Memorandum

To: *Suwannee-Satilla Regional Water Planning Council*

From: *Shayne Wood, CDM Smith*

Date: *June 9, 2022*

Subject: *Suwannee -Satilla Regional Water Planning Council Meeting*

This memorandum provides the meeting summary of the Suwannee-Satilla Regional Water Planning Council (Council) Meeting held on June 9, 2022, at Wiregrass Georgia Technical College (Brooks Hall) in Valdosta, Georgia. This meeting also included participation virtually via the MS Teams platform. This memorandum provides a summary of the major items discussed at the Council Meeting. The meeting began at 10:00 AM to 2:00 PM and followed the agenda outlined below.

1) Welcome and Introductions

Council Chairman Scott Downing, initiated the meeting, welcomed Council Members and guests, and asked each Council Member (CM) and attendee to introduce themselves. An outline of the agenda items that would be covered during the Council Meeting was then presented. Chairman Downing called for a Motion, which was seconded and a vote from other council members in attendance to approve the previous meeting summary. Chairman Downing then asked Council Members (CM) to review the agenda. A motion was made to approve the agenda, followed by a second and a vote passed to approve the agenda.

2) Review of the Suwannee Satilla Regional Water Plan

Mr. Wood with CDM Smith, the Planning Contractor (PC) reviewed the tracked changes version of the Draft Suwannee Satilla Regional Water Plan (Sections 1, 2 and 4), and Mr. Wood asked council members to voice any concerns with the sections. While reviewing the document, the following comments were made:

- A CM asked when and why the document adopted a different tone. The CM noted that the document changed from a discussion of resource gaps in a more general manner to a specific focus on water quality. Chairman Downing responded that some of that may be coming from Dr. Booth with EPD as her last presentation to the council noted a focus on future constraints related to water quality with some of the surface water quality modeling that was recently completed. Mr. Wood said he would follow up with the team.

- A CM asked if there was a problem with water quality in Suwannee Satilla.

- Chairman Downing noted that there are concerns with dissolved oxygen in the bay before it runs into the ocean.
- Ms. Quarterman asked if there was a term other than "water quality" that still includes bacteria, trash, chemicals, etc.
- A CM agreed that water quality is important, but emphasized a concern that the document tone changed. Mr. Wood reassured the Council Members that he would follow up with the team on the change in tone and noted that ultimately the plan has to reflect the direction given by the water council members and therefore if we need to edit some of the wording to reflect the water council's position, those edits can be made as requested.

- A CM asked if phosphorus was a concern and if it was found naturally in the environment.

  The CM suggested the source of phosphorus could be from other sources such as clothes detergents associated with municipal discharges and that farmers may not be the main contributor. Council members discussed loading from agricultural runoff can be discharged as a nonpoint source, unlike detergents that are sent to a wastewater treatment plant first, cleaned and then discharged as a point source. It was noted that phosphorus can be in the runoff from agricultural fields, and this has been confirmed with monitoring and modeling.

  - A CM responded that soil samples that he has seen do not have a lot of phosphate, and the levels that he did see could be due to naturally occurring phosphate. A CM noted that natural concentrations are accounted for in the background samples, so the concentrations reported are above background concentrations.
  - The PC suggested that in a future meeting, the team could ask Dr. Booth to discuss water quality and point source versus non-point sources and see if she can go over the distribution of the loading, etc. Chairman Downing agreed this would be beneficial, and it would be best if she could attend the meeting in person.

- A CM asked why specific companies were listed in Section 2.2. Mr. Wood responded that the original language from 2010/2011 had not been updated, and he had asked the team to update the information based on the most recent and updated information (from the Georgia Department of Labor). The CM and the PC agreed that instead of naming specific companies it would be more appropriate to revise the document and summarize more generically by industry who the largest employers are instead of listing specific companies.

