, rehabilitation or extension of a well for the application of groundwater to beneficial uses, upon completion thereof within a reasonable time fixed by the Board, shall be recognized by the Board as having a right to use groundwater to the extent of the intended beneficial uses thereof." *Id.* Section 62.1-44.61 provided: "(a) Within six months after a critical groundwater declaration by the Board, any person claiming any right to use groundwater under § 62.1-44.55, is entitled to file

groundwater withdrawal rights to 330 entities with an additional 100 mgd of estimated unpermitted withdrawals in the then Eastern Virginia Groundwater Management Area.<sup>12</sup> In

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with the Board a registration statement as evidence of a right to use groundwater as provided in § 62.1-44.55. . . . (f) The Board shall accept all registration statements referred to in this section completed and returned to it in proper form, endorse thereon the date of the return and record each statement in a book kept by the Board for that purpose. Upon such recording the Board shall issue to the registrant a certificate of groundwater right as evidence that the registration is completed." *Id.* Additionally, § 62.1-44.49 provided that: "No certificate of groundwater right, permit or registration statement authorized by this Act shall be required for the use or supplying of groundwater for agricultural and livestock watering purposes, for human consumption or domestic purposes, or for any single industrial or commercial purpose in an amount not exceeding fifty thousand gallons per day. The use of groundwater for any such purpose to the extent that it is applied to a beneficial use constitutes a right to use groundwater equal to that established by a certificate of groundwater right issued under the provisions of this Act. Further, no certificate of groundwater right, permit or registration statement shall be required for the beneficial use of groundwater in any groundwater area which has not been declared a critical groundwater area." *Id.*

<sup>12</sup> In addition to the process described *supra* note 11 for granting groundwater rights to existing users, section 62.1-44.62 of the Act of 1973 required persons seeking "to acquire or enlarge a use of groundwater within a critical groundwater area" to obtain a permit before using the groundwater. *Id.* Section 62.1-44.62 further provided: "An application may be approved upon terms, conditions and limitations necessary for the protection of the public welfare, safety and health. In any extent, the application shall not be approved for more groundwater than is applied for or that can be applied to a beneficial use. No application shall be approved when the same will deprive those having prior rights of beneficial use of the amount of groundwater to which they are lawfully entitled." *Id.* The first Groundwater Management Area was designated in February 1975 as the Southeastern Virginia Groundwater Management Area, which included the following localities: Surry, Sussex, Isle of Wight, Prince George, and Southampton Counties, and the Cities of Virginia Beach, Suffolk, Chesapeake, Portsmouth, Norfolk, Hopewell, and Franklin. In December 1989, this management area was expanded and became the Eastern Virginia Groundwater Management Area, which added the counties of Charles City, James City, King William, New Kent, York and parts of Chesterfield, Hanover, and Henrico, and the Cities of Hampton, Newport News, Poquoson, and Williamsburg. Beginning in 1970, there were multiple studies estimating groundwater withdrawals and modeling their impacts. *See e.g.*, Pinder, G.F., USGS 1971; Cosner,, O.J., USGS, 1976; State Water Control Board, Planning Bulletin 261-A, 1974.; State Water Control Board, Planning Bulletin 313, 1978.; Geraghty and Miller, State Water Commission, 1979.; State Water Control Board, Planning Bulletin 554, 1983.; Hamilton, P.A. and Larson, J.D. USGS 1987; Richardson, D.L., Lacznia, R.J., and Hamilton, P.A., USGS 1988. Beginning in early 1970s, estimated withdrawals from facilities using more than 50,000 gallons per day (gpd) was 100 mgd from 20 industrial users and 15 municipal users. Geraghty and Miller, 1979, (under contract to the State Water Commission) told the State Water Commission and the State Water Control Board in their 1979 report that the withdrawal from the principal aquifer could tolerate expansion to 150-200 mgd without adverse impacts. By the mid-1980s implementation of the Act of 1973 had resulted in the issuance of groundwater withdrawal rights of approximately 167 million gallons per day in the Southeastern Virginia Ground Water Management Area. The State Water Control Board participated in several cooperative groundwater flow modeling projects with the United States Geological Survey to attempt to quantify the potential impacts that would occur if the level of groundwater withdrawal rights established by the Act of 1973 were exercised. At this level of withdrawal several significant negative impacts on the groundwater resource were predicted. These impacts included lowering groundwater levels in some portion of confined aquifers below aquifer tops (commonly referred to as mining ground water), lowering of water levels in aquifers that support residential, municipal and light commercial use on the York James Peninsula by up to 125 feet, and reversal of flow directions that would result in saline surface waters recharging ground water, increasing the potential for salt water intrusion into potable aquifers. In 1989, growth in industrial and municipal groundwater withdrawals led the State Water Control Board to expand the Southeastern Virginia Groundwater Management Area and to change its name to the Eastern Virginia groundwater Management Area. In 1991, the best estimate of water rights and other existing use was 320 mgd, far in excess of the previously modeled 167 mgd that showed widespread negative impacts.

1987-88 the State Water Control Board modeled this expected groundwater withdrawal (167 mgd) using the first regional coastal plain model developed by the United States Geological Survey (USGS). The results of this analysis showed that major portions of the coastal plain aquifer system would be dewatered and the instream flow of surface waters reduced if existing granted groundwater withdrawal rights were exercised. Based on the fact that the implementation of the Act of 1973 had resulted in the issuance of groundwater withdrawal rights that the aquifer system could not support and the level of withdrawal authorized by this Act was not being utilized, the 1992 session of the Virginia General Assembly repealed the Act of 1973 and enacted the Ground Water Management Act of 1992 (Act of 1992).

Two major features of the Act of 1992 are the establishment of ground water withdrawal permits for existing users based on their annual use of groundwater and the inclusion of agricultural users, which were previously exempted from the Act of 1973. The rationale for basing permits on permittees annual use of groundwater was to issue permits that more closely aligned to a permittee's actual need. While a withdrawer's initial permit is based on daily historic use, VA. CODE ANN. § 62.1-260 C and D both reference that renewals must comply with the criteria in VA. CODE ANN. § 62.1-263, including a requirement that "[i]n no case shall a permit be issued for more ground water than can be applied to the proposed beneficial use" (i.e. based on demonstration of "need" of the beneficial use). The Groundwater Withdrawal Regulations clarify that these two classes of users must reapply consistent with 9 VA. ADMIN. CODE § 25-610-110 F 1 as if they were "new" users (i.e. consistent with 9 VA. ADMIN. CODE § 25-610-110 D) and therefore 9 VA. ADMIN. CODE § 25-610-94 and 9 VA. ADMIN. CODE § 25-610-96. All new applications are evaluated at renewal for need and alternatives (VA. ADMIN. CODE § 25-610-102) and VA. ADMIN. CODE § 25-610-110D.

The Act of 1992 provides that it is unlawful in a ground water management area<sup>13</sup> "to withdraw, attempt to withdraw, or allow the withdrawal of any ground water, other than in accordance with a ground water withdrawal permit," subject to certain exemptions included in the Act of 1992.<sup>14</sup> The Act of 1992 describes several criteria that the Board may consider in issuing ground water withdrawal permits, including:

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<sup>13</sup> There are two Groundwater Management Areas in Virginia, the Eastern Virginia Groundwater Management Area and the Eastern Shore Groundwater Management Area. 9 VA. ADMIN. CODE § 25-600-20. Collectively, these two ground water management areas include "all aquifers located between the land surface and basement rock" in Virginia east of Interstate 95. *Id.*

<sup>14</sup> Section 62.1-259 of the Act of 1992 provides: "No ground water withdrawal permit shall be required for (i) withdrawals of less than 300,000 gallons a month; (ii) temporary construction dewatering; (iii) temporary withdrawals associated with a state-approved ground water remediation; (iv) the withdrawal of ground water for use by a ground water heat pump where the discharge is reinjected into the aquifer from which it is withdrawn; (v) the withdrawal from a pond recharged by ground water without mechanical assistance; (vi) the withdrawal of water for geophysical investigations, including pump tests; (vii) the withdrawal of ground water coincident with exploration for and extraction of coal or activities associated with coal mining regulated by the Department of Mines, Minerals and Energy; (viii) the withdrawal of ground water coincident with the exploration for or production of oil, gas or other minerals other than coal, unless such withdrawal adversely impacts aquifer quantity or quality or other ground water users within a ground water management area; (ix) the withdrawal of ground

[T]he nature of the proposed beneficial use, the proposed use of alternate or innovative approaches such as aquifer storage and recovery systems and surface and ground water conjunctive uses, climatic cycles, unique requirements for nuclear power stations, economic cycles, population projections, the status of land use and other necessary approvals, and the adoption and implementation of the applicant's water conservation and management plan.<sup>15</sup>

Two provisions of the Act of 1992 that DEQ relies on to ensure that existing water rights are protected include the Act's requirements that the permitted groundwater withdrawal be the minimum withdrawal necessary for the proposed beneficial use<sup>16</sup> and that the permit include a water conservation and management plan as a method of reducing waste.<sup>17</sup>

