

Minutes for GWMP Open House August 14th, 2019

Welcome by Kristy Ellenberg

Tonight is an Open House for the groundwater management plan in the Western Capacity Use Area. This topic has been at the forefront of the region around for several years. It was officially designated back in November 2018. The establishment of these capacity use area comes from the statutes and laws, which state that the groundwater resources must be put to beneficial use to the fullest extent to which they are capable. The stakeholder workgroup has brought the different goals together (prevent waste, preserve and protect, make available for development and use) to form and shape this document. If you are withdrawing greater than 3 MGM in any one month in a year you are required to apply for a permit and report water use. These are going to be coming from different sectors of use such as water utilities, irrigation, golf courses, etc. These will not be from small home users.

There was the need for a plan, which gives DHEC guiding principles and strategies for permitting and regulating. The Groundwater Use and Reporting Act gives DHEC the authority to develop and implement a plan for each of the Capacity Use Areas. We needed to bring people together to develop this and tailor it to the region.

Tonight we have people from DHEC in the technical staff, as well as the outreach staff together here to hear comments on the work done on the draft plan. This plan needs to be approved by the Board. Reminder of the different levels of authority and what we are working on tonight:

Statutes, Laws and Regulations: can't change these unless go through rigorous process and work with legislature

Groundwater Management plans: what we are working on tonight to finalize and get comments on. This can be changed with discussions with the stakeholder group

Groundwater evaluation reports: based on data gathered by staff and reported groundwater use, can be used to make recommendations on how permits are issued; redone every five years before the permitting cycle

Permits: applications are reviewed on a site-by-site basis and can be approved or denied based on looking at everything from the evaluations and plans to the regulations

Looking at timeline included in the agenda, we have gotten past the outreach and information sharing and we gathered stakeholder workgroup to develop the plan. Tonight we are at the draft plan update and get updates from the public that are interested. Would like it to be heard by the Board in November 2019. Part of the process, there will be a public hearing for additional comments.

The workgroup was comprised of 20 members across various sectors. The members are from different counties with different expertise and perspectives to connect to broader stakeholder groups.

We had long meetings with the stakeholders, which led to staff working hard to incorporate all comments and concerns. Many of the stakeholder workgroup members are here tonight.

Tonight's meeting: present key elements of the draft plan, update process timeline, opportunity for questions and discussions, and share how to continue to provide comment to DHEC.

Our website www.scdhec.gov/westerncapacityuse has all of the information regarding the plan and the Western Capacity Use Area and all "Additional Resources" are in the page. These resources include the draft management plan and minutes from all of the meetings leading up to today. Members of the public can leave comments via link on the page as well as here in the meeting.

Lance Foxworth - Phase I: Introductory Western Capacity Use Area Information

The introductory section helps inform the strategies. The Executive Summary highlights the statutes that give us the ability to create this plan. It also acknowledges variations in the state in social and economic requirements, hydrogeologic setting, etc. It was vital to get feedback from the local stakeholders to make sure we get across what is important to focus on in this region in the plan.

We must use an adaptive management approach, and we can update the plan based on our evaluations and data that becomes available. Included 3 goals: ensure sustainable use of the groundwater resource by management of groundwater withdrawals; monitor groundwater conditions to evaluate availability, and promote educational awareness of the resource and its conservation.

We looked at current and projected factors for water use and water conservation measures. This is a first draft of the plan, and updates can be made. There are no quantitative thresholds because it is beyond what we can do as a section. We need to use the strategies in conjunction with each other to know when to act and make changes and recommendations.

Included definitions in the plan to help with understanding and how industry terms are defined as the plan is concerned. These include "Stakeholder Workgroup", "Reasonable Use", and "Sustainable Use".

Geo-Political Structure – 10 council of governments; this area is made of 2 different ones (Lower Savannah and Central Midlands)

Hydrogeologic Setting – The groundwater resources are like a wedge in this area of the state, and the further to the coast you go, the more spread out and thicker/deeper the aquifers become which means more water is available. Must take into account the inter-connectedness of the aquifers in this CUA because the confining units are not continuous through this area.

Water Budget – generalized description of how water is moved around in a system. The greater your outflow and lower your inflow, less groundwater storage. Increase inflow and decrease outflow, there will be more groundwater storage. There cannot be a specific budget due to changes year to year.

Regional Description – description of the region geographically and physiographic features (rivers, lakes, etc.) these include the Savannah River, Lake Murray, Saluda River, and Congaree River. There is a very intimate relationship between the surface water and groundwater in this region, especially in the upper part of the region. Description of the geology of the region includes marine fluvial deposits. The climate averages 63.57° F and receives approximately 47.78 inches of precipitation on average. Climate can have an impact on water levels. When we go into drought, the groundwater level responds to these changes, but there is a slight delay. The landcover ranges from developed to forest and agrarian, but it is mostly rural. 1/3 of the WCUA landcover is dedicated to farmland operations; there has been a 6.2% increase of farmland since 2002, 30.3% increase of cropland since 2002, and irrigated land has increased by 134.7% since 2002. Only Allendale has not had an increase in irrigated use.

Dr. Andrea Hughes – Phase II: Water Use Data

Here for the numbers.

Current Demand: 1,041 wells total (currently permitted/registered wells). Based on 2018 reported data: 40,801 million gallons (~41 Billion gallons) total. We look at his data because we want to see how the resource is being used, but we can't move forward unless we know where we are now and where we have been in the past.

By month: most water is used in the summer due to agricultural use, so there is a seasonal signal mostly from April/May to September.