Mr. Wood summarized that the biggest change in Section 4 was that employment data had previously been used as a proxy to estimate future water use for industries and now different industries were being evaluated specifically to try to estimate future growths from industrial projection, and thus water use. Mr. Wood said a lot of the Georgia industries are finding ways to produce more product with the same or less water, as these

industries find ways to improve from a sustainability perspective. Mr. Wood asked the Council Members if they wanted to incorporate some forecast for potential future additional demand for new or expanded industry.

- One CM emphasized that the document should not speculate.

- There was discussion about the "Mega Site" in Bryan County as an example in the Coastal Region. A CM asked where Bryan County is getting their water. Mr. Wood confirmed Bryan County's water source is groundwater.

- A CM commented on Table 4-1 that the population projections do not look correct for Tift. Mr. Wood noted that the Coastal Georgia Council is looking at this as well, and they are questioning the numbers. During covid, people moved, but these numbers were not captured in the projections. Now, in some counties in Georgia, those numbers are being accounted for and population projections are showing an increase.

If Council Members had any additional comments on the Draft Plan, Mr. Wood instructed Council Members to send their comments to him, and he would make edits. Mr. Wood reminded Council Members that there will be one final review in August for a draft submittal of all sections in September. Council Members agreed to finalize one section at a time.

3) Updates on Seed Grants (Megan Parker)

Ms. Parker provided a general update on the Seed Grant funding projects, timelines, and events ahead. It was noted that June 15th will be Ms. Parker's last day with the Southern Georgia Regional Commission (SGRC). Ms. Parker noted that the SGRC's Environmental Program is going to be discontinued, but the team is working to develop a path forward to complete the last two projects. Ms. Parker noted that the Regional Water Quality Assessment Project sampling for 172 sites in the 18 county region was concluded yesterday, and the team is awaiting bacterial results. Future GIS analysis will occur. All the sampling data will be put on a dashboard and will be emailed to Council Members for project feedback. Public education and outreach on water quality is the next step.

Ms. Parker also updated Council Members that drilling on the dam (Lake Beatrice) was completed at the beginning of May. Soil analysis was completed by Army Corps, and a lidar survey is going to be added to the project without any additional cost to the project.

- Mr. Wood asked Ms. Parker to send the Council the boring information, and Ms. Parker confirmed she would send this.

- A CM asked if the water traveling from Georgia to Florida had good water quality. Ms. Parker noted that she is not part of the regulatory department, but the water quality in the Suwannee Satilla region is not bad.

- Chairman Downing asked Ms. Parker what they were testing for, and Ms. Parker responded that E. coli was the main sampling parameter. Ms. Quarterman noted that the analysis suggests the source of E. coli is likely from cows.

Chairman Downing concluded the discussion and thanked Ms. Parker for her time and work with SGRC's Environmental Program.

4) Updates from Suwannee River Water Management District (Amy Brown, Suwannee River Water Management District, Live Oak, Florida)

Dr. Brown provided a general overview of the Suwannee River Water Management District (SRWMD) Water Resources Division. She discussed that SRWMD is the fifth largest of the five Water Management Districts, with about 360,000 people and 7,640 square miles. Dr. Brown reviewed the SRWMD's core mission: water supply, water quality, flood protection, and natural resources.

- Mr. Lewis asked what the SRWMD's budget was, and Dr. Brown responded their budget is about $60M, and most of that budget is for projects.

Dr. Brown began discussing hydrologic conditions, and noted that these are reported monthly.

- Chairman Downing said that he tends to think aquifer levels are based on recharge from rainfall. He asked where the recharge was most likely to occur. Dr. Brown said that recharge depends largely on geology, but the range of influence in the Suwannee River District extends into Georgia. She noted that most of the influence is local, but during drier times, this extends further out.

- Chairman Downing also asked if the spring recharge signs on the highway are referring to the Suwannee Satilla springs/aquifer. Dr. Brown responded that the springshed signs are there to notify people that the nutrients put in the water in those areas will influence the spring water quality in the localized areas of the specific springsheds.

