

# Memorandum

*To: Savannah-Upper Ogeechee Regional Water Planning Council*

*From: Ashley Reid, CDM and Michelle Vincent, Jacobs*

*Date: September 23, 2021*

*Subject: Savannah-Upper Ogeechee Regional Water Planning Council Meeting Summary*

## Welcome, Introductions, and Council Business

Chairman Bruce Azevedo called the meeting to order. Chairman Azevedo called for a motion to approve the prior Savannah-Upper Ogeechee (SUO) Council Meeting Minutes (April 2021). Minutes were correct, and no changes were needed. Minutes were approved by motion, second, and unanimous vote.

Chairman Azevedo called for a motion to approve the draft agenda. Agenda was approved by motion, second, and unanimous vote.

Chairman Azevedo noted the Council's request for 11 new Council members and indicated that thus far the Council has received three new appointments from the Governor. He then encouraged Council members to assert any influence to encourage additional appointments. The three new council members introduced themselves. Suzanne Sharkey is a local Georgia Power manager for Burke and Jenkins Counties and a lifelong resident of Jenkins. She noted that both counties are also large agricultural communities. Dink NeSmith is co-owner of Community Newspapers, Inc. who farms and lives in Oglethorpe County. The third new member is Elbert County Board of Commission Chair, Bobbie Lee Vaughn, who is also a community bank owner. Chairman Azevedo welcomed the three new members to the Council thanked them for their attendance.

## EPD Updates

### Planning Process Updates

Jennifer Welte with EPD gave a brief overview of the Council's timeline for the 5-year Plan update and how it aligns with the Metropolitan North Georgia Water Planning District's update timeline. She updated the Council on the plan schedule to date, and the schedule remaining for 2022. Draft plans will be completed in September 2022 to go to public comment. Plans will be finalized for adoption by EPD in December 2022. Ms. Welte gave an overview of the background of the plan, the funding sources, and the technical pieces of the plans, such as forecasting elements (industrial, energy, agricultural, municipal), and the resource assessments.

Chairman question: Are we going to have a smaller drafting committee to review language/content for the updates? Will we have a chance to redline the plan and make changes like we did for the last round of review and revisions?

Ms. Welte response: The contractors will work with the Council on how to engage members in the drafting process. There is some flexibility to tailor process to work best for each Council.

Ms. Welte summarized the modeling updates (i.e., the resource assessments). She described the previous surface water availability model, focusing on the number and data sources for nodes used. She then outlined the BEAM process, emphasizing its use of a finer scale and more nodes. The BEAM model is current in development for the Savannah and Ogeechee river basins.

Chairman: Newsletters have good summary on the BEAM model for new members.

Ms. Welte then described how BEAM is being used for other basins and showed the map depicting the updated nodes for the Savannah and Ogeechee rivers. She showed examples of new nodes for the Oconee-Ocmulgee-Altamaha, and the various different inputs and outputs for the model, such as reservoirs, NPDES discharges, water withdrawals, etc. EPD has gotten input from South Carolina on how to estimate their discharges to factor into the BEAM model. South Carolina is also conducting hydrologic modeling on their side of the basin.

Comment: The 2020 population census may show some shifts in population that should be considered in the planning process.

## Seed Grant Updates

Hadyn Blaize from EPD gave the Council a brief update on the status of the following ongoing seed grant awards:

- FY19 - Initiating and Upgrading Publicly Accessible Water Monitoring for the SUO and Coastal RWPs, awarded to the City of Augusta (supported by the Savannah River Keeper), is substantially completed.
- FY20 – (i) Historical Analysis of In-stream Water Quantities for the Ogeechee, Savannah, Altamaha and Oconee River Basins, awarded to the University of Georgia, is scheduled for completion on 3/31/2022; and (ii) High Frequency Monitoring and the Effects of Agricultural Water Withdrawal in the Savannah Upper Ogeechee Watersheds, awarded to the City of Augusta, is scheduled for completion on 9/30/2022
  - FY21 - Upgrading Publicly Accessible Water Monitoring for the Savannah-Upper Ogeechee RWP, awarded to the City of Savannah (supported by the Savannah River Keeper), is scheduled for completion by 8/31/2023.