Historic Demand – the plot pictured is a stacked area plot, so the top line is the total reported for the WHOLE YEAR, and each color represents how much is used in that county. There is an obvious decreased use response to those years that were wetter (2013).

Comparison of population between the counties to look at how it affects water use – most stayed constant, biggest increase in Lexington and some counties with slight decreases in population. This didn't fully explain the water use increase.

Can see that irrigation has had the greatest increase, especially since 2014. There was an increase in wells and increase in water use. If you look at total irrigation and total irrigation wells, there is a downward trend due to irrigation methods. Much of the increase of water use was due to increased reporting by irrigators. There are also changes in types of crops grown in the area.

All data is reported groundwater use (Lexington County can have population increase and no groundwater use increase and have a great increase in surface water use). Also: this is reported data, so some users are not reporting and some are increasing their use or just misreporting. Those that are using less than 3 MGM are not reporting.

Alex Butler – Phase III: Strategies and Reports

I'm here to explain how we are moving forward with the plan and the evaluation of the reports.

Strategy #1: Establish a Comprehensive Groundwater Monitoring Program – made first because we need good data on the amount of water that is being used and need information about how the water levels change. This can allow us to establish correlations with pumping and use and water levels. We cooperate with DNR (because they own the program), and want to make sure the network is growing. This Capacity Use Area has a better network than most, partially due to SRS in the region, but we want to work with entities to keep it moving forward. If there are wells going offline, we can convert them to monitoring wells.

Strategy #2: Identify Geographic Areas of Concern and Level/Reduce Pumping Where Appropriate – Look at water use in region before permit cycle so we can reduce/level groundwater withdrawals, utilize surface water or other aquifers. We want to ensure conjunctive use of aquifers and surface water resources. We will use the groundwater model that is being completed by USGS as part of our toolkit. We must prohibit the hydraulic connection of aquifers that could result in deterioration of water quality in freshwater aquifers. We must make sure wells are abandoned properly, especially if a well is causing contamination of a freshwater aquifer.

Strategy #3: Review Permit Applications Based on Demonstrated Reasonable Use – When we review permits, we look at what they are using the water for and if the amount requested is reasonable. We look at industry standards for some user and Clemson Extension for crop water demands. We make sure documentation is provided with application.

Strategy #4: Establish an Educational Plan for the General Public and Existing Groundwater Withdrawers – We need to get the word out. Some operations are not necessarily doing the best at conserving water, we want our stakeholders to help with this. Best practices for agriculture from our irrigation partners, industry best practices from industrial users, etc.

Strategy #5: Manage Through Regulation and Planning – We have to maintain laws and regulations, and if they need to be updated, we can try to start that change internally, others must be initiated through the legislature.

Strategy #6: Establish a Plan for Continual Stakeholder Engagement and Awareness of Groundwater Development – The Department and the workgroup wanted to continue the stakeholder process, and ensure that this is a living document. We are going to maintain the stakeholder workgroup, and keep it diverse geographically and with regards to use. We plan to have annual forums with the stakeholders to present current data and what's going on in the region. If changes need to be made to the plan, we can discuss them at these meetings, and we can give the workgroup an update on water use and other activity in area. We want to make this specific to the region, so a groundwater evaluation is created every 5 years in order to make recommendations such as leveling pumping in an area based on solid data. We issue permits based on these recommendations and the groundwater management plan. This plan can't be too detailed based on this.

Open Questions:

Strategy 3 stated we would recommend conservation practices, etc. Is there some way we can push out that information to other users. Is this a mandate?

No, it would be standard industry practice.

Strategy 4 – in my opinion, it goes to the water utilities and as extension, the rural residents who have private wells. Talking to her neighbor, she uses 1 million gallons of water a year. We need educate people on this. Can we have a module on water conservation in the home or for schools?

Great idea, this plan is for the 3MGM users, but this is something we can work out. Other areas of DHEC would work with this. We will look at other areas that can get that more specific level of education.

So I know a lot of DHEC staff were at the drought table top at EMD. In the wake of that, in our work here we never talked explicitly how drought response fits in with GWMP, seems like based on what we heard, each individual (utility or whatever) until Gov declares state of emergency, everyone does their conservation efforts separately. Is there room in what we're doing here or as it develops to start talking about how in the CUA we can drive people towards drought response actions in advance of drought emergency or how do we deal with this?

1 – The Drought Response Act (DRA) is through DNR. What we have developed here does not supersede the DRA. There are different levels of drought. At the 5th level of drought, the Governor can establish mandatory water restrictions.

2 – Droughts typically impact surface water users more than groundwater users. The groundwater response is delayed. If there were severe impacts on groundwater, surface water is having major issues. We have had issues from 1998-2002 in the groundwater system due to prolonged drought conditions. Looking at drawdown, relative to how much water is there, it isn't too bad.

Do we want something that says that during drought, we want to make sure that groundwater isn't over-exploited because surface water is impacted so heavily? Could this be part of Strategy 5?

Right now SC treats surface water and groundwater separately, and state water plan can impact how we see them, but not right now.

Conclusions

Please look at the whole report if you are interested in what we did. You can contact Alex and Lance with additional comments. The slides from today will be added to the additional resources section on the website. This presentation today can almost be thought of as an executive summary of the document and process we went through to get here. We want to say a big thank you to the stakeholders for working together respectively and making the effort to come for every meeting. Special thanks to Clemson Extension for the meeting space and being here with us. Thanks to all for coming tonight.