Upper Savannah River Basin Council

January 10, 2024 Meeting Minutes

RBC Members Present: Scott Willett, Harry Shelley, Mack Beaty, Danny Milam, Tim Hall, Melisa Ramey, Reagan Osbon, Cheryl Daniels, Dan Murph, Billy Owens, Mark Warner, Jeff Phillips, Alan Stuart, Jon Batson, Tonya Bonitatibus, Cole Rogers, Chuck Connolly, and Will Williams

RBC Members Absent: Jill Miller (Jennifer Barrington, alternate, present), Katie Hottel (Erika Hollis, alternate, present), Tonya Winbush, Carl Price, John Hains, and Charles Turner

Planning Team Present: John Boyer, Ashley Reid, Alexis Modzelesky, Scott Harder, Alex Pellett, Joe Koon, Andy Wachob, Kirk Westphal, and Hannah Hartley

Total Present: 34

1. Call the Meeting to Order (Jeff Phillips, RBC Vice Chair) 10:00–10:10
    a. Review of Meeting Objectives
    b. Approval of Agenda
        - Agenda approved
        - Scott Willet – 1st
        - Harry Shelley – 2nd
    c. Approval of December 14th Minutes and Summary
        - Minutes and summary approved
        - Harry Shelley – 1st
        - Billy Owens – 2nd
    d. Housekeeping Items
        - Restroom location
        - Silence phones, go outside to take calls

2. Public Comment (Ashley Reid) 10:10–10:15
    a. Public Comment Period
        - none
    b. Agency Comment Period
        - none

3. December RBC Meeting Review (Ashley Reid) 10:15–10:20
    - Summary of current water use
    - Water demand projections
    - Keowee-Toxaway Energy Complex
    - Friends of Lake Keowee Society
    - Tour of Jocassee Dam

4. Savannah-Upper Ogeechee Regional Water Plan Overview (Ashley Reid) 10:20–10:40
    - Policy Statement: “Georgia manages water resources in a sustainable manner to support the state’s economy, to protect public health and natural systems and to enhance the quality of life for all citizens.”
    - Regional Water Planning Councils

- GA water planning timeline
- Regional Water Plan Review and Revision Process
    - GA water planning process
- Savannah- Upper Ogeechee
    - council vision
    - goals
    - resource assessments
        - groundwater availability
            - groundwater very important because their plain goes further down into coastal plain
        - surface water availability
        - surface water quality
            - Q: For the Savannah River? Why is there 400+ miles of river?
            - A: 464 river miles- includes tributaries and the whole basin
            - C: Dissolved Oxygen (DO) is the focus for water quality
            - C: Primarily DO but a few others but it was the main focus
            - C: Groundwater withdrawals higher here due to the planning basin extending into the coastal plain
            - C: Planning boundaries follow county boundaries
            - Q: Modeling included tributaries, how to identify which tribs to include
            - A: Not sure, can get back to you - maybe all the ones with gauges
            - Q: Curious about the delineation
            - A: Similar or same as the SWAM most likely
            - C: Not a lot of withdrawals on small stems
            - C: May be discharges not just withdrawals
        - Forecasts
            - Population
            - Wastewater returns
            - Water demand
        - Potential challenges
            - 2060 planning horizon
            - Details
        - SUO regional water plan
        - Questions
            - Q: Forecasting for GA side what were SC needs?
            - A: Probably get back to you during the meeting
            - Q: Water management objectives/goals/recommendations/ how did they interact with the USACE?
            - A: Some explicitly identify the USACE as a stakeholder. Water management practices were more vision-based

and not a lot of change but how to sustain
- C: There were some water management practices to look for avenues for change but not specific changes – more collaborative/cooperative between utilities for example
- Q: Specific things to address water demand gaps?
- A: They are there but weren't changed in the last round of planning.
- C: We'll look at those when we get there for our process. Suggestions on how to achieve goals – actions under strategies

5. Hydrology 101 (Kirk Westphal, CDM Smith) 10:40–10:55
    - Purpose
    - Hydrologic cycle
    - Measuring hydrologic data
    - Displaying hydrologic data
        - Basic streamflow hydrograph
        - Daily vs monthly flow
    - Visualizing small differences
        - Log scale
    - Flow exceedance curve/ flow duration curve
    - Other information and interpretative guidance
        - Frequency and magnitude of shortage
            - Shortage- inability to support a need
        - Important hydrologic statistics
            - 7Q10
            - Median monthly flow
            - Mean monthly flow
        - Statistics vs patterns
        - Water availability
        - Safe yield has different definitions in different contexts
    - Q: What do you think the flow was at 12 mile creek yesterday with the rain?
    - A: Off the scale – 4700 cfs
    - Q: Where did base # come from 100 cfs?
    - A: Just a random example for demonstration
    - C: What you get from the USGS tool is the blue line
    - C: Reservoir safe yield definition is not the same as the river safe yield definition