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water in any area not declared a ground water management area; or (x) the withdrawal of ground water pursuant to a special exception issued by the Board." VA. CODE ANN. § 62.1-259. Additionally, the Act of 1992 made special provisions for existing withdrawals during the transition from the Act of 1973 to the Act of 1992 and during transitions to any new groundwater management areas that might be declared by the Board. See VA. CODE ANN. § 62.1-260 (C) ("Persons holding a permit to withdraw ground water issued on or after July 1, 1991, and prior to July 1, 1992, in the Eastern Virginia or Eastern Shore Groundwater Management Areas shall not be required to apply for a ground water withdrawal permit until the expiration of the term of the permit to withdraw ground water as provided in subsection C of § 62.1-266, and may withdraw ground water pursuant to the terms and conditions of the permit to withdraw ground water. Such persons may apply for a ground water withdrawal permit allowing greater withdrawals of ground water than are allowed under an existing permit, and the Board in its discretion may issue a permit for such greater withdrawals, upon consideration of the factors set forth in § 62.1-263."), VA. CODE ANN. § 62.1-260(D) ("Persons holding a certificate of ground water right issued prior to July 1, 1992, or a permit to withdraw ground water issued prior to July 1, 1991, in the Eastern Virginia or Eastern Shore Groundwater Management Areas, who have not withdrawn ground water prior to July 1, 1992, may initiate a withdrawal on or after July 1, 1992, pursuant to the terms and conditions of the certificate or permit. The persons shall file an application for a ground water withdrawal permit on or before December 31, 1995, and may continue withdrawing ground water under the terms and conditions of their certificate or permit until the required ground water withdrawal permit application is acted on by the Board, provided that the ground water withdrawal permit application is filed on or before December 31, 1995. The Board shall issue a ground water withdrawal permit for the total amount of ground water withdrawn and applied to a beneficial use during any consecutive twelve-month period between July 1, 1992, and June 30, 1995, together with (i) such savings as can be demonstrated to have been achieved through water conservation and (ii) such amount as the Board in its discretion deems appropriate upon consideration of the factors set forth in § 62.1-263. This subsection shall not apply to a political subdivision, or an authority serving a political subdivision, holding a permit or certificate for a public water supply well for supplemental water during drought conditions, which shall apply for a ground water withdrawal permit as provided in § 62.1-265."), VA. CODE ANN. § 62.1-260(F) ("Persons withdrawing ground water for agricultural or livestock watering purposes, or pursuant to certificates of ground water right or permits to withdraw ground water issued prior to July 1, 1992, in the Eastern Virginia or Eastern Shore Groundwater Management Areas, may continue such withdrawal until the required permit application is acted on by the Board, provided that the permit application is filed by the appropriate deadline."), and VA. CODE ANN. § 62.1-261(C) ("Persons withdrawing ground water in any area declared a ground water management area on or after July 1, 1992, may continue such withdrawal until the required permit application is acted on by the Board, provided that the permit application is filed within the six-month period following the declaration.").

<sup>15</sup> VA. CODE ANN. § 62.1-263.

<sup>16</sup> VA. CODE ANN. § 62.1-263 provides: "In evaluating permit applications, the Board shall ensure that the maximum possible safe supply of ground water will be preserved and protected for all other beneficial uses." Similarly, 9 VA.



DEQ determines the minimum amount of groundwater necessary for the beneficial use by evaluating the applicant's water demand justification and alternatives analysis. In general, the demand justification requires the applicant to demonstrate that the requested groundwater withdrawal is supported by the facility's current or projected demand. DEQ looks at three primary components of a demand justification:<sup>18</sup>

- First, DEQ determines if the withdrawal meets a water supply need. DEQ evaluates the proposed uses the applicant projects will be served during the permit term. This is primarily a fatal flaw review to assure that there is some reasonable expectation based on local comprehensive, water supply, business or economic development plans that the proposed use will need to be served.
- Second, DEQ evaluates existing and projected demand data. DEQ evaluates the historic use amount and pattern of use for the facility based on reported data and compares that to the projected use. This review helps calibrate the probable water use growth rate. DEQ also looks at how these proposed needs compare with local, Virginia Employment Commission, and Weldon Cooper Center population and employment projections for the community. For industrial or commercial facilities, DEQ reviews industry standards for water use per unit of production and per square foot/per employee for commercial facilities. DEQ evaluates agricultural use based on accepted rates of water per animal unit or crop type.
- Third, DEQ evaluates equipment and processes to identify water savings. DEQ looks at anticipated efficiency and water losses associated with treatment, delivery, and production processes. DEQ looks for inconsistencies between water needs proposed for these processes and available literature and standards for those processes.

DEQ also evaluates the water source alternatives that may be available to meet the proposed water need. The objective is to determine whether alternatives to groundwater are available to meet the water need. The alternatives analysis requires the applicant to demonstrate that all practicable alternatives to the proposed source(s) were considered in the project planning

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ADMIN. CODE § 25-610-40.B provides: "No permit or special exception shall be issued for more groundwater than can be applied to the proposed beneficial use."

<sup>17</sup> VA. CODE ANN. § 62.1-262 provides: "Any application for a ground water withdrawal permit, except as provided in §§ 62.1-260 and 62.1-261, shall include a water conservation and management plan approved by the Board. A water conservation and management plan shall include: (i) use of water-saving plumbing and processes including, where appropriate, use of water-saving fixtures in new and renovated plumbing as provided under the Uniform Statewide Building Code; (ii) a water-loss reduction program; (iii) a water-use education program; and (iv) mandatory reductions during water-shortage emergencies including, where appropriate, ordinances prohibiting waste of water generally and providing for mandatory water-use restrictions, with penalties, during water-shortage emergencies. The Board shall approve all water conservation plans in compliance with subdivisions (i) through (iv) of this section."

<sup>18</sup> 9 VA. ADMIN. CODE § 25-610-102.

process.<sup>19</sup> Review of the alternatives analysis varies depending on the project, but a few key considerations are consistent for all projects, including:

- Evaluation of alternative water sources. The applicant is required to identify the source of water for meeting its needs. DEQ evaluates whether surface water sources are available by self-supply or contract purchase to meet the water need. Another key consideration is that the applicant must demonstrate that all practicable alternative sources, including design alternatives, have been evaluated and those that avoid or result in less adverse impact to the resource shall be considered to the maximum extent practicable. DEQ conducts a thorough analysis and typically includes specific discussions of the steps taken by the applicant to assess an alternative as well as the technical, financial, political, etc. challenges that limit the practicality of the alternative. It is not sufficient for an applicant to state that an alternative is impractical or that none exists without documenting this with supporting information. In many cases, applicants state that alternatives are impractical because they are more expensive than the proposed source. While this may be true, this justification is not necessarily sufficient on its own, particularly if there are resource concerns in the area. In such cases, the DEQ Permit Writer may determine it necessary to request additional information on relative costs of the proposals, or in rare cases, an “Ability to Pay Analysis” (ATP) may be requested. ATP analyses are conducted by the DEQ Office of Financial Assurance.
- Evaluation of alternative aquifers and well designs to minimize impacts to groundwater. One overarching idea is that the project should use the lowest quality water available that will satisfy the proposed beneficial use.<sup>20</sup> For instance, for a withdrawal intended for industrial use and therefore not subject to drinking water standards, an applicant should first evaluate water from surficial aquifer systems,<sup>21</sup> or other lower quality sources before proposing a withdrawal from a confined aquifer system. Similarly, if a project proposes to use water for irrigation, and reuse from a nearby discharge is possible, then use of groundwater or freshwater from a stream would require a thorough analysis of alternatives to justify the later approach.
- Evaluation of applicable alternatives contained in the local or regional water supply plan.<sup>22</sup> DEQ staff evaluates existing public or private water systems within the local or regional water supply plan as alternative supply, and whether the existing water system has excess capacity that may be used to serve the applicant’s needs. DEQ pays particular

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<sup>19</sup> 9 VA. ADMIN. CODE § 25-610-102 C.

<sup>20</sup> 9 VA. ADMIN. CODE § 25-610-102.C.2.

<sup>21</sup> Effective July 1, 2018 the Act of 1992 defines the “surficial aquifer” as “the upper surface of a zone of saturation, where the body of ground water is not confined by an overlying impermeable zone.” VA. CODE ANN. § 62.1-255. Unlike a confined aquifer, the surficial aquifer recharges consistently and regularly with rainfall.

<sup>22</sup> 9 VA. ADMIN. CODE § 25-610-102.

attention to whether the proposed project is in the water supply plan and what sources of water supply are identified for it.

The Groundwater Withdrawal Regulations require a Water Conservation and Management Plan<sup>23</sup> (WCMP) for the application for a groundwater withdrawal permit to be complete. As defined in the regulations, “[a WCMP] is an operational plan to be referenced and implemented by the permittee.”<sup>24</sup> The WCMP must be consistent with local and regional water supply plans.<sup>25</sup> The regulations organize the requirements for an acceptable WCMP into three general use categories and seven general criteria, as follows:

Types of Water Use:

- Municipal and nonmunicipal public water supplies (PWS)<sup>26</sup>
- Non PWS applicants - commercial and industrial users<sup>27</sup>
- Non PWS applicants - agricultural users<sup>28</sup>

Seven General Criteria:

- Water Savings Equipment and Processes
- Water Loss Reduction Program
- Water Use Education Programs
- Evaluation of Potential Water Reuse Options
- Voluntary Water Use Reductions during Drought or Water Use Emergencies
- Required Water Use Restrictions during Drought or Water Use Emergencies
- Penalties for Failure to Comply with Mandatory Water Use Restrictions

Not all criteria apply to every type of use or are framed the same way for a particular user type so DEQ evaluates these plans on a case-by-case basis consistent with the type of use.<sup>29</sup>

Surface Water

With respect to surface water, the Code of Virginia provides:

Notwithstanding any other provision, no Virginia Water Protection Permit shall be required for any water withdrawal in existence on July 1, 1989; however, a permit shall be required if a new § 401 certification is required to increase a withdrawal. No Virginia Water Protection Permit shall be required for any water withdrawal not in existence on

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<sup>23</sup> 9 VA. ADMIN. CODE § 25-610-100 A.

<sup>24</sup> 9 VA. ADMIN. CODE § 25-610-100 B.

<sup>25</sup> *Id.*

<sup>26</sup> 9V VA. ADMIN. CODE § 25-610-100 B 1.

