

Memorandum

To: Savannah-Upper Ogeechee Regional Water Planning Council

From: CDM Smith Planning Team

Date: July 12, 2022

Subject: Savannah Upper Ogeechee and Coastal Georgia and Regional Water Planning Councils - Joint Meeting Summary

This memorandum provides a summary of the items presented during the July 12, 2022, Coastal Georgia Regional Water Planning Council Meeting, held jointly with the Savannah-Upper Ogeechee Regional Water Planning Council, at the Georgia Southern University Armstrong Center in Savannah, GA with a Microsoft Teams call-in option. This meeting was held from 10:00 AM to 12:00 PM.

1) Welcome and Introductions

CDM Smith, the Planning Contractor (PC), and Coastal Georgia's Council Chairman, Benjy Thompson, initiated the meeting, welcomed Council Members and guests, and asked Christopher Curtis to give his opening remarks and overview Georgia Southern University. Christopher Curtis (Vice-provost for Research and Scholarship) began with an introduction of Georgia Southern and their research. He highlighted their new college programs, grant funding, and relevant projects.

Savannah-Upper Ogeechee's Council Chairman, Bruce Azevedo, and Chairman Thompson both introduced themselves as Council Chairmen for the joint meeting. Chairman Thompson asked each Council Member (CM) and attendee to introduce themselves. Virtual attendees were asked to type in their name and affiliation in the MS Teams chat. An outline of the agenda items to be covered during the Council Meeting was then presented and the Council agenda was approved unanimously.

2) Updates to Regional Water Planning Schedule (Ashley Reid, CDM Smith)

Ms. Reid provided an overview of the updated regional water planning schedule. She noted that the planning schedule had been extended by 6 months, with an anticipated plan adoption by June 2023. Ms. Reid noted that this extension provides additional time to integrate new appointments and model updates.

3) Seed Grant Updates (Haydn Blaize, Georgia EPD)

Mr. Blaize provided a virtual update on the SEED grants. He summarized that there have been \$2 million in grants awarded since 2015 across 10 regional water councils. This year's application period is now open and closes on October 31, 2022. The application process is fully electronic using the new online portal.

4) SEED Grant Project Overview: Know Your River (Tonya Bonitatibus, Savannah Riverkeeper)

Ms. Bonitatibus provided an overview of the Know Your River water quality website. She explained that Know Your River started as an effort to develop a real time monitoring system on the Savannah/Ogeechee Rivers, but several data gaps and single pieces of data were identified. These gaps revealed the need to compile data from several layers (federal, state (GA and SC), and the City of

Savannah) to understand the larger water resources picture. The solution identified was to build a system using ArcGIS.

The goal of Know Your River was to develop an automated process that uses the last 3 years of live and regularly updated data. A publicly available Python code was written to create this automated process. Mr. Rosco Peters added that Python is the muscle in the system that allows data from different sources with different names and units to speak the same language in a user-friendly interface. Themed maps with layers help the user determine what characteristics are being observed. All data build on the language used by EPA and are transformed so the data are comparable. The hope is that the project will lead to the growth of the Google Doc of shared data and scientists will start to regularly share their data so other scientists can use and reference it. Ms. Bonitatibus presented the GIS website (knowyourriver.com) live and demonstrated how data can be layered on top of other data.

After navigating through the website, Ms. Bonitatibus summarized providing notable updates concerning the project. She explained that ESRI sent out updates in the ArcNews April 2022 edition with the Know your River highlighted in the centerfold. The next steps for this project include expanding outside of the watershed, building out real time monitors with Bluetooth capability, sending notifications to users when they've signed up for parameter alerts outside a specified threshold, development of easier methods for batch uploads, and the ability to download the whole program onto a user's computer.

