Pee Dee River Basin Council (RBC) Meeting #17 Minutes
October 24th, 2023

RBC Members Present: John Crutchfield, Doug Newton, Michael Bankert, Walt Beard, Frances McClary, Megan Hyman, Buddy Richardson, Cynthia Walters, Bob Perry, Michael Hemingway, Cara Schildtknecht, Lindsay Privette, Hughes Page, Jason Gamble, Eric Krueger, Jeff Steinmetz, Tim Brown, and Cliff Chamblee

Absent: Cricket Adams, Snipe Allen, Jeff Parkey, & John Rivers

Planning Team Present: JD Solomon, Matt Lindburg, Scott Harder, Brooke Czwartacki, Andy Wachob, Alexis Modzelesky, Joe Koon, Leigh Anne Monroe, Hannah Hartley, Tom Walker, and Chikezie Isiguzo.

Total Attendance: 44

1. **Call the Meeting to Order (Buddy Richardson, J. D. Solomon - Facilitator)**
   a. Review of Meeting Objectives
   J. D. Solomon (the Facilitator) called the meeting to order at 9:05 AM and welcomed members to the 17th Pee Dee RBC meeting. The main objectives of the meeting included hearing updates on the Groundwater Modelling Progress, reviewing Agricultural Water Use in the Basin, and discussing Drought Management Strategies and Plans and Surface Water Conservation Strategies.

   b. Approval of Agenda, September 26th Minutes and Summary
   The members unanimously approved the October 2023 Pee Dee RBC meeting agenda. John Crutchfield moved a motion to adopt the minutes and summary of the September 26, 2023, Pee Dee RBC meeting, seconded by Walt Beard. J. D Solomon also, informed the house that the Drought Management Strategies Review Subcommittee will commence its tasks following the current meeting of the Pee Dee RBC Committee, noting that Lindsay Privette (Chair), John Rivers, and Michael Hemingway will join the subcommittee. Also, he announced the constitution of a Groundwater Subcommittee with Cynthia Walters as Chair, with Walt Beard and Jeff Steinmetz rounding out the subcommittee.

2. **Public Comment (JD Solomon)**
   There were no public comments.

3. **Update on Groundwater Modeling Status (Scott Harder, SCDNR)**

   Brooke Czwartacki presented an update on the Groundwater Modelling Status. She informed the members that the USGS team was scheduled to complete the model in November, following which they will meet with the SCDNR team and, subsequently, the Groundwater subcommittee. Finally, the USGS team will present the results of the model to the members of the Pee Dee RBC.

   J D. Solomon reiterated the importance of the work of the subcommittees and the need to

present the technical results of the various models in a form understandable by all stakeholders.

4. **Review of Agricultural Water Use (Alex Pellett, SCDHEC)**

Alex Pellett explained that his research on agricultural water use was motivated by controversies and discussions around the relative proportion of irrigation and agricultural use compared to other sectors. These questions were echoed by meeting participants during the development of water demand projection methods and members of the Edisto River Basin Council in the course of the river basin planning process in the Edisto basin. He noted the need for an evidence-based and data-driven effort to support the policy-making process by helping guide decision-making. He proceeded to present data and results from studies seeking to quantify water use in South Carolina.

Alex discussed the concept of consumptive use and explained that, generally, agricultural water use had been assumed to be 100% consumptive in SC and GA water planning. He noted that although this assumption is questionable, precise estimates of consumptive use require site-specific information. Evidence shows that Agricultural water use ranges from 3% - 27% of total annual water consumption in SC, generally from 5% - 15% in most years. He described various practices and systems that moderate water use in agriculture in general and irrigation in particular.

To answer whether irrigation can continue to expand, Alex explained that irrigators have commented on the limited availability of suitable land for center pivot sprinklers. He noted that geographic constraints on center pivots do not appear to limit projected growth (44% over 50 years). Although economic and logistical constraints may reduce growth in the short-term, medium, and long-term agro-economic trends may promote growth. He also highlighted that hotter and more variable weather could promote growth.