<sup>27</sup> 9 VA. ADMIN. CODE § 25-610-100 B 2.

<sup>28</sup> 9 VA. ADMIN. CODE § 25-610-100 B 3.

<sup>29</sup> See 9 VA. ADMIN. CODE § 25-610-100 B.

July 1, 1989, if the person proposing to make the withdrawal received a § 401 certification before January 1, 1989, with respect to installation of any necessary withdrawal structures to make such withdrawal; however, a permit shall be required before any such withdrawal is increased beyond the amount authorized by the certification.<sup>30</sup>

Otherwise, subject to certain exclusions, a Virginia Water Protection (VWP) permit is required for surface water withdrawals in Virginia for agriculture that exceed 1 million gallons in a single month from nontidal waters or 60 million gallons in a single month from tidal waters and non-agricultural surface water withdrawals that exceed 10,000 gallons per day from nontidal waters and 2 million gallons per day from tidal waters.<sup>31</sup> Largely due to the permit exclusion for water withdrawals in existence on July 1, 1989, 77 percent of reported<sup>32</sup> surface water withdrawn in 2016 was from unpermitted withdrawals.<sup>33</sup> There are 857 surface water withdrawals that have registered with DEQ. Likely, many other withdrawals are not registered and are unreported.

The amount of water these surface water withdrawers are entitled to withdraw is somewhat uncertain. Existing surface water rights in Virginia are usually unquantified. There is limited understanding of who has what water rights beyond the common law doctrine of riparian rights in surface waters.<sup>34</sup> The Commonwealth has used the VWP permit since 1989 to manage surface

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<sup>30</sup> VA. CODE ANN. § 62.1-44.15:22.

<sup>31</sup> 9 VA. ADMIN. CODE § 25-210-310. The regulation also provides that no VWP permit is required for surface water withdrawals from: “tidal waters for nonconsumptive uses”; “nontidal or tidal waters, regardless of the volume withdrawn” for firefighting, hydrostatic pressure testing, or “[n]ormal single-family home residential gardening and lawn and landscape maintenance”; “[s]urface water withdrawals placed into portable containers by persons owning property on or holding easements to riparian lands”; “[s]urface water withdrawals that return withdrawn water to the stream of origin; do not divert more than half of the instantaneous flow of the stream; have the withdrawal point and the return point not separated by more than 1,000 feet of stream channel; and have both banks of the affected stream segment located within one property boundary”; “[s]urface water withdrawals from quarry pits that do not alter the physical, biological, or chemical properties of surface waters connected to the quarry pit”; and “[s]urface water withdrawals from a privately owned agriculture pond, emergency water storage facility, or other water retention facility, provided that such pond or facility is not placed in the bed of a perennial or intermittent stream or wetland.” *Id.*

<sup>32</sup> The Water Withdrawal Reporting regulation requires reporting, subject to certain exemptions, by users withdrawing groundwater or surface water in Virginia whose average daily withdrawal during any single month exceeds 10,000 gallons per day and users withdrawing groundwater or surface water for crop irrigation whose withdrawal exceed 1 million gallons in any single month. 9 VA. ADMIN. CODE § 25-200-30.

<sup>33</sup> For 2016, Virginia surface water withdrawers reported 248.9 MGD of permitted withdrawals and 854.7 MGD of unpermitted withdrawals. VA DEP’T OF ENV’T L QUALITY, *Status of Virginia’s Water Resources: A Report on Virginia’s Water Resources Management Activities* (October 2017) at 23, <http://www.deq.virginia.gov/Portals/0/DEQ/LawsAndRegulations/GeneralAssemblyReports/VirginiaWaterResources2017Report.pdf?ver=2017-10-05-104248-283>.

<sup>34</sup> “The well settled general rule on this point is that each riparian proprietor has ex jure naturae an equal right to the reasonable use of the water running in a natural course through or by his land for every useful purpose to which it can be applied, whether domestic, agricultural or manufacturing, provided it continues to run, after such use, as it is wont to do, without material diminution or alteration and without pollution; but he cannot diminish its quantity materially or exhaust it (except perhaps for domestic purposes and in the watering of cattle) to the prejudice of the lower proprietors, unless he has acquired a right to do so by grant, prescription or license.”

water withdrawals and the preservation of instream flows. At the time the legislation was enacted no numeric baseline was established for each of these excluded surface water withdrawals. Therefore, determining when an increase has occurred in a withdrawal that would require a permit has been the source of periodic conflict between DEQ and these excluded surface water users.

For surface water withdrawals that have a VWP permit there are clear expectations of how much, when, and where the withdrawer will use the water. DEQ understands how the water use of the permitted withdrawals may affect other beneficial uses but that is not the case with the excluded users. This situation has led to there being no official, complete, and comprehensive ledger of surface water withdrawals. In 2007, DEQ added a provision to the VWP regulations to assist in determining the as-built capacity of these withdrawals largely for beneficial use cumulative impact modeling purposes;<sup>35</sup> however, there are multiple examples in the submissions that DEQ has received that appear problematic. In some cases, the value provided by the excluded user exceeds the flow of the water body used as the source for the withdrawal and in very few instances was any documentation provided to substantiate the claimed amount. DEQ has not had sufficient resources to conduct a full accounting of the information submitted, follow-up with users, and model the probable impact to beneficial uses. The deadline for providing the information was 2008 and the provision in the regulation was removed in the 2014 amendments to the regulation.

In practice, when a VWP permit is issued, DEQ determines the minimum amount of surface water necessary for the beneficial use by evaluating the applicant's water demand justification and alternatives analysis.<sup>36</sup> In general, the demand justification requires the applicant to demonstrate that the requested surface water withdrawal is supported by the facility's current or projected demand.<sup>37</sup> Demand projects may use different data sets to justify the proposed

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Purcellville v. Potts, 179 Va. 514, 520-21 (1942) (quoting Minor on Real Property, 2d Ed., sec. 55, p. 76). "While a riparian owner is entitled to a reasonable use of the water, he has no right to divert it for use beyond his riparian land, and any such diversion and use is an infringement on the rights of the lower riparian proprietors who are thereby deprived of the flow. Such a diversion is an extraordinary and not a reasonable use." *Id.* at 521 (citations omitted).

<sup>35</sup> 9 VA. ADMIN. CODE § 25-210-60.B.1.b ("Information to be furnished to the DEQ. Each owner or operator of a permanent withdrawal system engaging in a withdrawal that is subject to this exclusion shall provide the DEQ the estimated maximum capacity of the intake structure, the location of the existing intake structure and any other information that may be required by the board. Each owner or operator of a temporary withdrawal system engaging in a withdrawal that is subject to this exclusion, where the purpose of the withdrawal is for agriculture, shall provide to the DEQ the maximum annual surface water withdrawal over the last 10 years. The information shall be provided within one year of the date that notice of such request is received from the DEQ and shall be updated when the maximum capacity of the existing intake structure changes. The information provided to the DEQ shall not constitute a limit on the exempted withdrawal. Such information shall be utilized by the DEQ and board to protect existing beneficial uses and shall be considered when evaluating applications for new withdrawal permits.").

<sup>36</sup> 9 VA. ADMIN. CODE § 25-210-360.

<sup>37</sup> 9 VA. ADMIN. CODE § 25-210-360.1, 9 VA. ADMIN. CODE § 25-210-360.2.

water use based on the type of use (*e.g.*, agricultural, industrial or public water supply). DEQ looks at three primary components of a demand justification:

- First, DEQ determines if the withdrawal meets a water supply need. DEQ evaluates the proposed uses the applicant projects will be served during the permit term. This is primarily a fatal flaw review to assure that there is some reasonable expectation based on local comprehensive, water supply, business or economic development plans that the proposed use will need to serve.
- Second, DEQ evaluates existing and projected demand data. DEQ evaluates the historic use amount and pattern of use for the facility based on reported data and compares that to the projected use. This review helps calibrate the probable water use growth rate. DEQ also looks at how these proposed needs compare with local, Virginia Employment Commission, and Weldon Cooper Center population and employment projections for the community. For industrial or commercial facilities, DEQ reviews industry standards for water use per unit of production and per square foot/per employee for commercial facilities. DEQ evaluates agricultural use based on accepted rates of water per animal unit or crop type.

DEQ also evaluates the water source alternatives that may be available to meet the proposed water need. The objective is to determine what alternatives are available to meet the water need that are the least environmentally damaging practicable alternatives. The alternatives analysis requires the applicant to demonstrate that all practicable alternatives to the proposed source(s) were considered in the project planning process. Review of the alternatives analysis varies depending on the project,<sup>38</sup> but a few key considerations are consistent for all projects, including:

- Evaluation of alternative water sources. The applicant is required to identify the source of water for meeting its needs. DEQ evaluates each alternative for establishing the least environmentally damaging practicable alternative. This may include whether surface water sources are available in different volumes or locations that avoid or minimize beneficial use impacts or may be available from contract purchase to meet the water need. Another key consideration is that the applicant must demonstrate that all practicable alternative sources, including design alternatives, have been evaluated and those that avoid or result in less adverse impact to the resource shall be considered to the maximum extent practicable.

DEQ conducts a thorough analysis and typically includes specific discussions of the steps taken by the applicant to assess an alternative as well as the technical, financial, political, etc. challenges that limit the practicality of the alternative. It is not sufficient for an applicant to state that an alternative is impractical or that none exists without

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<sup>38</sup> 9 VA. ADMIN. CODE § 25-210-360.3, 9 VA. ADMIN. CODE § 25-210-360.4.

documenting this with supporting information. In many cases, applicants state that alternatives are impractical because they are more expensive than the proposed source. While this may be true, this justification is not necessarily sufficient on its own, particularly if there are resource concerns in the area.