The announcement for 2022 seed grants has been issued with pre-application meetings due by October 15, 2021 and submissions due by October 31, 2021.

## Break

*[brief coffee/stretch break]*

## **Agriculture Demand Forecasting (Mark Masters)**

Mark Masters with the Georgia Water Planning and Policy Center gave an update on the agriculture water demand results. Mark reminded the Council that Albany State University – GA Water Planning and Policy Center and the University of Georgia College of Agriculture and Applied Economics are working together on this effort.

He provided an overview of the methods for determining wetted acreage, crop projections, and crop water needs, as well as animal agriculture and nursery estimates. Mr. Masters discussed the improvements to the wetted acreage dataset, additional data on crop projections through 2060, and the expanded use of meter data to confirm crop water needs per acre.

Mr. Masters noted that there was one change in assumptions regarding surface water needs. Prior studies showed that on average, surface water demand were 70% of that from ground water. That assumption was in the initial plan as well as the most recent 5-year update. However, after 10-15 years of metering data, that gap in demand has closed. In other words, surface water demand is roughly equivalent to that of ground water, so the 70% assumption is no longer being used in the forecasting process.

A similar methodology was used to forecast animal agriculture and nursery demands. He noted the 11.35 MGD for animal agriculture for the Council was the highest of any other region in the state. Similarly, with horticultural nurseries, the demand is more than 10MGD and is the highest of any other region in the state. The vast majority of the Council's irrigated acreage is down in the southern parts of the planning region, primarily in Burke and Screven counties. Most of the irrigation in the region is center pivot, and the percent of irrigated fields has increased by 11.2% from 2015. Much of the irrigated acreage is row crops, but also includes pecans or other orchards, and all golf courses in the region are also captured in the permit database.

He then reviewed the mapping information included in the wetted irrigation database that accounts for types of irrigation and crop distribution. He noted that the crops produced in this region are similar to others across the state (i.e., peanuts, cotton, etc.). Polygons or irrigated acres are next populated with water use and then aggregated. A wide range of water uses are estimated, ranging from wet years to dry years. The 75th percentile was chosen as the baseline for surface and groundwater use, as it approximates a dryer year (but not the driest year) condition. Both surface and groundwater demands have increased to 85 MGD and 20 MGD, respectively.

Mr. Masters noted that the difference in monthly demands during the growing season compared to other times of the year is substantial and may vary between 100 MGD (in a wet year) to 350 MGD (in a dry year). Total annual average demand, for all crops, is approximately 120 MGD in 2020, and is approximately 150 MGD in 2060.

## **Metropolitan North Georgia Water Planning District Update**

Danny Johnson with the Atlanta Regional Commission gave the Council an update on the status, progress, and schedule of the Metro District Plans. The Metro District is on generally the same schedule as the Councils, to be completed by December 2022. Currently, the District is working through some stakeholder processes, as well as completing some forecasting work. The District's current schedule is to have forecasting information released by the December 8, 2021 Executive Board meeting. This information will also be distributed to regional councils who are interested in the forecasting.

The District is also working on Stormwater Forecasting, and the District's 2022 Plan will be the first plan iteration to include this type of forecasting. The runoff volume for future stormwater is based on current land use and how land use changes over time period. It is a planning level forecast based on volume on a watershed scale.

Action items that the District will be including in their new plan include water efficiency improvements through plumbing code update, updates to the water waste ordinance, expanding the rebate program to include smart irrigation controllers and smart leak detection, and whole house efficiency/certification.

Mr. Johnson summarized a partnership with Georgia Public Broadcasting, Live Exploration, called Georgia's Water. More than 79,000 people viewed the live stream, and the project also had 2,000 page views, 441 questions from students, and 1,247 pop quiz questions. The cost for the program was \$16,000. The program included interviews with people working in water careers. He encouraged the Council to share the project's website with any interested educators.

Chairman: The leak detection rebate programs can be expensive.

Mr. Johnson: It can depend on the product. The device the District used to promote has doubled in cost. Flume may be affordable. Another option is the use of a water sensor device shaped like a hockey puck that can sense leaks and notify you by phone/internet when you are out of town.

