

Varner, Shannon R.

From: Kudlas, Scott <scott.kudlas@deq.virginia.gov>
Sent: Monday, September 16, 2019 1:01 PM
To: Varner, Shannon R.
Cc: Brandon Bull; Schneider, Jutta (DEQ)
Subject: Re: HB 1036

EXTERNAL SENDER

Shannon,

No, I had not gotten a chance to look until just now. We remain concerned that the long term credits remain so prospective and uncertain as to be premature. We are concerned that the ramp up of these injection projects, including SWIFT, is so far out that no tangible water level benefit will exist until the end of the next decade. It may not be good public policy to agree to a trading framework in which no one in the room has empirical evidence of how water level improvements will or won't propagate through the system over time. There is reason to believe that not every injection is beneficial based on volume and location. It is not empirically clear that all injections are beneficial, particularly when it is not measurable. There are also no recommendations from the group on how to establish monitoring wells to observe the propagation of these injection projects to confirm modeled simulations. These wells should be completed and water level improvements understood prior to agreement on a long term trading framework or regulation. DEQ stated clearly in our comments on the GWAC Report that we needed to see tangible results in water level improvements. These issues stated above will require significant resources. We see limited acknowledgment in these minutes that these are legitimate concerns other than to suggest that this concern can be handled by agency procedures that have been authorized to be developed. I think it is important to reiterate the concerns DEQ identified regarding the recommendations in the GWAC report. For reference:

"DEQ has the following comments on the recommendations of the EVGMAC related to alternative management structures, banking and trading.

- Groundwater banking and trading systems are recommended by the EVGMAC (recommendations #9 and #10). While there may be worthy benefits from trading and banking in reducing the costs of developing alternative sources of supply to comply with permit reductions, these recommendations should be evaluated with reasonable caution. Our understanding of the aquifer system at this time suggests that there are temporal and spatial limits to the benefits of credits generated. This means that the potential "credits" generated in increased groundwater levels appear to quickly become part of the background condition, limiting the duration of time that they can be used without resulting in impacts to the aquifer or other existing groundwater users. Therefore, for each one million gallons injected it may not mean that one million gallons of additional groundwater is available for use. It also appears that the geographic scope of a potential credit area may be limited for similar reasons. At this time, it appears that transferring the "benefit" of higher groundwater levels from one location to a location with low groundwater levels simply results in further lowering of water levels in the location with already low levels.
- If such a banking or trading program were to be developed, it may be too limited to be economically attractive to most potential participants. In addition, the need to increase monitoring of potential impacts to individual existing users would be expected and the current monitoring network is likely to be insufficient to provide reasonable protection.
- The resolution of current predictive regional modeling tools also may be insufficient for the anticipated increase in complexity resulting from the generation of credits and trades. Local scale water level impacts will be of greater importance to predict and at a higher resolution than the current model. Given this complexity in

modeling and the limitations of the current monitoring network, there also are potential fiscal implications that may need to be considered if this recommendation is explored. DEQ is unaware of any program in other states that has established a trading program in a confined coastal aquifer system like the one in Virginia so there is some significant uncertainty regarding what the costs of developing and implementing a program of this kind will be.

RE: SWIFT:

- The Hampton Roads Sanitation District's (HRSD) Sustainable Water Initiative For Tomorrow (SWIFT) Project appears to offer great potential for long-term regional aquifer benefits that improve prospects for overall aquifer sustainability. The project should not be considered the sole solution because of its long time horizon and because it is not without technical challenges that need to be systematically assessed and addressed as it matures. Some uncertainty remains about the long-term ability to inject the design volumes. While the modeling completed for this project is very positive, modeling results must be validated through empirical data from monitoring in the field. This uncertainty is being addressed through the project's demonstration program, which includes some onsite monitoring and will likely be an ongoing issue that is evaluated throughout the life of the project. HRSD, DEQ, and the Virginia Department of Health (VDH) are involved in ongoing discussions regarding the long-term oversight of project water quality and how those safeguards will be institutionalized. These discussions are continuing and have been very productive in addressing concerns about what to monitor, at what levels, at what frequency, and by whom.

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On Mon, Sep 16, 2019 at 11:07 AM Varner, Shannon R. <shannon.varner@troutman.com> wrote:

Did you come up with a couple lines I could add?

Thanks,