Dr. Brown continued to update the Council Members on minimum flows and minimum water levels (MFLs). She noted that MFL information is shared with the Water Supply Planning Group.

- A CM asked if there are observed effects of sunscreen in the springs. Dr. Brown responded that the District does not look for that, but that the Florida Department of Environmental Protection (FDEP) may.

Ms. Brown also reviewed water supply planning.

- A CM asked if Jacksonville is pulling water from the Suwannee Satilla region. Dr. Brown responded that they are in a joint water supply plan with the St. Johns River Water Management District (SJRWMD) to the east. It is recognized that the water issue to the east affects the Suwannee Satilla District, and it is a priority to ensure there is enough water within the Suwannee River basin. Dr. Brown also noted that the Floridan Aquifer extends up into Georgia and the east coast and that many entities across the region are looking at a variety of reuse options to maximize efficiency.

- A CM asked if desalination is being used. Dr. Brown said that one of the challenges with desalination is that it is very expensive. Mr. Wood added that the SJRWMD has evaluated the sustainable amount of water that could be harvested from the St. Johns River, but there were not any current plans to use surface water as a source water for this part of Florida, as of now.

- Chairman Downing asked Dr. Brown how much of the freshwater springs are running into the St. Johns River. Dr. Brown said she is unsure, as the springs that may feed the St. Johns River are mostly out of her District (SRWMD) but she knows that for example Silver Springs has active planning based on growth protections to protect that spring.

- A CM asked why Florida is pulling water from Georgia if Georgia cannot get permits to pull water from Florida. Dr. Brown said they are working to reinstate the relationship between Florida and Georgia water planners and regulators.

- A CM asked if the Suwannee District is trying to recharge the aquifer with stormwater like in Miami. Dr. Brown said the SRWMD is trying to determine the level of treatment necessary to recharge the aquifer with stormwater. Dr. Brown noted that natural recharge happens in this way depending on the local hydrogeology. Mr. Lewis added that a concern with installing recharge wells (in Georgia) is that there is an endangered mussel species that are sensitive to flow.

Dr. Brown continued her update and discussed that projected groundwater use is published each year. She added that the biggest groundwater user in the Suwannee River Water Management District is agriculture/livestock/aquaculture, followed by commercial/industrial, institutional, and then mining/dewatering.

- A CM asked where the land is coming from for agriculture if they are projected to expand their water use. Dr. Brown responded that most agricultural lands are not currently irrigated. Only about 7 percent irrigate currently. It is predicted that the agriculture growth projections are due to adding irrigation to the existing agriculture footprint rather than new lands. Dr. Brown also noted that the planning projection is the demand and not the guaranteed water that will be permitted.

- Chairman Downing noted that some springs have quit running due to a lack of pressure. He said the aquifer/springs are not running the same as it did historically because of this lack of pressure. Dr. Brown responded that it is the planning group's goal is to determine if there are projects that can be implemented to ensure the projected future demands can be met.

- A CM noted that on Florida land, there are a lot of wells, but in the Flint River basin, they cannot do anything. Chairman Downing added that they are permitting wells in the south, but not up north. Mr. Lewis noted that there has been a moratorium on permitting new permits for the Floridan Aquifer and surface water in the Georgia part of the Flint River basin, but it does not extend into Florida. There are four endangered mussels in Georgia that are the concern in the Flint River basin.

- A CM asked how we will accommodate increased agricultural demands in the southeast, especially if we continue to see these major droughts in the west which could move agricultural production (and thus more water demand) to the southeast. The CM asked to see a comprehensive approach to the problem, including permitting and water flow to the springs. Dr. Brown responded that active planning and implementation of projects will be necessary to reach the growth potential.

Dr. Brown continued with her presentation and discussed water quality planning. She reviewed the water quality parameters that are monitored and noted that nitrates are being tracked closely right now. She also said the SRWMD monitors groundwater, surface water, and springs.

- Chairman Downing asked if Cedar Key uses groundwater, and Dr. Brown confirmed they do.