Break *10:55–11:05*

6. Methodologies for evaluating water availability (Scott Harder, SCDNR) 11:05–11:30
    - Methods for evaluating water availability
        - Formal approach, provides common definitions
        - Definitions
    - Twelvemile Creek
        - Physically available surface water supply

    - Surface water condition
    - Surface water supply
    - Surface water shortage
    - Reach of interest
- Reservoir safe yield
- Performance measures
    - 20/30/40 flows
- Strategic nodes
- Surface water demand scenarios
    - Current surface water use
    - Permitted and registered water use
    - Moderate and high demand projections
    - Optional scenarios
    - Water demand
- Current surface water use scenario
    - 2012-2021 10-year average
    - Inform short-term planning
- Permitted and registered water use scenario
    - Maximum legally allowable water withdrawals for permits/ registrations
    - Whether water is allocated
- Water demand projection scenarios
    - 50-year planning horizons
    - Moderate/ high use
- Process for evaluating surface water availability
- Summary
- Q: Explain conjunctive use?
- A: Using surface water and groundwater resources and sub-definitions – use surface water when available and when surface water is stressed use groundwater
- Q: Opinion on this happening in the Upper Savanah?
- A: Not likely with limited groundwater – but an example could be for ag using a small well
- Q: From water supply – Upper Savannah susceptible to flooding shows what expectations from high flow events
- A: A little outside the scope of this process – could show high flow events
- C: Probably will come out of SCOR process
- C: Hope Warren or Alex Butler could come talk to the Upper Savannah possibly – sometimes there is a synergy
- C: Lower basin if they had to open the gates to Lower Savannah
- C: Hope Mizzell presentation – topography – potential loss of life in upstate counties and rapid runoff – in the Pee Dee we see the water rise and lower slowly
- C: Permitted and registered is less useful for planning but most useful/important for those looking for a registration or permit

7. Introduction to the Savannah River Basin Surface Water Model (John Boyer, CDM

Smith) 11:30–12:00

- Model is a representation of a real-world system that can be solved with computation methods
- Water allocation model what it is and isn't
- SWAM
- Model used to assess current availability and assess future scenarios
- Model inputs
- USGS gage timeline
- Q: Physically vs legally available water (see RBC Chat)
- A: Legally available - what people are permitted for
- Modeled river/streams/reservoirs/ wastewater discharges/ interbasin transfers- focus on major regions
- Q: Where is our line between the Upper and Lower Savannah planning basins?
- A: Below Steven's Creek
- Model schematic- account for GA withdrawals
- SWAM calculations
    - Supply
    - Demand
    - Reservoir
- USACE reservoir operations and drought plan
- Model timesteps (daily vs monthly)
- Model calibration
    - Predictive calibration, prescriptive downstream hydrology validation, predictive baseline model verification
- Comparison of daily/monthly gaged and modeled flows
- Comparison of measured and modeled lake levels
- 2021 surface water model updates
- Model limitations
- Saluda River Basin surface water model framework
- Evaluating projected demands
- Performance measures
- Strategic nodes
- SWAM overview and training
    - Potential training days: 2/28 or 2/29, 10-2, lunch provided
    - Where does LSS meet? Hampton, Allendale, Estill. Middle part of the basin
- SWAM model available for download on DNR hydrology website. Need FTP software, only on PC

Lunch 12:00–12:30

8. Current Use, Unimpaired Flow, and Permitted and Registered 1:15 Surface Water Scenario Results (John Boyer) 12:30–

- Surface water scenarios
- Summary of average annual surface water demands by scenario