Chairman: Even \$200 or \$300 can be expensive for some folks.

## **Break for Lunch**

### **Seed Grant Project Update: Know Your River Demonstration**

Tonya Bonitatibus with the Savannah Riverkeeper provided an update on the seed grant project "Developing a real-time, publicly accessible water monitoring system in the Savannah-Upper Ogeechee River Basin."

Tonya Bonitatibus (Savannah Riverkeeper) reviewed the Seed Grant projects. She first summarized the Data Democratization Tool, which entails 6,000 data points with 35 layers, all publicly accessible. It includes a Field Collection App, which has recorded over 200 events to date. During the past 6 months, over 10,000 users have accessed the website. Ms. Bonitatibus gave the Council a demonstration of the model, pulling up information for Washington, Georgia. Ms. Bonitatibus demonstrated the different data layers available, and the ways to use the information. Information includes boat landings, listed streams

and water quality data, fish consumption advisories, USGS stream gauges, groundwater withdrawals and aquifer data, fishing reports and many more. The website address is Knowyourriver.com. Users can create custom maps with the information they are interested in.

Next steps for the tool include creating a dashboard, standardizing the data for future analyses, adding more real time monitoring and data layers, and creating a manual that would expand the tool to other basins.

Lyndsey Wallace with NewFields described the next phase of the project. Currently, data from different sources are being standardized and then combined into a single database. This will facilitate data analysis. Ms. Bonitatibus emphasized that the data are updated in real time. To date, the project has more than 6,000 data points, and has had more than 10,000 users on in the last 6 months.

Chairman Question: Does the Seed Grant cover the cost of continuing the project?

Response: The cost to maintain the project is not significant, currently. Royal Bank of Canada is providing some funding on related work, Swim Guide. The Riverkeeper is also committed to the ongoing maintenance of the project. However, future funding will be needed.

Chairman: The Council used data on the “Redline” rivers in prior plan. Should we use this tool to help make decisions during the next update?

Ms. Bonitatibus: You can compare SC and GA data. SC only indicated points of impairment. Other states include impaired reaches.

Chairman: Can anyone access and collect the data?

Ms. Bonitatibus: *Knowyourriver.com* is a research tool for anyone who wants to use it. There is a layer for data collection, but users need to be certified to access it.

Chairman: Reminds everyone that Seed Grants are supported by the Council.

EPD: We do take appropriations from legislature and put it towards the Seed Grant program. Projects have to implement one or more elements of a Regional Water Plan and be endorsed by the Council. Can you talk about your partners in the project?

Ms. Bonitatibus: Project partners included the Phinizy Center, Ogeechee Riverkeeper, City of Augusta, City of Savannah, and all the major agencies involved with the Savannah River (S.C. DHEC, EPD, USGS, Corps, FWS, and NOAA). The project would benefit from more agricultural data input and groundwater data.

Chairman: The Council’s prior plan was lacking some in agriculture focus; We would like more information on agriculture, so we are planning to ask Mark for more updates.

Ms. Bonitatibus: The project has some good South Carolina groundwater data; We would like to increase the amount of Georgia data.

Question: Where does Broad River/Lake Hartwell data come from?

Ms. Bonitatibus: The data included is everything we can find that is publicly available, including data from EPA, USGS, and EPD. The City of Savannah gives batch uploads monthly of water quality monitoring data.

Chairman: The City of Savannah data is available on the City's website.

Ms. Bonitatibus: Also, there are Adopt-A-Stream groups that have collected Broad River data. There are also legal settlement funds available to help improve data collection around Lake Hartwell.

Ms. Bonitatibus thanked the Council for their continuing support.

## **Savannah River Below Augusta Ecosystem Restoration Project Update**

Jeff Schwindaman, with the U.S. Army Corps of Engineers gave an update on a feasibility study done in partnership with the Savannah Riverkeeper, called the Savannah River Below Augusta (SRBA) Project.

He began by giving the background on the changes made to the lower Savannah River stemming back to the 1880s. 46 channel cuts were made to facilitate commercial navigation, which reduced the river miles by 27 miles. Commercial navigation effectively ended in the 1980s. Those modifications had negative impacts on the health of the ecosystem, including reduced flow, increased siltation, reduced fish and wildlife habitat, and lower water quality.