- A public attendee asked if the reason the impaired areas seem to stop at a certain point is because the monitoring stops. Dr. Brown responded that this depends on the interaction with the aquifer. In the unconfined areas, the water can leach right into the aquifer where the nutrient loading is a concern. In confined areas, it is harder for nutrients to leach into the confined aquifer areas.

Dr. Brown reviewed current agriculture and environmental projects, such as the RIVER program, AWS/Springs, Agriculture Cost Share program, and flood risk outreach and Mapping program.

- A CM asked what top 2-3 things can be done to improve water quality. Dr. Brown responded that we need to ensure fertilizer is going where it is needed at the right time and make sure the fertilizer is not going into the aquifer during big rain events. A CM asked what is being done about nutrient loading from agriculture. Dr. Brown said that the

SRWMD is focusing on water use to make sure it is as efficient as possible, and they are working to ensure that nutrients can be applied directly to crops and there is a cost share program for producers to implement best management practices to improve water quality.

- A public attendee asked how long it would take the nitrogen load to decrease to normal concentrations. Dr. Brown responded that the age of water out of the spring is variable, but the average could be around 40 years. The answer would depend on where you are in the district and how directly the nutrient is connected to the spring.

5) Updates on Groundwater Availability Resource Assessment (Christine Voudy, Georgia EPD)

Ms. Voudy pre-recorded a video of her presentation and asked that all questions be directed to Jennifer Welte and Dr. Wei Zeng after the playing of the video. Ms. Voudy began with an overview of aquifer sustainable yield, the coastal plain model, sustainable yield estimates, and drawdown. When discussing the model, MODFLOW, Ms. Voudy noted that the three-dimensional finite difference model has seven model layers including surficial, Floridan, Clairborne, Clayton, and three layers of cretaceous sand (Providence, Eutaw-Midville, and upper/lower Atkinson). The baseline withdrawals were provided by EPD, pumping rates were assumed constant into the future, and the model resolution is a 1 mile x 1 mile grid.

When estimating sustainable yields, Ms. Voudy differentiated between low end and high end estimates. Low end sustainable yield estimates were determined by uniformly increasing simulated withdrawals from existing well locations until the criteria was met (typically a 30 ft drawdown metric). The high end sustainable yield estimates were determined by non-uniformly increasing simulated withdrawals from existing and hypothetical wells until the criteria was met. The sustainable yield assumes the withdrawals from the aquifer of interest are increasing while the withdrawal from other aquifers is held constant.

Ms. Voudy noted in the in-house assessment for Suwannee Satilla that the model was run in transient mode with baseline pumping from 2010 data. The assessment focused on pumping from the Floridan aquifer in the Suwannee Satilla region. The model simulations represented varying hydrologic conditions, a wet year (2009), a normal dry year (2010) and two dry years (2011 and 2012) . The resulting simulations showed that during the growing season, when agricultural wells are pumping the most, the 30 ft drawdown metric was exceeded. One of the problems was thought to be the Gulf Trough, a geologic feature that doesn't transmit groundwater as readily as the Floridan aquifer, may be exacerbating the simulated drawdown. Ms. Voudy explained that the 2010 baseline pumping was then increased by 25%, 50% and 100% to evaluate drawdown and aquifer recovery. A scenario excluding the gulf trough area was also run. Modeling results showed that there was about 90 ft of drawdown under the pumping scenario where flow was doubled. During the non-growing season, the aquifer recovered to the base level. Ms. Voudy explained this is not a red light; however, if this becomes an option, wells will need to be set deeper to ensure they do not go dry. When excluding the Gulf Trough area while pumping was doubled, the model revealed that the greatest drawdown was 50 ft, and the aquifer still recovered during the non-growing season. Ms. Voudy confirmed this recovery is

good and means the aquifer can handle the withdrawal. During this scenario, there still may be some wells where pumps would need to be set lower than 30 ft.

Ms. Welte confirmed the video could be posted online once Ms. Voudy returned and granted permissions.