Evaluation of applicable alternatives contained in the local or regional water supply plan.<sup>39</sup> DEQ staff evaluates existing public or private water systems within the local or regional water supply plan as alternative supply, and whether the existing water system has excess capacity that may be used to serve the applicant's needs. DEQ pays particular attention to whether the proposed project is in the water supply plan and what sources of water supply are identified for it and the justification when not included.

- The VWP permit regulations do not require a WCMP for the application for a surface water withdrawal permit to be complete. The applicant is required to submit drought response information and demonstrate to the satisfaction of the Board that demand projections of future water need were done with and without long-term water conservation.<sup>40</sup>

**Preservation and Protection of Adequate and Safe Supplies for Human Consumption and Prioritization for Human Consumption when Available Water Supplies are Insufficient for All Who Desire to Use Them**

“(2) Adequate and safe supplies should be preserved and protected for human consumption, while conserving maximum supplies for other beneficial uses. When proposed uses of water are in mutually exclusive conflict or when available supplies of water are insufficient for all who desire to use them, preference shall be given to human consumption purposes over all other uses. . . .”<sup>41</sup>

**Groundwater**

Virginia's groundwater permitting program relies on technical analysis and Mitigation Plans to ensure that aquifers and existing users are preserved and protected. A technical analysis is required as part of the review of permit applications for the withdrawal of groundwater. For all groundwater withdrawal permit applications, DEQ is required to perform a technical evaluation to estimate the spatial extent of the impacts of a proposed groundwater withdrawal.<sup>42</sup> The technical analysis involves hydrologic modeling to evaluate the potential impact of the proposed withdrawal, along with the cumulative impact of the proposal when combined with all existing lawful withdrawals. Existing lawful withdrawals include both permitted withdrawals and non-permitted withdrawals that are legally excluded from permit requirements.<sup>43</sup> All technical

<sup>39</sup> VA. CODE ANN. § 62.1-44.15:20.C, 9 VA. ADMIN. CODE § 25-210-360.2.a.

<sup>40</sup> 9 VA. ADMIN. CODE § 25-210-360.1, 9 VA. ADMIN. CODE § 25-210-360.2.b.

<sup>41</sup> VA. CODE ANN. § 62.1-44.36.

<sup>42</sup> 9 VA. ADMIN. CODE § 25-610-110, 9 VA. ADMIN. CODE § 25-610-110(D)(2).

<sup>43</sup> See *supra* note 16 for a discussion of groundwater withdrawals excluded from permit requirements.

evaluations for groundwater withdrawal permit applications are conducted by a DEQ Groundwater Modeling Contractor using the applicable regional groundwater flow model. This technical evaluation includes a description of the input data and the modeling approach used for the evaluation. Also included are a summary of the results, a comparison between the aquifer tops determined by DEQ staff with those incorporated into the regional model used, and a comparison between observed and simulated groundwater levels near the facility. As part of the summary of the results, the technical evaluation contains: 1) lists of the existing permitted wells located within the Area of Impact<sup>44</sup> simulated for each aquifer, and 2) maps of the Area of Impact simulated for each aquifer.

The Groundwater Withdrawal Regulations require a Mitigation Plan<sup>45</sup> for the application to be complete. The purpose of a Mitigation Plan is to address and moderate potential adverse impacts to existing groundwater users from the proposed withdrawal.<sup>46</sup> The Mitigation Plan is required when the proposed withdrawal's modeled Area of Impact extends beyond the property boundaries of the permitted facility and has the potential to impact other nearby existing users. The Area of Impact is determined during the technical evaluation, based upon available data (e.g., proposed withdrawal amount, well locations, geophysical logs, aquifer tests, nearby observation wells), a review of The Virginia Coastal Plain Hydrogeologic Framework,<sup>47</sup> and an analysis using the appropriate regional groundwater model.

The applicant can choose to establish an individual Mitigation Plan or participate in a regional mitigation program that collectively develops and implements a cooperative mitigation plan that covers the combined Area of Impact of all collective mitigation plan members.<sup>48</sup> DEQ has a boilerplate Mitigation Plan that is often used by applicants; however, the applicant is free to develop its own Mitigation Plan, provided it meets certain requirements<sup>49</sup> and is accepted by DEQ. This plan assures that if existing users are impacted there is a remedy for them to obtain a new water supply at the expense of those negatively affecting their well.

The reservation of groundwater supply for a specific use, such as human consumption, while also preserving the maximum supply for all other uses would require the creation of a different allocation framework established prospectively from a date certain. After decades implementing a first-come first-served allocation system<sup>50</sup> based on the premise that all landowners have

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<sup>44</sup> The "area of impact" is defined as "the areal extent of each aquifer where more than one foot of drawdown is predicted to occur due to a proposed withdrawal." 9 ADMIN. CODE § 25-610-10.

<sup>45</sup> 9 ADMIN. CODE § 25-610-94.

<sup>46</sup> The Groundwater Withdrawal Regulations define "mitigate" as "to take actions necessary to assure that all existing groundwater users at the time of issuance of a permit or special exception who experience adverse impacts continue to have access to the amount and quality of groundwater needed for existing uses." 9 ADMIN. CODE § 25-610-10.

<sup>47</sup> USGS Professional Paper 1731.

<sup>48</sup> 9 ADMIN. CODE § 25-610-94.

<sup>49</sup> 9 ADMIN. CODE § 25-610- 110 D 3 g.

<sup>50</sup> The Act of 1973 adopted a first-come, first-served approach to authorizing groundwater withdrawals, providing: "There is hereby recognized and preserved the right of persons within critical groundwater areas to continue to



equal ability, subject to availability, to access and use groundwater, such a change would present significant challenges.

First, determining how much groundwater is available is a site-specific determination based on the physical properties of the source of groundwater at a given location and the existing beneficial uses that need to be maintained. Therefore, the question is not just how much groundwater should be reserved for a specific use, such as human consumption, but how much groundwater should be reserved for that use at any given location within the EVGMA. Additionally, because of the hydrogeology of the EVGMA, a reduction in groundwater withdrawals in one location does not necessarily result in the availability of that amount of groundwater in all other areas of the EVGMA (e.g., a one million gallon per day reduction in groundwater withdrawn near the coast does not mean that an additional one million gallons per day is available to be withdrawn near the fall line).

Second, there are extremely few examples where permitted groundwater withdrawals are in mutually exclusive conflict.<sup>51</sup> At the time the General Assembly approved the Act of 1992, the scientific understanding of how Areas of Impact developed within the aquifer presumed there were many cases of mutually exclusive impacts. However, that is not the case. As shown in Appendix 1, many withdrawals in the EVGMA create Areas of Impact that overlap. If the situation arose where permitted groundwater withdrawals needed to be reduced to increase water available for another use, such as human consumption, the overlapping Areas of Impact raise difficult questions about how to make those reductions (e.g., should groundwater

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apply ground water to beneficial uses to the extent of their beneficial uses thereof on the date such area is declared a critical groundwater area or on any date within two years prior to such date.” 1973 Va. Acts Ch. 443. The Act of 1973 further provided: “No application shall be approved when the same will deprive those having prior rights of beneficial use of the amount of groundwater to which they are lawfully entitled.” *Id.* While the Groundwater Act of 1973 has been replaced by the 1992 Act, several provisions in the 1992 Act provided for the protection of existing withdrawals during the transition to the new regulatory regime and provide for the protection of existing users during transitions to any new groundwater management areas declared by the Board. See § 62.1-260 (A) (“Persons holding a certificate of ground water right or a permit to withdraw ground water issued prior to July 1, 1991, in the Eastern Virginia or Eastern Shore Groundwater Management Areas and currently withdrawing ground water pursuant to said certificate or permit shall file an application for a ground water withdrawal permit on or before December 31, 1992, in order to obtain a permit for withdrawals. The Board shall issue ground water withdrawal permits for the total amount of ground water withdrawn during any consecutive twelve-month period between July 1, 1987, and June 30, 1992, together with such savings as can be demonstrated to have been achieved through water conservation; however, with respect to a political subdivision, an authority serving a political subdivision or a community waterworks regulated by the Department of Health, the permit shall be issued for the total amount of ground water withdrawn during any consecutive twelve-month period between July 1, 1980, and June 30, 1992, together with such savings as can be demonstrated to have been achieved through water conservation.”) and § 62.1-260 (B) (“Persons holding a certificate of ground water right issued on or after July 1, 1991, and prior to July 1, 1992, in the Eastern Virginia or Eastern Shore Groundwater Management Areas and currently withdrawing ground water pursuant to the certificate shall file an application for a ground water withdrawal permit on or before December 31, 1993, in order to obtain a permit for withdrawals. The Board shall issue ground water withdrawal permits for the total amount of ground water withdrawn during any consecutive twelve-month period between July 1, 1988, and June 30, 1993, together with such savings as can be demonstrated to have been achieved through water conservation.”).

<sup>51</sup> See Appendix 1.

withdrawals be reduced proportionally for all permittees, should groundwater reductions be made using a last-in, first-out approach, should modeling be conducted to find a mix of reductions that minimizes the impact of the reductions to some or all permittees). The most practical way of achieving such a reservation of supply for a particular use, such as human consumption, would be to do so by aquifer. However, ideally that reservation would be made at the initiation of the regulatory program; to do so today would result in significant socioeconomic impacts due to the diversity of existing users pumping water from each aquifer that would face reductions in the amount of groundwater they could withdraw.