Objectives of the 50-year study (2025-75) include improving native fish habitat, increasing spawning, rearing, and foraging habitat for migratory fish species, restoring natural floodplain and hydrology, and enhancing riverine wetlands in the cutoff meanders. Constraints are no adverse modification to critical habitat for Atlantic sturgeon, no impacts to water intakes at SRS and Plant Vogtle, no net loss of wetlands, and no modifications that impact Strom Thurman dam operations.

The study started with 46 potential restoration locations, which were whittled down to 7 locations. For the 7 locations, several structural and non-structural measures were explored and converted to 14 action alternatives. A cost-benefit analysis was done to generate 6 "Best Buy" plans, from which the Corps has tentatively selected a plan. This plan is not formally approved, it is just what the study team has tentatively selected.

Mr. Schwindaman provided an example of how the alternatives analysis was performed, using Wildcat Point. He then provided a brief description of the model used (HEC-RAS and EPD RIV-1) and data inputs (EPD RIV-1, Phinizy Center, literature, collected topographic/bathymetric).

Mr. Schwindaman showed the output for comparing 864 possible plans, sorted by cost-effective, non cost-effective, and "best buy." The 6 "Best Buy" plans and 1 cost-effective plan were further examined, and only 3 of the plans created spawning habitat. Wildlife managers preferred partial closure over full closure. The tentatively selected plan would restore 6 of the 7 priority cutoff bends and will restore 241 acres of wetlands and add 6.4 river miles. Management would combine partial diversion structures, tree clearing, pilot channels, and beneficial use of excavated material. The plan would add 180 AAHU and 6.4 total river miles. The estimated cost is \$68.9 million, which is cost-shared between federal government and non-government partner.

Question: What are training structures?

Mr. Schwindaman: Training structures include rock cribbing, wood cribbing, and other things designed to fix the channel in place. The project will require tearing out these old structures. They are still learning more about what is involved in removing them and have included a healthy contingency to cover the cost of removal.

Mr. Schwindaman provided the timeline for the project, noting that by December 1, 2021 a draft report will be available for public review and comment in December and January. He then noted that additional reports and authorizations are needed, including a Corps Chief's Report and Congressional authorization for funds. The City of Savannah is one of the non-federal sponsors.

Ms. Bonitatibus: There is a \$12.5 million settlement agreement over inner harbor deepening that will go towards restoring the river sections.

## Public Comments, Wrap Up & Adjourn

Chairman Azevedo thanked the speakers and asked if there were any members of the public or elected officials present who wished to provide any comments. No comments were forthcoming.

Chairman Azevedo asked the Council members for recommendations for meeting subjects for future meetings. He especially asked new members, if there is something going on in their area, or if they have topics they'd like to hear about, to let him or their planning contractors know.

Next meeting will be tentatively planned for early January 2022.

Meeting was adjourned at 1:40 pm.

## Meeting Attendance

### Council

- Bruce Azevedo (Chair)\*
- Braye Boardman
- Jerry Boling\*
- Charles Cawthorn
- Patrick Goran\*
- Scott MacGregor
- Dink NeSmith
- Sue Parr
- Suzanne Sharkey
- R. Lee Webster\*
- Tenia Workman\*
- Lee Vaughn\*

## **EPD**

- Jennifer Welte\*
- Haydn Blaize

## **Planning Contractors**

- Ashley Reid (CDM Smith)\*
- Laura Hartt (Jacobs)
- Michelle Vincent (Jacobs)
- Mark Masters (GWPPC)

## **Public and Agency Partners**

- Tonya Bonitatibus (Savannah Riverkeeper)\*
- Danny Johnson (Metro District - Atlanta Regional Commission)
- Lee Smith (Wolpert)
- Jeff Schwindaman (US Army Corps of Engineers)
- Scott Thackston (Georgia Forestry Commission)
- John Joiner (No affiliation provided)
- Brenan Thompson (Rabun Co)\*
- Lindsay Wallace (Newfields)\*
- Sam Booher (Sierra Club – retired military)
- Jay (No last name or affiliation provided)

\*In-person attendees.