- Chairman Downing noted that in 2011, most wells in Ben Hill and Irwin County were drawn down more than 30 ft. He asked if the model accounts for the current depth of the wells or if the depths are an average depth of wells from the original model.
    - Dr. Zeng responded that in the sustainable yield analysis, the model was not created by entering in the actual demand, but rather increasing the withdrawal at the existing wells until the criteria is met and then stopping the simulation. The modeling intent was to show that the current and projected level of use are within the lower end and higher end of the sustainable yield, suggesting the current use is appropriate.
    - Ms. Welte added that in the transient mode, the model can demonstrate if drawdown is 30 ft or more and if the aquifer can recover to baseline levels in January. Dr. Zeng noted that the steady level of withdrawal is different than a seasonal one.

- Chairman Downing asked if wells have to be lowered to 90 ft, is that reflected in the model. He noted that if we are using 2010 data, then 2011 wells that were lowered weren't necessarily accounted for in the model.
    - Ms. Welte confirmed GA EPD can get results of different modeling scenarios if there is a helpful simulation that the council would like EPD to run; they are willing to discuss that and share the results with local planners.

The PC updated the Council Members that the deadline for the Regional Water Plans was pushed back until June 2023, and the team would work with Chairman Downing to review the schedule. Given that there was more time now to update the regional water plan and some of the earlier meeting agenda items went over their allotted time, a motion was made to remove the review of management practices and discussion of regional water plan updating process/schedule item from the agenda, followed by a second and a vote passed to revise the agenda.

6) Updates on Surface Water Availability Resource Assessment (Wei Zeng, Georgia EPD)

Dr. Zeng (GaEPD) provided a general overview of the surface water availability resource assessment for the Suwannee Satilla planning region. He reviewed the OASIS BEAM model and what it can do for the resource assessment process.

Dr. Zeng emphasized that this model is different than other models used previously as the new model has better spatial resolution. This version of the model has every permitted withdrawal and discharge facility (municipal and industrial) for the entire basin(s). Some of the basic model settings include the following:

- Simulation period: 1939-2018

- Withdrawal and discharge amount: For baseline, an average withdrawal and discharge from 2010-2018 was used; For future discharge and withdrawal, 2060 predicted withdrawals and discharges were used.

- Instream flow protection thresholds: per permit conditions

- Reservoir physical and operational data: from reservoir owner or EPD

Dr. Zeng reviewed that there are 23 municipal discharge facilities and 2 industrial facilities in the Suwannee Satilla planning region. He also noted that there is a wastewater assimilation challenge in the region, where wastewater volumes are increasing with population growth, and this is water resource management challenge. Dr. Zeng explained that the effluent limitation is determined by the available technology and water quality standards.

Dr. Zeng also explained that agricultural withdrawal experienced a shift in the way water was used between baseline and projected conditions. Under projected water use, there was less use at the end of the year, but more use during the spring and summer (during the growing season). Dr. Zeng concluded his presentation with a summary that moderate wastewater assimilation challenges exist under baseline and future water use conditions, and performance measures for recreational activities and habit availability can be added with stakeholders' input. Dr. Zeng also provided his contact information:

- Wei.zeng@dnr.ga.gov

- 470-898-3891 (cell)

Mr. Wood asked the Council Members if there was any interest in looking at alternative recreational metrics, like kayaking, along a low flow river.

- Chairman Downing noted there is recreation mainly in Suwannee Satilla and Okefenokee, and he thought it would be a good idea to identify those metrics.

Mr. Wood suggested that the team may need to do outreach and find out where these recreational areas are being used. Then, these results could be shared with Dr. Zeng and by working with a stakeholder group then be evaluated using the model. Mr. Wood thanked Dr. Zeng for his time and introduced Mr. Lewis for Georgia EPD updates.