Another challenge is the narrow definition of “human consumption” contained in state law. While there is no definition of “human consumption” in Title 62.1 of the Code of Virginia, the term is defined in 32.1 to mean “drinking, food preparation, dishwashing, bathing, showering, hand washing, teeth brushing, and maintaining oral hygiene.”<sup>52</sup> Similarly, DEQ’s Groundwater Withdrawal Regulations defines human consumption narrowly as “the use of water to support human survival and health, including drinking, bathing, showering, cooking, dishwashing, and maintaining hygiene.”<sup>53</sup> DEQ is not aware of a single permitted groundwater withdrawal in the EVGMA that is solely for human consumption. The closest example is a private water supply serving a single subdivision, but even in these cases, there is usually residential non-human consumption use (*e.g.*, residential lawn irrigation, car washing, filling swimming pools).

Municipal withdrawals have many different types of end uses and do not meet the strict definition of human consumption.<sup>54</sup> In 1976 when the Southeastern Virginia Groundwater Management Area was designated, 80 percent of the actual withdrawal from the principal aquifer (the Potomac Aquifer) was applied to industrial use and the majority of commercial, municipal, and individual domestic use was from the upper aquifers.<sup>55</sup> DEQ is not aware of any municipal system in the EVGMA that sub-meters water distribution based on residential use, let alone human consumption, so determining what the appropriate allocation for human consumption should be would not be possible. Additionally, based on applications DEQ has received from municipal water suppliers, the bulk of the proposed growth or existing excess allocation for those systems is intended for economic development (*e.g.*, commercial and industrial use) rather than human consumption. Therefore, transfer of permitted withdrawals of groundwater from industrial, agricultural, or other non-human consumption use to a municipality would not truly change the distribution or prioritization of water use within the aquifers. It simply would change who the permittees are that are authorized to withdraw groundwater.

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<sup>52</sup> VA. CODE ANN. § 32.1-167. This identical definition is also included in the Virginia Department of Health’s Waterworks Regulations. 12 VA. ADMIN. CODE § 590-10.

<sup>53</sup> 9 VA. ADMIN. CODE § 25-610-10.

<sup>54</sup> See Appendix 2.

<sup>55</sup> State Water Control Board staff presentation on the Declaration of Southeastern Virginia Groundwater Management Area, September 1976.

DEQ's interpretation of this statute has been based on an analysis that the intent of the statute is to ensure that basic human needs can be met, and if they cannot be met, then a reallocation of permitted withdrawal to meet the narrow human consumption priority would be implemented (*e.g.*, conceptually similar to how drought responses prioritize human consumption as a drought worsens). DEQ's primary objective is to find ways to accommodate all existing and proposed withdrawals to the greatest extent possible and to date the Commonwealth has not reached the point where basic human consumption use is threatened.

### **Surface Water**

Virginia's surface water permitting program relies on technical analysis and significant inter-agency consultation to ensure that instream and off-stream beneficial uses are preserved and protected from changes to instream flow resulting from the proposed withdrawal. DEQ, the United States Army Corps of Engineers (USACE), Virginia Marine Resources Commission (VMRC), and local wetland boards offer one standardized Joint Permit Application (JPA) to applicants in order to simplify the VWP, VMRC and USACE permit application processes. With surface water withdrawals, multiple permits from multiple state or federal agencies are required and are reviewed more or less simultaneously.

A technical analysis is required as part of the review of permit applications for the withdrawal of surface water. For all surface water withdrawal permit applications, DEQ performs a hydrologic modeling evaluation to simulate the impacts to instream flow during a range of climatic and flow conditions to assess the impacts of a proposed withdrawal on beneficial uses.<sup>56</sup> In evaluating surface water withdrawals, the process of determining whether "adequate and safe supplies should be preserved and protected for human consumption, while conserving maximum supplies for other beneficial uses" is essentially a negotiated balancing process among various agencies, the applicant and often impacted existing users of the resources. The different instream and off-stream beneficial uses often require their greatest volume of water during different times of the year and design or engineering solutions (*e.g.*, water storage) exist to address periods when the majority of beneficial uses get the water that they need to be preserved.

DEQ's primary objective is to find ways to accommodate all existing and proposed withdrawals to the greatest extent possible and to date the Commonwealth has not reached the point where basic human consumption use is threatened. DEQ's interpretation of this statute is based on an analysis that the intent of the statute is to ensure that all instream and offstream uses are to be met to the greatest extent practicable. To date, broad human consumption needs can be met using this approach, and if they cannot be met, then a graduated drought response process is applied reducing nonessential water use before water for basic human needs would be rationed.

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<sup>56</sup> 9 VA. ADMIN. CODE § 25-610-110; 9 VA. ADMIN. CODE § 25-610-110(D)(2).

### Coordination of Water Supply and Economic Development

“(3) It is in the public interest that integration and coordination of uses of water and augmentation of existing supplies for all beneficial purposes be achieved for the maximum economic development thereof for the benefit of the Commonwealth as a whole; . . . .”<sup>57</sup>

The Commonwealth does not have an institutionalized or systematic approach to coordinate water use and strategic augmentation of water supply to achieve maximum economic benefit. The current system provides localities and economic developers with the ability to make economic development decisions at the local or state level without an overarching water strategy. The General Assembly has not provided such authority, but has taken one step toward identifying future water needs and anticipated future supply alternatives through legislation that was approved during the 2003 General Assembly session directing the Board to “establish a comprehensive water supply planning process for the development of local, regional and state water supply plans.”<sup>58</sup> However, it should be noted that this legislation was primarily in response to inadequate local response to drought conditions, and not to achieve optimum or maximum economic benefit.

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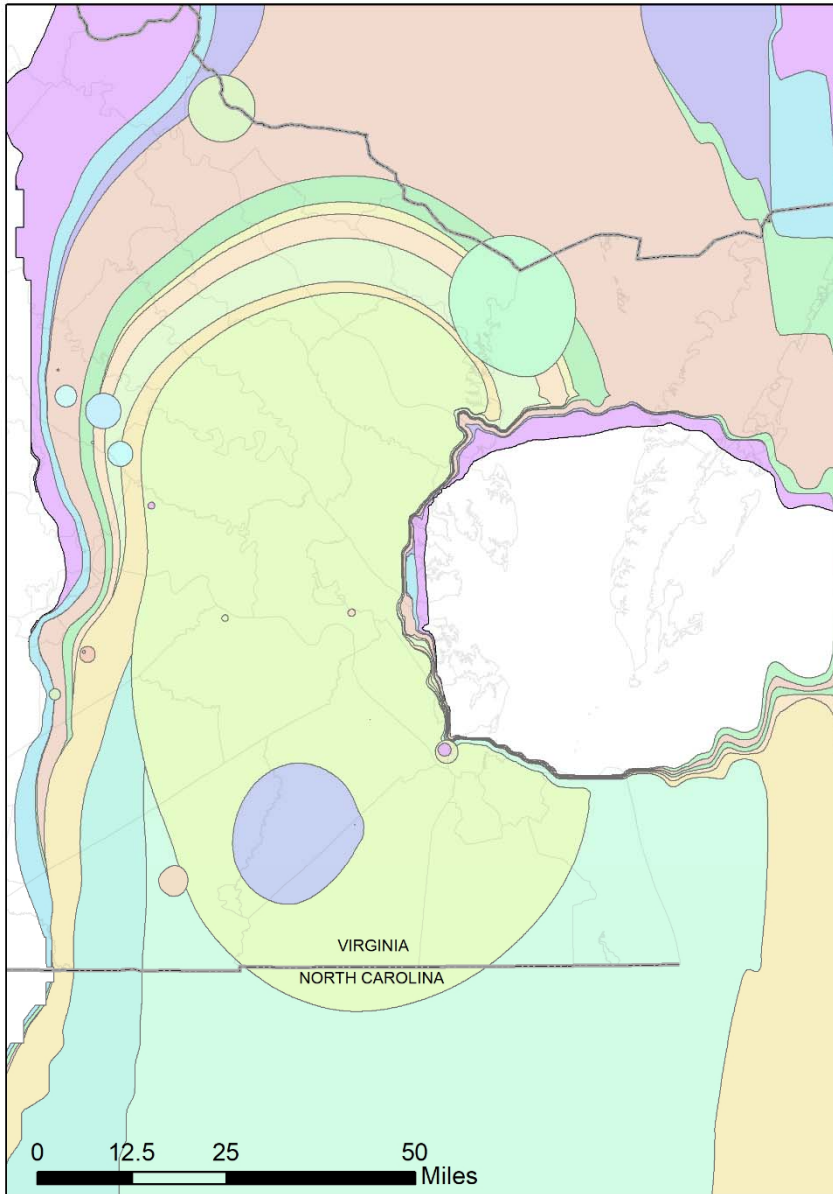
<sup>57</sup> VA. CODE ANN. § 62.1-44.36.

<sup>58</sup> 2003 Va. Acts Ch. 227, codified at VA. CODE ANN. § 62.1-44.38:1.