- A public attendee asked if a single service link to pull out data is provided or if users have to navigate through the website. Ms. Bonitatibus said the API link is provided and each layer can be downloaded.
- A CM asked how much money was invested in this project for Savannah. Ms. Bonitatibus estimated that since this is the second SEED grant, the project has received about \$300,000 through funding.
- A CM asked how much time was involved in the development of the website. Ms. Bonitatibus explained the project is going on year three.
- A public attendee asked if adding additional basins now would be easier and cheaper than in the past. Ms. Bonitatibus responded that it would be cheaper and easier. She estimated that turning on a new basin now would be about \$35,000 depending on the size, and it becomes exponentially cheaper to build out.
- A CM commented that it would be great to see all river basins in the Atlantic slope included in the program before tackling west Georgia.
- A CM noted that if SEED grants could be joined together with other partners, data from the river basins could be obtained. Ms. Bonitatibus added that this information would be beneficial to everyone.
- A CM pointed out a potential caveat, noting that data is being pulled in from a lot of different sources, which is great if the data are good. If the data is bad, this could lead to improper

decision making. Once the program is built and the general public begins to use it, how is the data verified? Ms. Bonitatibus explained that all the data being gathered are state, federal, or local municipality data. If a municipality is willing to submit data to the state, it is assumed that this is good data. If a user only wants state or federal data, this can be chosen in the program. She added that the average citizen cannot enter in data - volunteers are vetted first.

- The CM urged caution and added that the biggest concern is that bad data could lead to money spent on problems that don't really need to be addressed. Ms. Bonitatibus noted that users are required to click on a disclaimer when entering the website that explains that the data are pulled from several sources. She explained that if you're able to see data together, outliers become more obvious too.

Chairman Thompson thanked Ms. Bonitatibus and initiated a 5-minute break.

5) Updates on Water Management in the Savannah River Basin (Kathryn Feingold, US Army Corps)

Ms. Feingold provided an overview of water management in the Savannah River Basin and the current basin status. She explained that water management is a balancing act, and all components are important. Currently, three dam projects are being managed by the Corp, including Russel, Thurmond, and Hartwell. These projects are owned by Duke, who is required to provide water to the Savannah River Basin in certain circumstances at a specific regulated point. The Hartwell project is a popular recreation spot, Russel is the largest power plant east of the Mississippi River, and Thurmond is the last control point before the water leaves the Savannah River Basin system. Ms. Feingold continued to explain that the number one priority right now is to minimize flood damages and loss of life, followed by maximizing the benefit to the public. Each project can be classified into one of the following pools: 1) Inactive and only used for sedimentation 2) conservation 3) flood storage used temporarily to store inflow from flood events.

Ms. Feingold then reviewed induced surcharge and the relationship with Duke Energy. She explained that Duke Energy is not allowed to hoard water, so if water levels are at 80%, then Duke Energy must release water until they're at 80% as well. They also are required to maintain a certain volume of water in case of emergency plant shutdown. Ms. Feingold also reviewed the drought management plan and explained that there have been four periods of drought recorded to date. She also noted that about 25% of water is lost to seasonal evaporation.

Hydropower was also reviewed, and it was explained that hydropower is provided by the Corps, but it is not marketed or run by the Corps – this is done by SEPA (Southeastern Power Administration). Ms. Feingold finished the presentation with a summary of the Water Management webpage. She asked the Council to reach out if there's anything desired on the webpage that is not currently included.

- A CM asked if saltwater intrusion affects how much water comes out of the basin to keep saltwater back. Ms. Feingold explained that it is currently not included in the water control manual. The largest point downstream the Corps is concerned with is the water supply through the City of Augusta. She noted that there will be a water control update coming up and this topic is on the discussion list.

- A CM noted that in 2008/2009 there was a drought and then 10 years ago, we experienced a lot of rainfall. The CM asked if that was the maximum flow for these three projects. Ms. Feingold explained that the max flood event was in 2013 around the winter holidays. All projects during this time went into induced surcharge. Ms. Bonitatibus added that Augusta experienced the flood of record earlier this year. SEPA is not allowed to release water during these flood events.