7) Updates from EPD (Cliff Lewis, Georgia EPD)

Mr. Lewis provided a general update from Georgia EPD, and he reminded the Council Members that the timeline for the plan submittal was extended 6 months due to delays in technical information. Mr. Lewis suggested that the group continue to meet quarterly. He also noted that the Seed Grant should be announced in July, and the pre-application meeting would occur by October 2022.

- A CM asked if the Flint River would be opened up in July, since there were some areas that could be opened.

- Mr. Lewis explained this decision is made by the governor's office. He added that the USGS data could be re-evaluated, but things are moving slowly.

8) Public Comments

No public attendees in person or online provided comments. The public comment period concluded.

9) Discussion Items

With the remaining meeting time, Chairman Downing opened the floor to discussion items and general questions for the Council.

- Chairman Downing asked if the next set of grants would be higher on the priority list if they are related to water quality
  - Mr. Lewis said this is possible, but it would depend on the location

- A CM asked if surface water generally refers to flowing streams or ponds.
  - Chairman Downing answered that the surface water discussed is flowing to the stream.

- A Council Member asked if you could receive money for drop nozzles.
  - Chairman Downing explained that most grant money is for studies
  - Mr. Lewis agreed that there are other sources of funding for infrastructure, but not the Seed grant money
  - Chairman Downing added that the planning resources go to Atlanta because there is so much growth there. The planning in Florida is more relevant to the type of growth here in Georgia. The geography is so different in North Georgia than South Georgia, so additional effort will be required to accommodate growth.

- A CM proposed that the Council may want to complete the updating of the Regional Water Plan before November in the event that Georgia politics could change in November.
    - Chairman Downing agreed and added that it would be difficult to deal with the whole other political aspect in a short amount of time. Chairman Downing suggested that the team go ahead and make revisions by the end of the year. He added that if there are new appointments made, the other members won't have a lot of time to bring them up to speed before submitting the plan.

- Ms. Brown discussed that the SRWMD was contacted by Natural Resources Conservation Service (NRCS) for water supply funding. She asked if it would be possible to replicate this cost share for agriculture in Georgia?
    - Chairman Downing confirmed that no one has reached out to the Council yet. He asked if it would be possible to put the Council's endorsement on things that NRCS is doing.
    - Mr. Lewis responded yes, but there could be a potential conflict of interest. He explained that recommendations need to go through other organizations, like NRCS, and then the Council can go through them.

- A CM discussed that phosphate does not move and it is not biologically available. Once it is in the soil, it moves one to two inches per year. The CM noted that they believe the phosphate problem is from point source wastewater effluent discharges.
    - Chairman Downing said the Council will look into this. He noted that several people have been digging into our requests.

10) Next Steps

Chairman Downing explained that the Council will be reappointed, and if there are Council Members that want to continue, that is great, and if there are those who do not want to continue, their service was greatly appreciated. He added that if anyone knows someone in the area who may be a good fit and representation, they should email Shayne or himself with their names. Chairman Downing noted that the Council could use another 15 people to get back to a full slate of active members.

Mr. Wood agreed to update the meetings and planning schedule and send it out to the Council. He asked Council Members to plan on an August or September meeting. Chairman Downing thanked everyone for attending and the meeting was adjourned.

11) Meeting Attendance

Suwannee- Satilla Regional Water Planning Council members in attendance:

- Ben Copeland, Scott Downing, Brittany Hull, Rusty McCall, Grady Thompson, and Doyle Weltzbarker

Georgia EPD Representative in attendance:

- Cliff Lewis, Jennifer Welte, Wei Zeng

Regional Water Planning Council contractors in attendance:

- Shayne Wood, Emory Gawlik, Emma Sutherland (CDM Smith)

Public/Agency attendees:

- Emily Floore (St Mary's Riverkeeper)
- Bert Earley (GFC)
- James, H. Brent (Georgia Power)
- Megan Parker (Southern GA Regional Commission)
- Merril Varn (Guest)
- Mike McCall (Guest)
- Amy Brown (SRWMD)
- Corey Hull (Southern GA Regional Commission)
- Gretchen Quarterman (WWALS)