APPENDIX 1

DRAFT

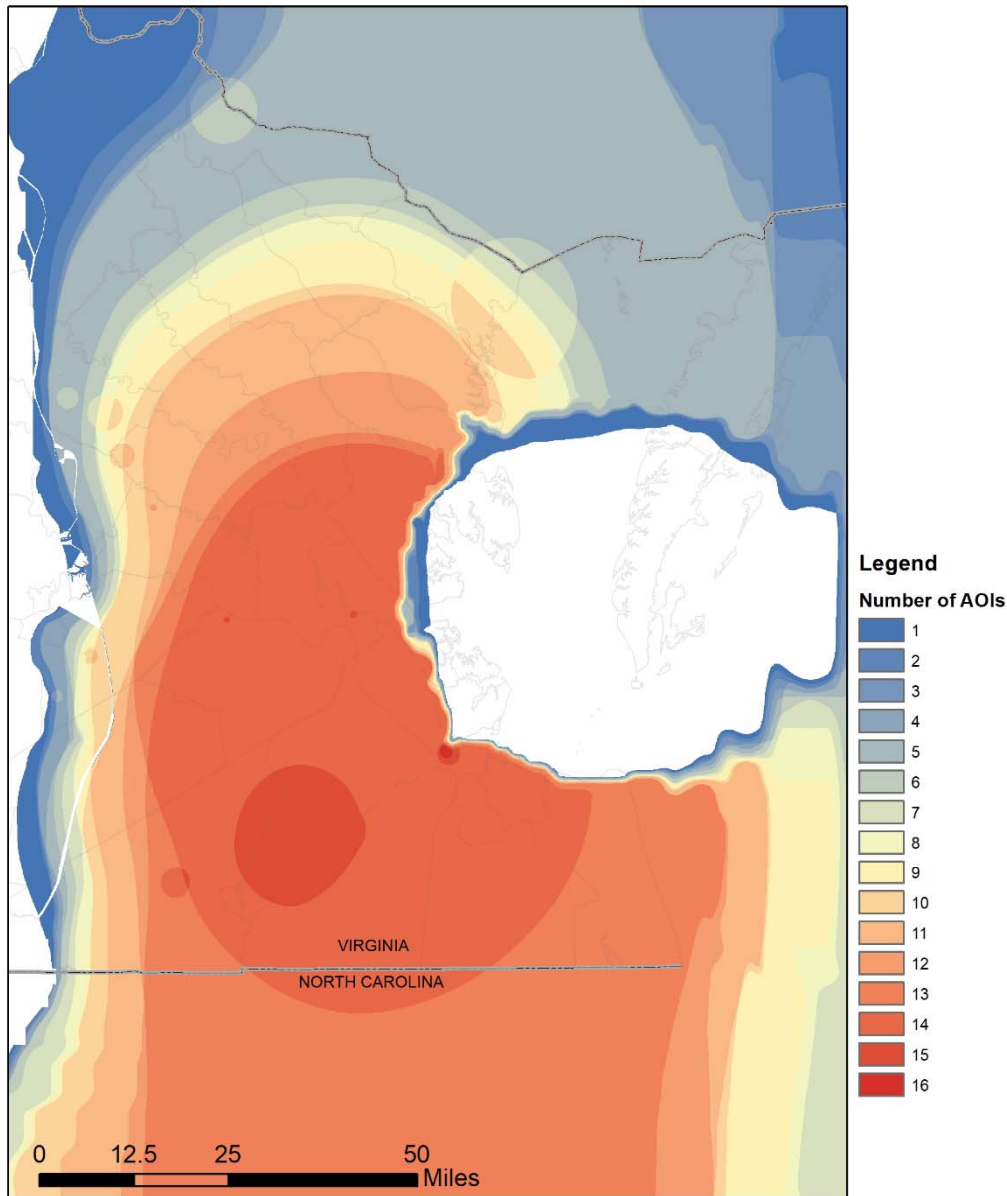
# Potomac Aquifer Areas of Impact



## Legend

- Days Point
- DuPont Teijin Films
- Albert Horton MVC
- Georgetown Subdivision
- Shipp and Wilson Landscaping
- Oak Shades
- Town of Claremont
- INGENCO Charles City Plant
- Busch Gardens Williamsburg
- Bexley MHP
- Pier IX-X
- Food Lion
- Strawhorn
- Dominion Terminal Associates
- Woods Edge
- Courtland
- Sinclair Manor
- Berkley\_and\_Ebb\_Tide\_Beach
- Omega Protein Preliminary
- Town of Windsor
- Colonial Williamsburg
- Portsmouth Genco
- City of Franklin
- Smithfield Public Water System
- Solenis
- Smithfield Packing
- Norfolk
- City of Newport News
- City of Portsmouth
- WTWA
- City of Chesapeake NWR
- JCSA Central System
- International Paper
- WestRock

# Potomac Aquifer - Number of Overlapping AOIs



APPENDIX 2

DRAFT



### Examples of System Demand Breakdown

	Henrico County Water System	Lynchburg City	GCWSA-Jarratt	City of Radford
<b>Residential</b>	21.1 MGD	3.06 MGD	0.016 MGD	0.076 MGD
<b>Commercial</b>	9.79 MGD	3.45 MGD	0.044 MGD	0.034 MGD
<b>Industrial</b>	2.65 MGD	1.4 MGD	0.021 MGD	0.056 MGD
<b>Sales to Other CWS</b>	1.09 MGD	2.2 MGD	0.0 MGD	0.226 MGD
<b>Process Loss</b>	1.12 MGD	0.11 MGD	0.004 MGD	0.0 MGD

### Groundwater Permittees – Beneficial Use Type Table

	# of Permittees	Total Use MGD (2017)	Total Permitted MGD
Agriculture	57	1.55	5.075
Commercial	69	3.512	4.978
Fossil Power	1	0.008	0.019
Industrial	33	36.56	48.901
Irrigation	3	0.283	0.227
Municipal	152	28.36	64.054
Nuclear Power	1	0.317	0.424

Presentation Slides of the Current Process Discussion (Minute 3).

# Review of Current Process

# How Does DEQ Review GW Now?

- DEQ implements a first-come first-served permit system based on the premise that all landowners have equal ability, subject to availability, to access and use groundwater.
- DEQ determines the minimum amount of groundwater necessary for the beneficial use by evaluating the applicant's water demand justification and alternatives analysis.
- DEQ determines how much groundwater is available using a site-specific determination based on the physical properties of the source of groundwater at a given location.
- DEQ reviews Water Conservation and Management Plan and Mitigation Plan.
- DEQ tries to balance the needs of all beneficial uses to the greatest extent possible through negotiation and public comment.

# GW Code Challenges

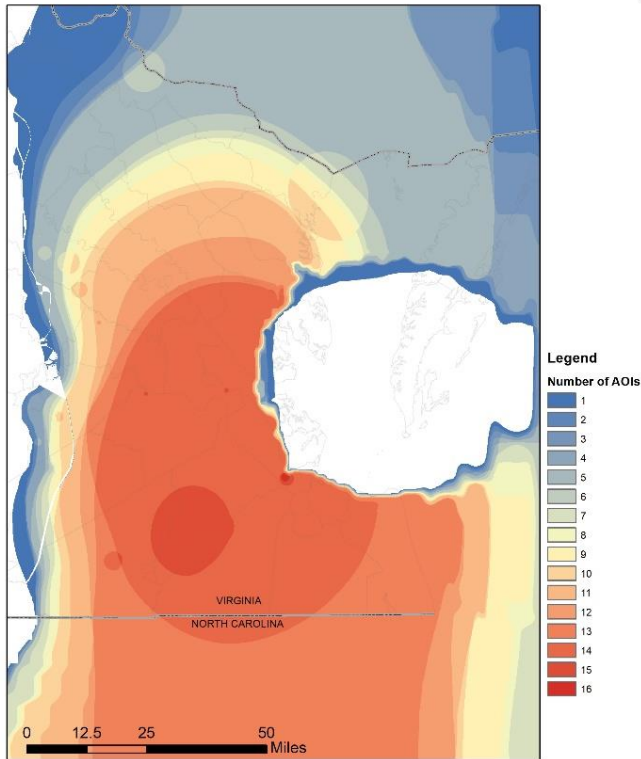
- Existing uses priority (Act of 1973)
  - “There is hereby recognized and preserved the right of persons within critical groundwater areas to continue to apply ground water to beneficial uses to the extent of their beneficial uses thereof...”
  - “...No application shall be approved when the same will deprive those having prior rights of beneficial use of the amount of groundwater to which they are lawfully entitled.”
- Priority for human consumption (Act of 1992)
  - “Adequate and safe supplies should be preserved and protected for human consumption...”
  - “When proposed uses of water are in mutually exclusive conflict or when available supplies of water are insufficient for all who desire to use them, preference shall be given to human consumption purposes over all other uses.”

# (Confusing) Code Issues

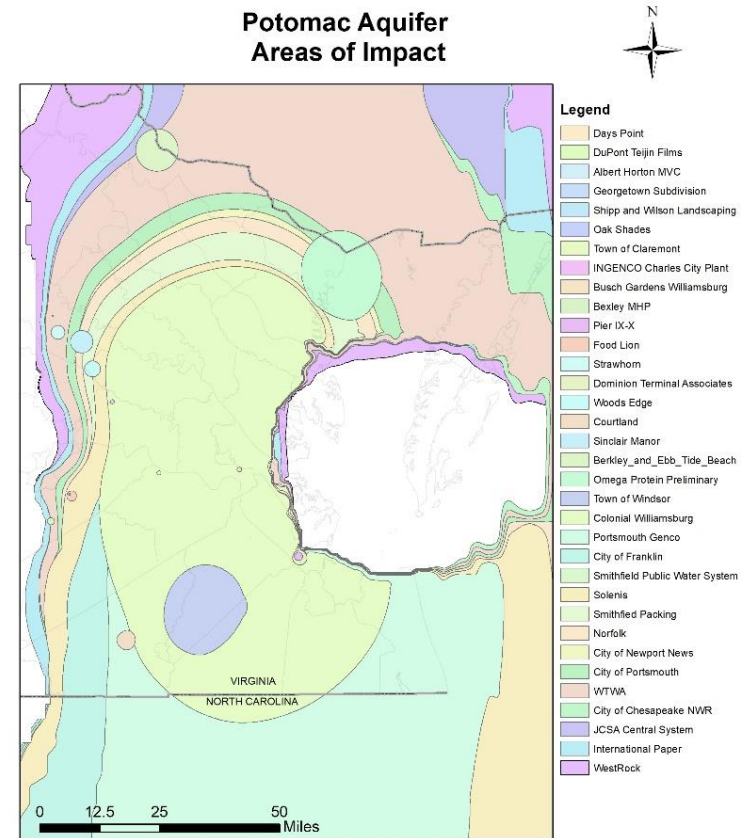
- “When proposed uses of water are in mutually exclusive conflict or...”
- “...when available supplies of water are insufficient for all who desire to use them,...”

