

### SL GWMP Meeting #3 – 12/1/2021

- Welcome and thanks for attending
  - o Hope to get feedback and facilitate communication
- Introductions:
  - o Kristy Ellenberg
  - o Attendees
  - o Staff
- Agenda
  - o Synopsis of other Capacity Use Areas
  - o Groundwater Management planning and the goal for this stakeholder group
- Response to Survey
  - o Timeline – When was this decided? How/were we informed?
    - We conducted an evaluation to assess the conditions, 2 public hearings in January 2021 (letters sent to all registered users in the SLCUA), July 2021 – SL designated as CUA by DHEC Board, currently conducting GWMP stakeholder meetings
    - Next, more public information meetings to discuss draft GWMP, post plan in State Register with public comment period, send to Board for approval, begin implementation once approved
  - o What will be in plan?
    - Draft table of contents in slides, much has been covered in previous meetings with the workgroup
    - Today we want to go over strategies in more detail
    - All existing GWMPs for other CUAs are online on our website
  - o Well Status
    - Abandoned – pump disconnected for reasons other than repair or replacement or has been pronounced as unused for 1 year by owner
      - Abandonment process – SC certified well driller comes to abandon wells in accordance with all applicable law and regulations and submit D-1903 to Department
- Water Level Trends
  - o How do we evaluate conditions? What is/isn't a concerning trend?
  - o SCDNR Monitoring Network – map of wells maintained and monitored by SCDNR, most of the data covered in this presentation is from these wells
  - o Hydrostratigraphic framework – Coastal plain is made up of alternating permeable aquifers and less permeable, clay rich confining units. Some aquifers that are separated by confining units at the coast coalesce near the fall line to form a surficial aquifer
  - o Surficial Aquifer – Sumter County (SUM-0355, SUM-0531) – Red points are monitoring wells, other points are registered users. Dark green is agricultural irrigation, blue is water supply, light green is golf course irrigation, gray is industrial, and purple is aquaculture. In the graph, green represents “wet” periods and brown represents “dry/drought” conditions, red points are manual measurements taken by staff. We expect a rise in November due to lower usage, summer months typically decline due to the growing season. Dry periods exhibit declines more so than typical growing season due to lack of recharge.

- Crouch Branch Aquifer – Well used, easy to access aquifer in this region. On this map, the blue area represents the recharge area for the entire Crouch Branch aquifer. Changing climatic conditions are reflected in the record for these wells even though they are deeper (~100 ft or so) because this is a recharge area. The lowering during dry periods are not necessarily concerning so long as they rebound during “wet” periods.
  - McQueen Branch Aquifer – Green highlight represents recharge area. This is typically the deepest aquifer that is accessed in this region, but wells drilled into this aquifer still exhibit some climatic signals. LEE-0075 shows one of those situations where we are not too concerned but are keeping an eye on the levels. In the past few years, the overall trend has declined but still tends to rebound during wet periods and the off-season for crops. Levels have a harder time recovering from the dry/drought periods. SUM-0492 – This is a record that causes us some concern. Signal shows seasonal drawdown that does not rebound during the off season. Overall decline has been ~10 ft, but this is a location that will be looked at critically during renewals and evaluations.
  - Water Table Well vs Potentiometric Surface
    - Surficial wells show a lot of variability due to direct recharge
    - Deeper aquifers that are in confined aquifers only receive direct recharge in the places where they are exposed to the surface. Example – Soak a sponge in water and wrap the sponge fully in plastic wrap. The plastic wrapped sponge represents a confined aquifer. If you jam a straw through the plastic into the sponge, the water will fill the straw partially. The level of the water is the potentiometric surface. When pressure is applied to the sponge, the water will rise further, when the pressure is removed the water level falls back down.
    - We make potentiometric contour maps by drawing contours around areas of similar water level. These maps are similar to topographic maps of the land surface. Water runs from areas of high pressure to low pressure.
  - Combined pumping effect
    - We will sometimes talk to people about the spacing of wells because clusters of wells all withdrawing a lot of water can lower the potentiometric surface and could possibly lead to a cone of depression.
  - In Clarendon County, the Crouch Branch has declined ~50 ft. The McQueen Branch has also declined ~50 ft in SL CUA. Our goal is to lessen the impact of these declines.
- Questions??
- What would be the point that we say we need to do something for wells that exhibit concern? When would you tell me to turn off my irrigation?
    - It would take a lot to come to that, but if the flow of groundwater is severely impacted we may need to make some changes. We are not likely to say existing wells cannot be used, but we may say that no new wells can be installed in that aquifer in that region. We do this to avoid having to make cuts to existing users.
  - With the exception of this well (SUM-0492), it looks like the other wells recovered. How much of the SL CUA designation do you think was due to drought vs pumping?
    - A lot of this decision is to avoid getting into a situation where wells don't produce or the aquifer cannot recover during periods of drought. For the most part we do not have pumping cones/cones of depression in this region, but we would also like to keep it that way.
  - What was the driver for the SL CUA to become designated?
    - SC DNR observed some areas of concern and wanted to come up with a way to get ahead of things during the 2004 state water plan. Our goal is to continue

making sure everyone can get the water they need while ensuring future generations have access to the resources too. We are also interested in the reported use data from the permitted users.

