

Minutes for GWMP Group Meeting #1

March 21, 2019

DHEC convened the first meeting of the Stakeholder Workgroup charged with providing input in developing Groundwater Management Plan (GWMP) for the Western Capacity Use Area. The meeting was held from 9 am to 12 noon in the Linton Room (#4011) of the DHEC office at 2600 Bull Street, Columbia, SC.

Introduction

Jennifer Hughes, the Assistant Bureau Chief for DHEC's Bureau of Water, welcomed everyone and thanked them for their commitment to this process.

Kristy Ellenberg, the Public Participation Coordinator, discussed the charge of the workgroup and its foundations from SC Code. Per the Groundwater Use and Reporting Act, the department coordinates with groundwater withdrawers and stakeholders to develop a groundwater management plan consistent with the goals and objectives of conserving and protecting the resources, preventing waste and providing and maintaining conditions which are conducive to the development and use of water resources. Where the workgroup is unable to agree in developing a plan or components of the plan, the agency will take all perspectives and discussion into consideration in its decision-making and will develop the draft plan.

Introductions were made by attendees, who represented the geographic scope of the Western Capacity Use area, as well as different sectors and expertise. Members in attendance included:

- Becky Ashley, Dominion Energy/SCE&G, Orangeburg County
- Laura Bagwell, Aiken County Soil & Water Conservation District
- Peter DeLorme, Citizen, Aiken County
- Mark Forrester, Gilbert Summit Rural Water District
- Dean Hutto, Hutto Brothers Partnership, Orangeburg County
- Hugo Krispyn, Friends of the Edisto, Bamberg County
- Jeff Lowe, Breezy Hill Water & Sewer Co., Inc., Aiken County
- Jill Miller, SC Rural Water Association, Statewide
- Ted Millings, Savannah River Site, Barnwell County
- Jacob Oswald, AIS, LLC & JCO Farms, Allendale County
- Nick Rubin, SC Rural Water Association, Statewide
- Calvin Sawyer, Clemson University, Statewide
- Mike Swearingen, Groundwater Association, Statewide
- Alex Tolbert, Carolina Golf Course Superintendents Association/Orangeburg Country Club
- Richard Tyner, Archroma, Allendale County
- Andy Wachob, SC Department of Natural Resources, Statewide

- Jeremy Walther, Walther Farms, Aiken & Barnwell Counties
- Lawrence L. “Landy” Weathers, Circle W Farms & Weathers Farms, Calhoun County

Timeline: This meeting served as the first of six monthly meetings, all scheduled for the 3rd Thursday of month. Throughout this process, there will be opportunities for written comments to be submitted by additional stakeholders via the DHEC website for the Western Capacity Use Area. A draft plan will be created and available for public comment by August 2019, when an open house public meeting will be scheduled to have a forum for additional public input.

The goal of the process is to finalize a GWMP which will be presented to the DHEC Board of Directors in November 2019. A formal public hearing would be included in the board meeting to allow for further comments at that time.

Role of the workgroup: Workgroup members were asked to attend meetings, contribute to discussions, share information about the process and encourage continued public comment and input from stakeholders who are not serving on the workgroup.

As a group, the following guiding values were shared:

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|------------------------|------------------------------------|
| • Commitment | • Dialogue and listening |
| • Transparency | • Solution-focused |
| • Mutual respect | • Strive for consensus |
| • Active participation | • Focus on the seven county region |

DHEC appreciates the commitment of all who are serving and wants the process to have opportunities for dialogue and listening throughout. The focus will be on the entire Western Capacity region, and not just individual or localized sites. While we hope to have agreement and consensus of the group, the Department recognizes that with the diverse experiences and perspectives of the group, there may be times of disagreement. In those times, DHEC will record the different concepts, concerns and ideas, and again by statute, the Department can develop a plan taking those conversations into consideration.