- Current use scenario
    - No shortages
    - Monthly timestep
- Permitted and registered scenarios
    - Q: What is your speculation without reservoirs?
    - A: Probably shortages in a modified SWAM UIF scenario with users in the scenario
    - C: Pickens may be joining a new 6 mile WTP
    - Q: Outflow from the Thurmond dam are you using USACE rules?
    - A: Model incorporates Corps rules
    - C: Pickens will be moving their intake into Keowee and Easley – Central as well (6 mile WTP)
    - Q: On GA side is that GW?
    - A: Yes, that's what I was thinking the area goes down much further
    - C: Some of the message will be modified or changed for planning period
    - C: Did Upper Ogeechee – Savannah set surface water conditions?
    - A: Minimum flow condition
    - A: Shortages based on physical challenges
    - Q: When do we set the flow for the river - a surface water condition?
    - A: After looking at the moderate and high-demand scenario results we can begin that discussion also feedback on flow-ecology risk levels
    - Q: Any way to get an idea of quantity of demand on reservoirs vs stream/river demands?
    - A: If you look at table 1 you see the source (N/A's) would be on reservoirs
    - C: Only condition we could set would be on the tribs
    - C: Suggest land use recommendations potentially
    - C: Again reminder we are looking at past hydrology which is a limitation
- Summary of water supply shortages
- Reservoir storage plots- Lake Hartwell, Lake Thurmond
    - Any consideration about lake elevations and economic impact?
    - C: Exact numbers that Vogel and SRS flows are needed – can't stop water going to them about 3100
    - C: Level 4 drought – whatever goes in goes out
    - Q: Are all intakes below deadpool?
    - A: ARJWS is the lowest at 622 ft and Lavonia is about 4 ft above ours
    - C: Is that about right?
    - A: Sounds right – our pull out of Hartwell and GVL pull from Keowee
    - A: Adkins WTP might be growing
    - Q: How much is due to differences in demand vs reservoir management?
    - A: Seems like river management is more of an impact – not as familiar with the rules
    - Q: How up to date are Army Corps storage curves? (see RBC chat)
    - A: The USACE doesn't factor in erosion really
    - A: The curves are pretty accurate

9. Update on Water Demand Projections (Alex Pellett, SCDNR) 1:15–1:25
    - Interconnectedness of water distribution systems, enhance the methods

- Q: Recreation nodes? Chattooga? Or put a node when whitewater rafting flows?
- A: Not sure
- A: Nodes are usually put in to see impact of withdraws or discharges
- C: Chattooga only on SC side that supports a lot of whitewater rafters/outfitters
- C: I don't think there are withdraws or discharges on Chattooga
- C: Chauga might be of interest
- C: Westminster uses the Chauga

10. Upcoming Meeting Schedule and Topics (Ashley Reid) 1:25–1:30
    - Joint meeting with LSS and Army Corps 2/14
    - Other topics?
    - New Savannah Bluff lock and dam
    - Updated drought contingency plan
    - Section 10 update
    - Low-tech process stream restoration (beaver dam analogs)
    - North Augusta
    - Field trip ideas? Get on the lake, see dock operations, sailboats
    - Lower and upper Savannah people take boat ride together at North Augusta meeting?

Meeting concluded: 1:42 pm

Meeting Minutes: Taylor Le Moal and Tom Walker
Approved: 2/14/24

RBC Chat:
10:04:05 From Thomas Walker to Everyone:
public comments?
10:04:12 From Thomas Walker to Everyone:
or agency comments?
10:42:46 From Thomas Walker to Everyone:
cntrl + left mouse button is a virtual laser pointer
11:06:32 From Thomas Walker to Everyone:
10 minute break til 11:15
11:49:02 From Scott Harder to Everyone:
Tom, let John know that I am online now
11:49:37 From Thomas Walker to Everyone:
will do
11:55:56 From Alan Stuart to Everyone:
Can you explain the differences between physically and legally available water ?
11:57:13 From Thomas Walker to Everyone:
sure one second
11:57:29 From Alan Stuart to Everyone:
mentioned in slide 59
11:59:41 From Alan Stuart to Everyone:
yes, thank you

12:27:45 From Alan Stuart to Everyone:
I am
12:27:51 From Alan Stuart to Everyone:
28th
12:28:10 From Thomas Walker to Everyone:
got it thanks alan
12:31:14 From Thomas Walker to Everyone:
break until 12:50
12:49:55 From Alan Stuart to Everyone:
thanks Tom !
13:06:13 From Alan Stuart to Everyone:
City of Walhalla has an intake on Keowee
13:07:29 From Alan Stuart to Everyone:
Pickens County Water is in process of getting approval
13:08:24 From Alan Stuart to Everyone:
correct
13:23:46 From Alan Stuart to Everyone:
How up-to-date are the USACE storage curves ?
13:37:53 From Alan Stuart to Everyone:
Has a tentaive location been established for the joint meeting ? Maybe I missed you saying it
13:38:32 From Thomas Walker to Everyone:
N. Augusta area
13:39:03 From Thomas Walker to Everyone:
maybe near SRS at the GA ecology lab building (not sure of the name)
13:42:37 From Thomas Walker to Everyone:
meeting adjourned