- Strategies
  - Strategy #1 – Identify areas where a leveling and/or reduction in pumping is appropriate.
    - Is this a geographic region or conceptual? It could be either, this is just a way to identify any potential areas of concern.
    - Concerned about the latter half of this strategy – reduction in pumping. It takes a lot to get to this point, but if there are some serious areas of concern that do develop we would need to start some discussions about taking some action to help reduce the adverse effects.
    - How has this effected the Western Area? The Western was designated in 2019 so we do not have enough data to speak on changes in groundwater levels.
    - Recommendations
      - Needs to be systematic step by step process that defines how to identify these areas.
      - When Drought Act is enacted in the state, might be appropriate to look at the Drought Act and see if there is anything that can be applied during drought and non-drought periods
  - Strategy #2 – Review of permit applications based on demonstrated reasonable use.
    - What is reasonable use? We determine “reasonable use” a little differently depending on the type of use, some of the items we use to make this decision is acreage, type of crop, type of industry, etc.
    - Concern about how permits are written (permitted breakdowns by aquifers/wells)
  - Strategy #3 – Establish a comprehensive groundwater monitoring program.
    - Increase collaborative partnerships
  - Strategy #4 – Establish a conservation educational plan for the general public and existing groundwater withdrawers.
    - Need to target smaller sectors. The Department needs help to know about what meetings are going on when.
  - Strategy #5 – Manage through regulation and planning.
    - The GWMP is a living document that can be modified and changed over time as needed. We want to be able to adapt to new information that may come out.
    - There is no user priority given to certain users over others.
    - Coordinate more with other DHEC programs
    - Concerned about exceeding permit limits – permitted users can apply for modifications at any time during the life of a permit
  - Strategy #6 – Establish a plan for continual stakeholder engagement and awareness of groundwater management plan reports.
    - Annual meeting to provide updates on permitting, water levels, etc.
    - Have joint meetings with some of the other CUAs
- Strategies Tabletop Discussion; stakeholders were asked by DHEC staff to give input on strategies:
  - Strategy #1
    - Using the drought act as a guideline

- Defining what the trigger or criteria will be for a reduction or leveling in pumping.
    - Defining how the reduction will work.
    - Long term declines or rebound could be a framework for reduction.
    - Being transparent in the process.
  - Strategy #2
    - Following industry guidelines.
    - Expanding demands and how that will be taken into consideration.
    - Land grant for water use in crops.
    - Explaining how permits work and the timeframe of expiration they are on.
  - Strategy #3
    - Sharing monitoring data that is already being collected by users with DHEC if to fill gaps in existing network.
    - Collaborating with Clemson and main agriculture groups to see if there are any wells that are no longer in use that DHEC could add to monitoring network.
    - Using Clemson's upcoming weather station data to help with monitoring data funding issues.
  - Strategy #4
    - Collaborating with partners at events like FFA, Clemson events, Farm bureau, well drillers, high schools, and current permittees.
  - Strategy #5
    - Being more consistent and coordinate with other permitting departments like, agriculture, private wells, drinking water.
    - Providing clarity on exceptions, emergency withdrawals, and over withdrawals.
    - Showing users that there is no priority based on industry or demand.
  - Strategy #6
    - Utilize more resources like mail, website, partnerships, and meetings to convey information.
    - Continuously work on ways to better get information to users.
- Implementation
  - Who needs a permit?
    - Anyone who withdraws >3 million gallons in any given month from a well or well system
    - Any wells that were not registered with the program prior to July 15, 2021 will need to go through the public notice process and 30-day comment period. Users who were registered before July 15, 2021, will be grandfathered into the program and will not need to go through the public notice.
    - If you are registered, chances are you are reporting water use annually on forms that we send. If you aren't sure, you can give us a call and we can check to see if you are registered/which wells are registered.
  - Application Form
    - Page 1 – General Information, Requested Withdrawal Limits, Best Management Plan
      - Guidance documents are available, just give us a call or send an email and we can send this document to ensure all necessary information is included in the BMP

- Best Management Plan should include:
      - Conservation techniques
      - Reasonable and appropriate documentation that the requested water use is necessary
      - Maintenance schedule for well/irrigation equipment
      - Statement of beneficial use of the groundwater requested
    - Page 2 – Proposed Wells and Existing Wells
    - Page 3 – Purchased/Surface Water, Agricultural Irrigation (IR users only)
    - Page 4 – Industry and Golf Course Irrigation (IN or GC users only)
    - Calculations for Water Use
      - Determined based on crop, growing season, irrigated acreage, population served, industry type, etc.
    - Page 5 – Public Supply and Signature
      - There is no fee for the application, the only fee associated with our groundwater withdrawal program is the fee to run a public notice in your local paper, if needed.
    - Well Diagram
      - We accept hand drawn or diagrams created using software, as long as the necessary information is provided
    - Questions
      - When does permitting go into effect?
        - Probably next fall (August – see timeline in slides)
- Closing remarks and thanks for attending