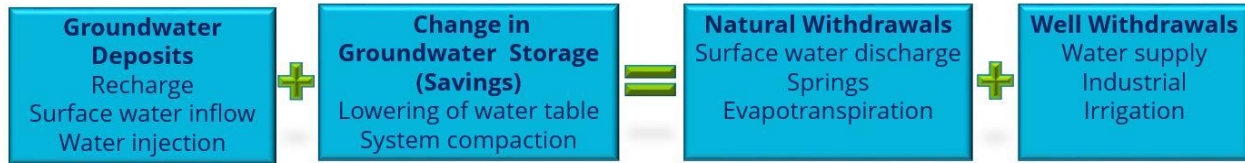
How We Get to the Plan

Alex Butler, Manager of DHEC’s Water Quantity Permitting, Private Wells & Underground Injection Control Section, presented an overview of the Groundwater Management Planning Process. His presentations will be made available on the Western Capacity Use webpage.

For groundwater planning, DHEC has regulatory responsibilities. The Department coordinates with DNR on water policy and with universities and other partners integrating science. In the full picture, there are many partners and stakeholders engaged in the process. For the Western Capacity Use Area, stakeholders will be charged to contribute to and develop the GWMP for the area. Where the group cannot agree, DHEC maintains the responsibility of developing a draft plan using input from the group. This workgroup plays an important role in the process.

DHEC collects all the reported groundwater use data from those using more than 3 million gallons in any one month.

When considering hydrologic systems, there is a groundwater balance or budget to keep in mind.



DHEC wants to move towards a managed system. The goal is not to prevent a groundwater user from having access but to consider adaptive management strategies where appropriate, which could include conversations about:

1. Well locations—spreading out newwell locations rather than having large clusters;
2. Aquifer used—looking to different aquifers as a source;
3. Isolated aquifer use—discouraging screening in multiple aquifers to minimize effect on the water table and other users.

Questions:

- If there is no consensus with workgroup?
 - A plan is needed for our permitting program per the Groundwater Use and Reporting Act. Input from the stakeholder workgroup and the public is valuable in the process, but DHEC intends to present a final plan to the DHEC board in November taking input into consideration.
- If you make farmers move wells, realize that it's very expensive. Are state funds available to help with these expenses?
 - We want to talk and work together with users and potential users before spending the money on the well. It may be more expensive due to drilling a deeper well, and the state does not currently have funding for added expenses. If we require a farmer to move the well 2,000 ft somewhere, can the state help financially with moving and drilling new well? Financial assistance would require legislative action because the program is not fee based. Hopefully DHEC can address needs in siting wells, but there may be situations where more pipelines needed to adjust the pivot location. We can work with other users to better site wells. The framework can ensure you have a full design plan for well/s before doing any drilling
- From today until November, if I want to dig a well, what do they need to do? Do they need/not need a permit?
 - Board designated the Western Capacity Use Area in November 2018. If you were an existing user **AND** registered with us at the time of designation, you don't need to do anything until the GWMPplan is done and a new permit will be issued after evaluation to ensure it is consistent with the plan.

- If it is a new well **OR** existed but never registered prior to designation, then that well **MUST** go through permitting process (will discuss later). A one day public notice with 30 day comment period (posted on DHEC website) is required. DHEC would then issue permit to construct and groundwater withdrawal permit. After the GWMP is approved, again it would be consistent with the plan
- If you need water now:
 - Well already existed, you would get temporary groundwater withdrawal permit while processing final permit;
 - Brand new well: can get permit to construct and temporary withdrawal permit, but if there is valid concern during comment period, there is some financial risk because the final permit could be denied and may not be able to use the well.
- If a farmer is renting a piece of property and he dug well, landowner wants land back. If he goes to new piece of land and drills new well, can permit be moved to new well?
 - **No. That is water allocation, which is not what we do. This is done by well. The permit remains with the site.**
- In 30 day period, can it only be appealed one time?
 - **Any DHEC decision can be appealed. Permit to construct and permit to withdraw can be appealed. The renewal can also be appealed. If it is appealed and it is listened to by Board, then administrative law judge.**
 - **How often has this happened? Not a lot historically. Maybe 5 sent in, 3 before Board, the Board has backed the DHEC decision to permit for all 3.**

Example Groundwater Management Plan – Waccamaw

Using the Waccamaw Capacity Use Area GWMP as a case study, Alex Butler presented elements and components of a GWMP, discussed how it was used in a permitting and renewal process and introduced adaptive management strategies.

Within a GWMP there are essential components that are part of the framework which DHEC can provide.