# Mutually Exclusive Conflict?

Potomac Aquifer -  
Number of Overlapping AOs



Potomac Aquifer  
Areas of Impact



# Human Consumption – GW

- No statutory definition in GWMA statute.
- Narrow definition of “human consumption” in groundwater withdrawal regulation.
  - “the use of water to support human survival and health, including drinking, bathing, showering, cooking, dishwashing, and maintaining hygiene.”
- Not separately metered by withdrawers.



# How Does DEQ Review SW Now?

- DEQ implements a first-come first-served permit system based on the premise that all landowners have equal ability, subject to availability, to access and use surface water.
- DEQ determines if the withdrawal meets a water supply need.
- DEQ determines the minimum amount of surface water necessary for the beneficial use by evaluating the applicant's water demand justification and alternatives analysis (LEDPA).
- DEQ determines how much surface water is available using a site-specific determination based on a cumulative impact analysis of the surface water source at a given location.
- Drought Response required but no Water Conservation and Management Plan required.
- Significant inter- agency consultation to ensure that instream and off-stream beneficial uses are preserved and protected from changes to instream flow.
- DEQ tries to balance the needs of all beneficial uses to the greatest extent possible through negotiation and public comment.

# SW Code Challenges

- Riparian rights v. Regulated use
  - “The regulation, control, development and use of waters for all purposes beneficial to the public are within the jurisdiction of the Commonwealth which in the exercise of its police powers may establish measures to effectuate the proper and comprehensive utilization and protection of such waters.”
  - “Nothing in this chapter shall operate to affect any existing valid use of such waters or interfere with such uses hereafter acquired, nor shall it be construed as applying to the determination of rights in any proceeding now pending or hereafter instituted.”
- How much withdrawal is “excluded” from permitting is uncertain.
- Beneficial use
  - Multiple definitions
  - Domestic use v. human consumption v. public water supply

# (Confusing) SW Code

- “Beneficial use”
  - Multiple definitions
  - Variations = domestic use v. human consumption v. public water supply
    - None of these terms defined in statute
    - Regulations define public water supply and human consumption:
    - "Public water supply" means a withdrawal of surface water in Virginia or from the Potomac River for the production of drinking water, distributed to the general public for the purpose of, but not limited to, domestic use.
    - "Human consumption" means the use of water to support human survival and health, including drinking, bathing, showering, cooking, dishwashing, and maintaining hygiene.
    - Not the same or equivalent (synonyms).
    - No definition of domestic use.
    - Not separately metered (human consumption).

# Permittees by Type

## GW Permittees

	# of Permittees	Total Use MGD (2017)	Total Permitted MGD
Agriculture	57	1.55	5.075
Commercial	69	3.512	4.978
Fossil Power	1	0.008	0.019
Industrial	33	36.56	48.901
Irrigation	3	0.283	0.227
Municipal	152	28.36	64.054
Nuclear Power	1	0.317	0.424

## SW Permittees

Use Type	# of Permittees	Total Use MGD (2017)	Total Permitted MGD
Agriculture	2	0	0.25
Commercial	28	2.64	6.26
Fossil Power	6	21.36	23.11
Industrial	3	6.5	18.52
Irrigation	2	0.3	0.33
Mining	6	.01	0.96
Municipal	38	255.2	218.93
Nuclear Power	1	0	31.8

# Public Water Supply Use

	Henrico County Water System	Lynchburg City	GCWSA-Jarratt	City of Radford
<b>Residential</b>	21.1 MGD	3.06 MGD	0.016 MGD	0.076 MGD
<b>Commercial</b>	9.79 MGD	3.45 MGD	0.044 MGD	0.034 MGD
<b>Industrial</b>	2.65 MGD	1.4 MGD	0.021 MGD	0.056 MGD
<b>Sales to Other CWS</b>	1.09 MGD	2.2 MGD	0.0 MGD	0.226 MGD
<b>Process Loss</b>	1.12 MGD	0.11 MGD	0.004 MGD	0.0 MGD

House Bill 1186 proposed in the 2018 General Assembly.

18104101D

HOUSE BILL NO. 1186

Offered January 10, 2018

Prefiled January 10, 2018

A BILL to amend and reenact §§ 62.1-254 and 62.1-255 of the Code of Virginia and to amend the Code of Virginia by adding a section numbered 62.1-266.1, relating to ground water withdrawal permits; priority for human consumptive use; public suppliers.

Patrons—Carr and Plum; Senator: Howell

Referred to Committee on Agriculture, Chesapeake and Natural Resources

Be it enacted by the General Assembly of Virginia:

1. That §§ 62.1-254 and 62.1-255 of the Code of Virginia are amended and reenacted and that the Code of Virginia is amended by adding a section numbered 62.1-266.1 as follows:

§ 62.1-254. Findings and purpose.

The General Assembly hereby determines and finds that, pursuant to the Groundwater Act of 1973, the continued, unrestricted usage of ground water is contributing and will contribute to pollution and shortage of ground water, thereby jeopardizing the public welfare, safety, and health. It is the purpose of this Act to recognize and declare that the right to reasonable control of all ground water resources within this the Commonwealth belongs to the public and that in order to conserve, protect, and beneficially utilize the ground water of this the Commonwealth and to ensure the public welfare, safety, and health, provision for management and control of ground water resources is essential.

The General Assembly determines and finds that the supply of ground water resources in the Eastern Virginia Groundwater Management Area is not sufficient to meet existing requirements. The lack of sufficient ground water poses a substantial risk to economic growth because (i) the ground water is insufficient to meet all needs of current permit holders and (ii) new industrial and other users, even those with moderate ground water needs, cannot be granted ground water permits.

The General Assembly reaffirms the policy, as stated in subdivision (b) of § 62.1-10, subdivision 2 of § 62.1-44.36, and § 62.1-263, that when proposed uses are in conflict, preference shall be given to human consumptive use over all other purposes. The General Assembly determines and finds that although some water provided by public water suppliers is used for nonhuman consumptive purposes, the primary means through which citizens obtain water for human consumptive purposes is from public water suppliers.

§ 62.1-255. Definitions.

As used in this chapter, unless the context requires otherwise:

"Beneficial use" includes, but is not limited to, domestic (including public water supply), agricultural, commercial, and industrial uses.

"Board" means the State Water Control Board.

"Eastern Virginia Groundwater Management Area" or "EVGMA" means the ground water management area located east of Interstate 95 as declared by the Board pursuant to § 62.1-257.

"Ground water" means any water, except capillary moisture, beneath the land surface in the zone of saturation or beneath the bed of any stream, lake, reservoir, or other body of surface water wholly or partially within the boundaries of this the Commonwealth, whatever the subsurface geologic structure in which such water stands, flows, percolates, or otherwise occurs.

"Ground water withdrawal permit" means a certificate issued by the Board permitting the withdrawal of a specified quantity of ground water in a ground water management area.

"Human consumptive use" means the use of water provided by a public water supplier primarily in a residential setting for the purpose of supporting human survival and health, including drinking, bathing, showering, cooking, dishwashing, and maintaining hygiene.

"Industrial use" includes the use of water in manufacturing, which is the mechanical, physical, or chemical transformation of materials, substances, or components into new products, including food, beverages and tobacco, textiles, apparel, leather, wood, paper, printing, petroleum and coal, chemicals, plastics and rubber, nonmetallic minerals, primary metal, fabricated metal, machinery, computers and electronics, electrical equipment, appliances, transportation equipment, and furniture.

"Person" means any and all persons, including individuals, firms, partnerships, associations, public or private institutions, municipalities or political subdivisions, governmental agencies, or private or public corporations organized under the laws of this the Commonwealth or any other state or country.

§ 62.1-266.1. Assurance of sufficient capacity for public water suppliers.

A. Beginning July 1, 2021, the Board shall direct the Department of Environmental Quality (the

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HB1186

59 Department) to accept requests for additional permitted ground water withdrawals from public water  
60 suppliers that hold ground water permits in the Eastern Virginia Groundwater Management Area  
61 (EVGMA). Each request shall detail (i) the amount and proposed uses of the additional ground water  
62 requested and (ii) the changes made to water conservation plans to further increase efficiency, which  
63 may include further minimizing water loss due to infrastructure leaks, better managing water used for  
64 residential irrigation purposes, or otherwise improving the efficiency of water usage.

65 B. Beginning July 1, 2022, the Board shall direct the Department to notify each industrial permit  
66 holder in the EVGMA that possesses a permitted withdrawal amount that is greater than five percent of  
67 total permitted ground water withdrawals that its existing permit will be modified and reduced as  
68 needed to sufficiently accommodate public water supply and other future human consumptive needs.

69 C. Beginning July 1, 2023, in accordance with the requirements of subdivision (b) of § 62.1-10,  
70 subdivision 2 of § 62.1-44.36, and § 62.1-263 that preference be given to uses for human consumption  
71 over all others, the Board shall direct the Department to begin a process within the EVGMA of (i)  
72 modifying and reducing, as needed, permits of industrial users that have withdrawal amounts greater  
73 than five percent of total permitted ground water withdrawals and (ii) modifying and increasing as  
74 needed the withdrawal permits of public water suppliers.

75 D. By July 1, 2027, the Board shall issue ground water permits for all public water suppliers in the  
76 in the EVGMA as their existing permits expire.

77 E. After the Board has issued ground water permits for all public water suppliers in the EVGMA, it  
78 shall then complete its process of reviewing and issuing all other permits in accordance with the  
79 provisions of this chapter.