6) Overview of USACE Study Authorities (Brian Choate, USACE)

Mr. Choate began with a review of the mission and priorities of the US Army Corps, which includes people, readiness, partnerships, and revolutionaries. He explained that partnerships would be the focus of this presentation and noted that the two reasons to partner with the Corps include their technical expertise and the increase in financial resources available.

Mr. Choate then reviewed the following USACE programs: 1) Floodplain management services 2) Planning assistance to the states 3) Continuing Authorities Program (CAP). Floodplain management services include general technical services and planning guidance. He noted there is national competition to obtain these funds. The planning assistance to the states program is a 50/50 cost share, where typical challenges may include right of entry, data delays, personnel overcommitment, and incremental funding from headquarters. Mr. Choate summarized CAP and explained that it is cost shared with a non-federal sponsor. This program also has national competition. He noted that CAP is construction focused and has two phases: feasibility phase (12-18 months) and design/implementation phase (3 years). Two recent CAP projects include Ecosystem Restoration and Rocky creek.

Mr. Wood concluded the joint portion of the meeting and explained that Council Members should divide into breakout rooms for separate council meetings after lunch.

6) Attendees

Affiliation	Name
<i>Savannah-Upper Ogeechee Regional Water Planning Council</i>	Bruce Azevedo Pat Goran Suzanne Sharkey Tenia Workman
<i>Coastal Georgia Regional Water Planning Council</i>	Benjy Thompson Ken Lee Russ Foulke Brian Nease Phil Odom Michelle Liotta James Burnsed John Sawyer Mark Smith Jim McGowan Michael Browning
<i>Regional Water Planning Council Planning Contractors</i>	Emory Gawlik Shayne Wood Ashley Reid Emma Sutherland

Affiliation	Name
	Laura Hartt
Georgia EPD	Christine Voudu Reid Jackson Dr. Wei Zeng Haydn Blaize
Public/Agency Attendees:	
Ogeechee Riverkeeper	Damon Mullis
Savannah Riverkeeper	Tonya Bonitatibus
Newfields Environmental	Rosco Peters
Georgia DNR	Joel Fleming
Georgia Forestry Commission	Jay Foskey
USACE	Kathryn Feingold Brian Choate
USGS	Chris Henry Greg Cherry John Joiner
Augusta Utilities	Wes Byne Oscar Flite
Clemson Extension	Heather Nix
UGA Extension	Mary Claire
SC DHEC	Frank Nemeth
Hussey Gay Bell	Trent Hodges
Public	Merril Varn Mark Beatty Daniel Calhoun Monty Parks Jennifer Hilder
Simonton Engineering	Paul Simonton
City of Savannah	Laura Walker
Coastal Region Commission	Dionne Lovett
Georgia Southern University	Christopher Curtis
Phinizy Center	Callie Oldfield Jillian Amurao June Ekechukwu Trevor Sondan
Sapelo Island National Estuarine Research Reserve	Brittany Dodge
Colonial Group Inc	Megan Corley
SNF Holding Co	Steve Simonsen
Windsor Forestry	Holly Page
GMC	Chris Tolleson

From: Ashley Reid, CDM Smith

Date: July 12, 2022

Subject: Savannah Upper Ogeechee Water Planning Council - Meeting Summary - DRAFT (subject to Council review and approval)

This portion of the memorandum provides the meeting summary for the Savannah-Upper Ogeechee Regional Water Planning Council Meeting, held in person on July 12, 2022, at the Georgia Southern Armstrong Center, from 12:30 PM to 2:00 PM. The attendance to this meeting was also made available through the Microsoft Teams platform. This meeting was held following the joint Savannah-Upper Ogeechee/Coastal Georgia Joint Council Meeting.

1) Welcome and Council Business (Council Chairman Bruce Azevedo)

Chairman Bruce Azevedo convened the meeting, noting that the agenda was approved during the earlier joint meeting. He then asked the Council to approve the March 8, 2022, Draft SUO Council Meeting Summary. The summary was approved without objection.