What DHEC can do to get plan started:

- Executive Summary
- Introduction
- Definitions
- Geopolitical Structure
- Regional Description

DHEC works with DNR and the workgroup on other components that also need to be included:

- Groundwater Level Trends – DNR and USGS data, pot maps and well water level graphs

- Current groundwater Demand – how much is being used currently by permitted users (based on type of use, spatially, and which aquifers)
- Groundwater Demand Trends – through time, looking at how types of use have changed (can see things like a public water supply user switching from groundwater to surface water)

Focus of this group:

- ✓ Population, Growth, and Water Use Projections – census data, how much public water supply will potentially increase based on this; 5-10 years is better than 30 year projections
- ✓ Determine the appropriate Groundwater Management Strategies. Sample strategies from other plans include:
 - Identify where a leveling and/or reduction in pumping is appropriate; want to look at best available data (look for areas under stress)
 - Review of permits based on demonstrated reasonable use, based on what your using it for and historical use
 - Establish comprehensive groundwater monitoring program, work with DNR and USGS to build network and maintain it
 - Establish conservation educational plan for general public and existing groundwater withdrawers – lacking some here, need to focus on this; building up staff right now and hoping to work with Clemson
 - Regulation and Planning as we get more data and State Water Plan is finished, look for any regulation changes that need to be made to better protect the resource (long term strategy)
- ✓ Groundwater Management Plan Reports – every 5 years or length of permitting cycle, we will generate a report to update plan with water use, use all available data to make some recommendations to help implement the strategies

Examples of recommendations from Waccamaw GWMP Report:

1. Hold on groundwater withdrawal rates for current permit holders in Crouch Branch Aquifer
2. No new wells that increase withdrawal rates in Crouch Branch until 2024
3. Applications proposing Crouch Branch need to be diverted to surficial, McQueen Branch, Charleston, or Gramling aquifers based on location – not saying you can't pull any water out, just not from Crouch Branch
4. Encourage surface water as an alternative source of water
5. Conduct targeted public education campaign on water conservation practices (most use is water supply, so encourage conservation at home)
6. Each new and renewal permit water supply should require water audit be conducted annually per AWWA policy for Water Loss Management, Metering, and Accountability

Questions:

- Regarding establishing a monitoring program as a strategy: establishing monitoring program, can cost \$\$, some areas do not have the finances to do this?

- Recommendations of expansion of a monitoring program will not be free or cheap. DHEC can coordinate with USGS and DNR, identifying wells that are no longer in use for monitoring, examining the monitoring network (better in this region thanks to SRS), and seeing where more data is beneficial. DNR just got some money for shallow systems.
- Under the impression that we can't monitor level in a pumping well?
 - This is not recommended because you can create a local cone of depression with less useful information and because of logistics with monitoring equipment. We usually ask if doing monitoring close to high capacity/high pumping rate well that pumping stops for a few days in order to take manual measurements without that influence.
- What are we going to do in agricultural community to get them to report accurately? Some folks are concerned and some people give bad numbers (were over reporting) because they get concerned. Then they lose the trust of the community around them.
 - We need to encourage accurate sharing of data. Clemson Extension can help with educating agricultural community of the importance of accurate reporting. We don't have the staff to do this ourselves, and we don't want to make people install meters. However, this data is very important. Word of mouth is helpful. Bad numbers would result in bad input into groundwater models which in turn means slightly different aquifer properties and issues with permitting. Hopefully we will have the staff soon so that we can start going out more to visit users and be a resource, not a hindrance. Some people have under, over, and just misreported. Important to have an education campaign to encourage correct reporting.
- Are all the management plans for the different areas similar?
 - Yes, only the Trident has a major difference in that they have a technical advisory committee (TAC) that is ongoing who reviews and comments to staff on permit applications.
- Why are we doing this? Can't we just take 80-90% of what's already prepared and just make a few adjustments for this area?
 - There are differences within the Western Capacity Use Area. This area has no coastal saltwater intrusion issues but will have more groundwater to surface water interactions. By law, a stakeholder driven process is outlined to make more area-driven GWMPs.
- This is a seven county area pretty big land mass, is there science behind that all seven fit together or is it because we didn't want a gap?
 - Yes, they do fit together as a hydrogeological system. The Santee River System acts like a divide. It is a uniform system.
- It's a large area, some of the counties are right on the fall line, in Orangeburg and Calhoun, are they interconnected there?
 - There is not a sharp divide, the confining units get thinner as you move towards the fall line; it is a gradual transition. Down in Allendale, it is very different vs. parts of Aiken near the fall line.
- How generic are these strategies going to have to be when the region can have large differences throughout?