Letters to DEQ from the Hon. Danny Marshall, Chairman,  
House Agriculture, Chesapeake, and Natural Resources Committee  
dated February 28, 2018 and April 5, 2018



COMMONWEALTH OF VIRGINIA  
HOUSE OF DELEGATES  
RICHMOND

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DEQ - OD

February 28, 2018

DANNY W. MARSHALL III  
POST OFFICE BOX 439  
DANVILLE, VIRGINIA 24543

FOURTEENTH DISTRICT

COMMITTEE ASSIGNMENTS:  
AGRICULTURE, CHESAPEAKE AND  
NATURAL RESOURCES (CHAIRMAN)  
COUNTIES, CITIES AND TOWNS  
COMMERCE AND LABOR

Mr. David K. Paylor, Director  
Department of Environmental Quality  
P.O. Box 1105  
Richmond, VA 23218

Dear Director Paylor:

I would like to congratulate you and the Department of Environmental Quality (DEQ) on your recent work in reissuing groundwater permits for major users in the Eastern Virginia Groundwater Management Area (EVGMA). These new permits will preserve the long-term health of the Potomac Aquifer while allowing the Commonwealth to develop new and innovative solutions to our groundwater challenges.

With that in mind, and pursuant to action taken by the House Committee on Agriculture, Chesapeake, and Natural Resources (the Committee) in relation to House Bill 1186, I am writing to request that DEQ review items 1-3 of § 62.1-44.36 of the Code of Virginia which state that:

*In formulating the Commonwealth's water resources policy, the Board shall, among other things, take into consideration but not be limited to the following principles and policies:*

- (1) Existing water rights are to be protected and preserved subject to the principle that all of the state waters belong to the public for use by the people for beneficial purposes without waste;*
- (2) Adequate and safe supplies should be preserved and protected for human consumption, while conserving maximum supplies for other beneficial uses. When proposed uses of water are in mutually exclusive conflict or when available supplies of water are insufficient for all who desire to use them, preference shall be given to human consumption purposes over all other uses;*
- (3) It is in the public interest that integration and coordination of uses of water and augmentation of existing supplies for all beneficial purposes be achieved for the maximum economic development thereof for the benefit of the Commonwealth as a whole;*

Please report back to the Committee no later than October 31, 2018, how DEQ interprets and implements this language, and the practical impact of those decisions. Your review should be limited to localities within the EVGMA and should take into consideration both groundwater (including permitted and unpermitted use) and surface water resources, as well as the impact that the Sustainable Water Initiative for Tomorrow may have on water planning in the future. In conducting this review, the Department may consult such stakeholders as it deems necessary, including participants in the recently concluded Eastern Virginia Groundwater Management Advisory Committee.

On behalf of the Committee, I thank you for your attention to this matter.

With best regards,

Danny Marshall, Chairman  
House Agriculture, Chesapeake and Natural Resources



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HOUSE OF DELEGATES  
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DEQ - OD

DANNY W. MARSHALL III  
POST OFFICE BOX 439  
DANVILLE, VIRGINIA 24543

FOURTEENTH DISTRICT

April 5, 2018

COMMITTEE ASSIGNMENTS:  
AGRICULTURE, CHESAPEAKE AND  
NATURAL RESOURCES (CHAIRMAN)  
COUNTIES, CITIES AND TOWNS  
COMMERCE AND LABOR

Mr. David K. Paylor, Director  
Department of Environmental Quality  
P.O. Box 1105  
Richmond, VA 23218

Dear Director Paylor:

In the consideration of House Bill 1186 (Carr) during the 2018 Session of the General Assembly, my committee acted to refer the bill to your agency for study this interim. In light of this action, I am respectfully requesting that your agency analyze the bill this interim, which analysis may include an examination of the bill's provisions, its impact, and any consequences.

Specifically, I ask that your agency consider developing options for prioritizing human consumptive use through groundwater withdrawal permit process and to engage stakeholders in this process.

Thank you for your consideration and attention to this matter.

Sincerely,

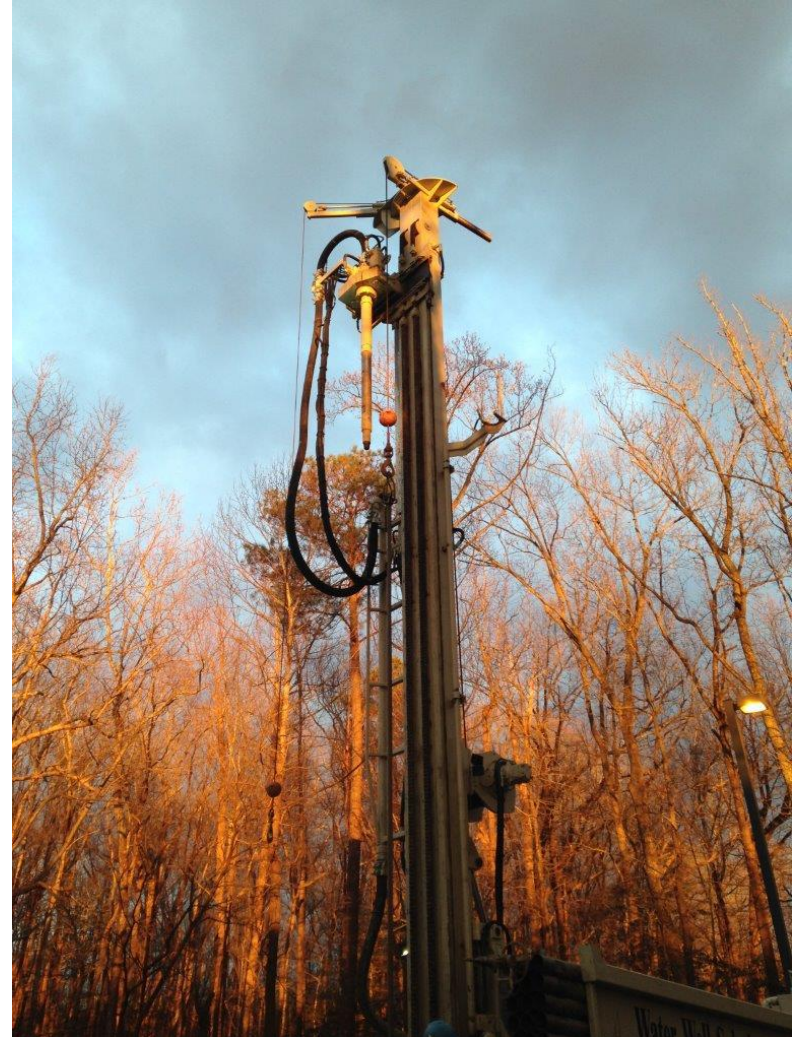
Danny Marshall  
Chair, Agriculture, Chesapeake & Natural Resources

Cc: The Honorable M. Kirkland Cox, Speaker of the House of Delegates  
The Honorable Betsy B. Carr, Virginia House of Delegates

Presentation Slides of the HB 1186 Proposal Discussion (Minute 4).

# HB 1186

- Introduced by Del. Carr (Chief Patron). Del. Plum and Sen. Howell were Co-Patrons.
- Passed by indefinitely with a letter in H. ACNR Subcommittee #3
- Included:
  - Findings
  - Definitions
  - Process for “Assurance of sufficient capacity for public water suppliers”



# HB 1186 - Findings

## The General Assembly

- “[D]etermines and finds that the supply of ground water resources in the [EVGMA] is not sufficient to meet existing requirements.”
- “[R]eaffirms the policy . . . That when proposed uses are in conflict, preference shall be given to human consumptive use . . . .”
- “[D]etermines and finds that although some water provided by public water suppliers is used for nonhuman consumptive purposes, the primary means through which citizens obtain water for human consumptive purposes is from public water suppliers.”

# Potomac Aquifer Cuttings



# HB 1186 - Timeline

- Beginning **July 1, 2021** – SWCB directs DEQ to accept requests for additional permitted groundwater withdrawals from public water suppliers that hold ground water permits in the EVGMA.
- Beginning **July 1, 2022** – SWCB shall direct DEQ to notify each industrial permit holder in the EVGMA that possesses a permitted withdrawal amount that is greater than 5% of total permitted groundwater withdrawals that its existing permit will be modified and reduced as needed to sufficiently accommodate public water supply and other future human consumptive needs.



# HB 1186 - Timeline

- Beginning **July 1, 2023** – SWCB shall direct DEQ to begin a process within the EVGMA of i) modifying and reducing, as needed, permits for industrial users that have withdrawal amounts greater than 5% of total permitted groundwater withdrawals and ii) modifying and increasing as needed the withdrawal permits of public water suppliers.

# HB 1186 - Timeline

- By **July 1, 2027** – SWCB shall issue ground water permits for all public water suppliers in the EVGMA as their existing permits expire.
- After the SWCB has issued ground water permits for all public water suppliers in the EVGMA, it shall then complete its process of reviewing and issuing all other permits.

Human consumption considerations – JLARC Report (October 2016)

<http://jlarc.virginia.gov/pdfs/reports/Rpt486.pdf>

**RECOMMENDATION 12** The General Assembly may wish to consider amending the Groundwater Management Act (§§ 62.1-254 through 62.1-270 of the Code of Virginia) to require that the State Water Control Board issue permits for groundwater withdrawals for non-human consumptive uses only after meeting permit requests for human consumptive needs. (Chapter 5)

**RECOMMENDATION 13** The General Assembly may wish to consider amending the Groundwater Management Act (§§ 62.1-254 through 62.1-270 of the Code of Virginia) to require that the State Water Control Board reduce permitted withdrawal amounts for non-human consumptive use as necessary to provide permit capacity to meet human consumptive needs. (Chapter 5)