2) Surface Water Resource Assessment Results (Dr. Wei Zeng, EPD)

For more information about this agenda item, please refer to the presentation slide deck.

Dr. Wei Zeng (EPD) provided a review of BEAM (Basin Environmental Assessment Model), noting that the model relies on more nodes for assessing performance. He also noted that the model has several baseline settings, including instream flow projections and physical aspects concerning reservoir operations, which constrain the model.

Dr. Zeng outlined the water supply settings in terms of withdrawals and discharges for the municipal, industrial, and energy sectors. Ms. Tonya Bonitatibus (Savannah Riverkeeper) noted that no energy withdrawals were presented in the table, pointing out that Plant Vogel is in the basin. Dr. Zeng agreed that was an omission and made a note to correct it.

Dr. Zeng then presented four examples of modeling results, pertaining to these water suppliers:

- Banks County Board of Commissioners
- City of Crawford
- City of Toccoa
- Thomas-McDuffie County Water & Sewer Commission

Example 1: Mountain Creek Reservoir (Banks County) at headwaters of the basin

- Withdrawal permit limit is 1 MGD; minimum flow of 1.63 cfs is required
- Currently using ~0.6-0.8 MGD; future demand will be ~2.2-2.8 MGD
- Reservoir can support existing demands, but not future demands
- When you assess future demands against 2007-8 drought conditions, several periods of water supply challenges are likely

- Assessing future demands against 2011-12 drought conditions yield similar results—water supply challenges likely in the future

Example 2: City of Crawford

- Withdrawal permit limit is 0.43 MGD (daily)/0.25 MGD (monthly)
- Currently using ~0.1 MGD; future demand will be ~1.1-1.3 MGD
- Reservoir can support existing demands, but not future demands
- When you assess future demands against 2007-8 drought conditions, several periods of water supply challenges are likely
- Assessing future demands against 2011-12 drought conditions yield similar results—water supply challenges likely in the future

Dr. Zeng noted that not all water providers have submitted information needed to complete the model; in some cases, EPD must assume no storage in the water supply reservoir at issue.

Example 3: Toccoa & Lake Lawson

- Withdrawal permit limit is 9.0 MGD
- Currently using ~2.5-3.5 MGD; future demand will be ~4.5-6.2 MGD
- With the exception of a short period in 2008, the reservoir can support existing demands
- For future demands assessed against the 2007-8 and 2011-12 droughts, still see periods of water supply challenges

Example 4: Thomson-McDuffie County Water & Sewer Commission

- Withdrawal permit limit is 2.0 MGD (daily)/1.5 MGD (monthly)
- Currently using ~0.45 - 0.61 MGD; future demand will be ~0.42 - 0.56 MGD
- Notably, future projected demands are lower than the current demands
- Water supply challenges are evident for both current and future demands when assessed against the 2010 drought

Dr. Zeng then discussed future wastewater assimilation challenges, noting that available technology as well as low flow thresholds for maintaining water quality determine effluent discharge limits. He presented one modeling example:

Example: Hudson River WPCP (Banks County Board of Commissioners)

- Discharge permit limit is 1.0 MGD
- 7Q10 flow at discharge location is 17cfs (~11 MGD)
- 10% of the time, the 17cfs threshold is violated, and those violations are about the same for current and future demands

Finally, Dr. Zeng reviewed potential performance metrics for recreational availability (i.e., optimal gage height for boating and kayaking) as well as habitat availability (i.e., percent of time flow velocities and water depths fall within optimal ranges for select fish species).

3) Other performance metrics recommended by SUO Council

Ms. Reid asked Dr. Zeng if he could provide some other examples of performance metrics pursued by other councils. Dr. Zeng noted that the Upper Flint Council has a working group that has identified three ranges of heights/flows at the USGS gage for Carsonville, namely extreme drought, shoal habitat optimization, and recreational use. Dr. Zeng also noted the Upper Oconee Council supported Seed Grant project which identifies optimal flows for fish, wildlife, and recreation.