- Those confining units are more defined in some areas. For example, Windsor school measured sharp decline during pumping system with a shallow well was put in next to it, and yet, it is seeing an increase in shallow system due to climate (the data is very limited though, only about 2 years); this type of data will be helpful in the planning process. The plan will include best practice recommendations, which will include the education about reporting.

Information on the Western Capacity Use Area

Alex Butler shared an overview and data from the seven county area.

- Lexington County: In shallower system (Crouch Branch) in area with no pumping, water levels are going up based on climate. In a deeper aquifer (McQueen Branch), you see longer period of recurring drought but water levels are finally going back up from 2015 flood until now.
- Aiken County: longer period of record, 90s were pretty wet, started going down, then started seeing large ups and downs in summer, but it is recovering above where it was previous winter.
- Calhoun County: shallow aquifer (Crouch Branch, with only 5 years of data), same up down pattern but not recovering as well. Deeper aquifer (McQueen Branch) seeing same up down pattern, also short period record. Very obvious pumping signal –wouldn't expect large climate signal between some of these areas, but recharge is very different based on soils and hydrogeology
- Orangeburg County –Crouch Branch 2001- seasonal up down pattern, water level staying relatively stable, just a small downward trend potentially; clear downward trend in McQueen Branch
- Barnwell County: similar to Aiken, large pumping signal towards end, dry 80s, wet 90s, downward trend in Crouch Branch and McQueen Branch
- Allendale County: Crouch Branch, some downward trend, not really recovering as well after pumping; in deeper aquifer, general downward trend (deeper units take more time to recover)

Do these hydrographs show that there is less pumping in the past? **Yes, more people the aquifer now, but we would have to look at who was using the water in the area and in those certain aquifers.**

One piece of data does not tell whole story: need to look at history of land use and how it has changed, how much population growth, etc. The management plans need to be living documents so we can alter strategies as we gain information.

The number of registered wells has increased, due to new wells and wells that were in use but not registered. Water use has increased (water demand is lower in wet years), some is new land irrigation, some is more population, some is more people reporting who were not before. In this region, agricultural use is the highest, water supply is fairly steady, industrial is fairly low. There is a very strong seasonal signal based on irrigation use, very high in summer and much lower (almost non-existent) in winter.

On the maps with wells listing use and amount, we see that there are clusters of higher use, which is where we want to focus attention.

Questions

- What happens with water that is dewatered by mine?
 - They need to have NPDES permit to discharge, probably in river now. Speaking of, there are some exemptions in law: mining for dewatering (need to report use/what they are pulling out), wildlife management for reporting and permitting. In some Cap Use areas, they are doing ASR, and makes us think we could do ASR, but may not work due to UICregs. Is ASR something we want to make a part of the management plan that we can integrate as a strategy? Does it make sense for this area? Have not heard that there is good success with it, they also tried in Orangeburg, but we need to double check.
- What does the TAC do in Trident?
 - They review permit applications after they have been processed by DHEC – the TAC reviews this to ensure it is compliant with plan. They do not have authority to say yes or no, they just make sure DHEC followed plan.
- How many people are on it and do they represent the different sector?
 - Trident is mostly water supply, and they have water suppliers, some industrial, conservation organizations, and little agriculture. This was something the region decided they wanted to have. This is something the group needs to decide. The TAC review is after DHEC has made the decision, but have not issued the permit. They do not get to deny or approve the permit. They might be looking at revisiting their plan sooner than permit renewal cycle.

Table Top Discussion

On February 12, 2019, DHEC hosted a public information meeting at the Edisto REC in Blackville, SC about the GWMP process for the Western Capacity Use Area. That meeting also asked for input from attendees on several questions. For this meeting, workgroup members revisited some of the larger guiding questions in small group discussion and facilitated discussion to follow. Information from these discussions will be combined with input from the public meeting and used by the group in guiding our work as we continue the planning process.

What are issues facing water availability in this area which you hope the groundwater management planning process will discuss?

- Increasing use in the region driven by growth
- General availability of groundwater in the region
- Increase of small users and unreported domestic use (private wells, not really here to talk about)
- Lack of education and public knowledge of the issues and how water works
- Interconnectedness between surface and groundwater

- Preferred options for surface water, is that the reflexive first option every time; we want **conjunctive** use, use surface water in winter, groundwater in summer, be explicit about how we make those decisions
 - How does plan address areas that do not have access to surface water? For later discussion
- More robust understanding of what sustainability is and improve forecasting, have telemetry based wells vs static wells, more important to have more less expensive static wells or more telemetry wells
- You are permitted for a certain amount of water – volume of water for use over that year while SW is over a month (permits have that amount each month per year); if you go over your registration, but using that as conjunctive use because makes more sense to use surface water instead of groundwater, permit/registration can be written to address this

What do you see as the goals of the groundwater management planning process?

- Have a plan focused on sustainability throughout: assessing up front of current usage is sustainable; look toward future trends and growth, and is that sustainable
- Plan needs to be quantitatively specific when it can be, qualitative when necessary.
- Get ahead of future problems, so be more proactive not reactive
- Broad buy-in from the different sectors to deal with future issues
- Ensure that as much as possible that reasonable use is protected to avoid any *allocation* issues; goal to avoid allocation (we don't do allocation in this state)
- Reasonable use: it's agnostic about what you do with the water, just if you're permitted to take it out of the ground? With surface, users deal with drought act if needed?
 - **No use is better or use, everybody needs to get the water they need. The only time there is a hierarchy is in Drought Act. For our permits in groundwater, there is no hierarchy.**

What ideas do you have to both conserve water resources and plan for future growth?

- Acknowledge interaction between groundwater/surface water
- Public education as signification component/robust education component to teach people about what the plan actually does
- Do we have enough data/models to answer these questions? If we don't have enough information, that could be a recommendation in the plan
- Look at aquifer storage and recovery as an option/strategy, is it even viable in this region?
- Talk about ideas of thresholds and triggers for action (based on a model), or do we need more data? Do these plans even have enforcement effects? No real mechanism to come back and manage within the permit? **We are on 5 year permit cycle, if we identified an aquifer that we are putting a hold on more permits for it, we do have the ability to cut pumping if necessary. For example, in Hilton Head, they reduced their use to a level that minimized salt water intrusion.**

We can get to that point but hopefully not getting to that point yet in the Western. Want specifics at this point. Need a discussion as to how prescriptive we want this plan to be. If we come out overly prescriptive we can have unintended consequences across several sectors.

- What kind of action would we trigger? Designating aquifers for certain types of use, sacrificing use, etc.

Questions

- Does DHEC have broad definition that defines sustainable use?
 - In management plan, it is defined but pretty broad, use that doesn't cause extreme detrimental effects to environment and other users
- What is sustainable? What does that mean, etc. It can be hard to define.
 - Definition for "sustainable yield" in the Waccamaw management plan: "groundwater sustainability as development and use of groundwater in a manner that can be maintained for an indefinite time without causing unacceptable environmental, economic, or social consequences"

Final Thoughts

Ellenberg thanked everyone for their input in this meeting and summarized progress made. Meeting minutes and presentations will be shared electronically with workgroup members and additional information will be updated on the DHEC Western Capacity Use webpage.

Ellenberg noted that the group is intended to be representative of different users, different counties and different stakeholders. The workgroup members were asked if there was a stakeholder or group that was not currently serving, but which should also be included on the workgroup. They concurred that the group had balanced representation.

The group was asked about their preference on meeting location for future meetings. The group recommended using the Clemson Extension Edisto Research and Education Center in Blackville, SC. Other options for future meetings may include:

- State Farmer's Market
- Electric Coop
- SCRWA facilities in Columbia
- Country Club in Orangeburg
- Orangeburg Chamber of Commerce

A question was raised on media inquiries of group members. DHEC has a communications team to help coordinate communications. FRED noted they may post via social media. Everyone is free to post notes and updates on the process on their website: transparency is key!

With no further questions, the meeting was adjourned at noon.