Ms. Bonitatibus noted that a template would be helpful for her to populate with preferred recreational heights/flows at USGS gages adjoining boat ramps.

Ms. Reid asked Dr. Zeng if the Council was able to compile the data, could EPD include those new metrics into this plan update.

Dr. Zeng replied that he thought it was doable along the mainstem of the Savannah River, as long as the USGS gage information can be used as a reliable surrogate for boat ramp conditions. Ms. Bonitatibus noted that there was also a gage on Briar Creek, so that location might also yield useful information.

Ms. Bonitatibus then asked how the Council could incorporate stormwater metrics into the plan. Ms. Reid responded that she would follow up with Oscar Flite. Chairman Azevedo recommended addressing the issue at the next SUO Council meeting. Ms. Bonitatibus suggested adding a simple narrative to the plan update noting that this was something of interest to the Council to be taken up during the next update.

Ms. Hartt asked Dr. Zeng if water quality performance metrics could also be included in the update. Dr. Zeng recommended following up with Dr. Liz Booth to see if she has looked at bacteria (which is a useful metric for recreational uses).

Chairman Azevedo asked when the deadline was for getting any performance metric data to EPD for inclusion in the plan update. Dr. Zeng responded that his modeling team is ready to do the post-processing of the modelling results, but if the information were provided within the next 4-6 weeks it was possible for it to be included in the plan update. Ms. Bonitatibus responded that she thought she could get the boat ramp data to EPD in time.

Ms. Reid asked if there were any further comments or questions from the Council. Ms. Bonitatibus noted that she had talked to some of the members of the Coastal Georgia Council, and they had expressed interest in adding recreational metrics to their plan update, but she was unsure of the location of the mile marker that divides the two basins.

4) Wrap-Up/Closing Comments

Chairman Azevedo wrapped up the meeting by identifying several issues in need of follow up. These issues stemmed from both the earlier joint meeting as well as the SUO Council breakout meeting.

First, the Chairman noted the number of 2022-23 Corps projects that may impact the Council's plan. He asked Council members if the Corps should be urged to incorporate saltwater intrusion mitigation into their plans. Ms. Bonitatibus agreed. Haydn Blaze (EPD) responded that the state is a planning partner with the Corps as a member of the Georgia Silver Jackets, so he offered to forward information to the Council concerning ongoing Corps' planning activities.

Chairman Azevedo noted that the SUO Council should explore potential collaboration with the Coastal Georgia Council on future Seed Grants.

Lastly, the Chairman noted that the resource assessments have identified several water supply “challenges” and he wondered how those challenges would impact the plan update and if there was anything the Council could do to ameliorate the impacts. Dr. Zeng responded that EPD’s role is to alert the Councils, but that local providers are the ones who need to act to make sure that they have enough water supplies to meet future water demands. The Chairman recommended that the SUO Council contact the local suppliers and alert them to the “challenges.” Ms. Hartt noted that water conservation, water efficiency, and drought management are additional tools for dealing with water supply “challenges.”

Ms. Reid closed the meeting by thanking attendees for their participation. The meeting ended at approximately 2:00 pm.

5) Attendees

Affiliation	Name
<i>Savannah-Upper Ogeechee Regional Water Planning Council</i>	Bruce Azevedo Pat Goran Suzanne Sharkey Tenia Workman
<i>Regional Water Planning Council Planning Contractors</i>	Ashley Reid Laura Hartt
<i>Georgia EPD</i>	Dr. Wei Zeng Haydn Blaize
<i>Public/Agency Attendees:</i>	
Savannah Riverkeeper	Tonya Bonitatibus
Augusta Utilities	Wes Byne Oscar Flite
Clemson Extension	Heather Nix
SC DHEC	Scott Harder
Phinizy Center	Callie Oldfield Jillian Amurao June Ekechukwu Trevor Sondan