C: Fertigation comment – doesn't necessarily mean irrigation.
Q: Does the USDA survey capture smaller irrigators too?
A: Yes, and that is on the next table.
C: Alex did a good job – it is important given some variability and trying to get better data.
C: 1996-2000 – the data is solid.
C: Received those files – sat and met with individual farmers – some could have been overexaggerating while some provided accurate data.
C: Going back to help verify – those who sell pivots could be useful (selling new pivots versus replacement pivots)
Q: In your business working with ag do you help report water use? Do they overreport or underreport?
A: There's some of both and some who don't even want to report use. Over report to protect their use/right so it has less accuracy
C: Some not likely to speak up and report
C: How do you get your numbers and why it is important to be accurate is important messaging.
C: Self-reporting is something I wouldn't trust. How to get accurate data

C: Technically require that they do that already
C: Way more acres could be irrigated – maybe up to 500k more acres?
A: Some of that is timberland
C: Land ownership – spend 200k for land to irrigate? If they live in NY – probably no but if they're your cousin then maybe.
C: Cover cropping should reduce irrigation?
A: It didn't come into play on irrigated land but on dry land it made a difference
C: Transportation of those products and from the Midwest (livestock) costs. Added irrigated acres, possible.

5. **Drought Management Strategies Used by Other RBCs (Elliott Wickham, SCDNR)**

Elliot Wickham explained drought management strategies used by other RBCs to the members of the Pee Dee RBC. He reminded the members that drought management strategies are "A collection of water management strategies supported by a summary of data and analyses designed to ensure the surface water and groundwater resources of a river basin will be available for all uses for years to come, even under drought conditions." The chapters of the River Basin Plan related to drought management include Chapter 6 - Water Management Strategies, Chapter 7 - Water Management Recommendations, and Chapter 8 – Drought Response.

Discussing water management strategies, Elliot differentiated between Demand and Supply-side strategies. He explained that some demand-side Agricultural strategies include Water audits and nozzle retrofits, irrigation scheduling, soil management, crop variety, crop type and conversion, and irrigation equipment changes. Demand-side municipal strategies include conservation pricing structures, Toilet rebate programs, Landscape irrigation programs and codes, Leak detection and water loss control programs, Car wash recycling ordinances, Residential water audits, Water efficiency standards for new construction, Reclaimed water programs, Time-of-day water limit, public education on water conservation, and Water waste ordinance. The Broad RBC did not adopt public education on water conservation and Water waste ordinance.

Elliot explained that compared to Edisto RBC, which adopted a prioritized approach to water management strategies, Broad RBC adopted a priority variation by operations approach. Generally, both RBCs made efforts to recognize the peculiarities of each basin to arrive at preferred strategies and prioritization.

On drought management strategies, Elliot highlighted the importance of communication between the SC Drought Response Committee (DRC) and other stakeholders, especially the RBC, including direct participation as members of the DRC. Elliot also presented the outcome of the drought management strategies planning process. The Low Flow Management Strategy in Edisto Basin seeks to incrementally reduce surface water withdrawals so that water users, including the users most downstream, still have access to water under conditions that may arise during severe and extreme drought. Takes effect

when flow at Givhan's Ferry is less than 20% of long-term flow (based on 7-day average flow). This approach applies to surface water users whose peak monthly withdrawal has exceeded 60 million gallons/month in any of the last 12 months, captures 92 percent of the volumetric withdrawals from the river but excludes the lower 86% of small withdrawers.

The Broad RBC recommended that water utilities review and update their drought management plan and response ordinance every 5 years or more frequently if conditions change. When updating their drought management plans, water utilities should look for opportunities to develop response actions consistent with those of neighboring utilities. To the extent practical, water utilities should coordinate their drought response messaging. The Broad RBC encourages water utilities in the basin to consider drought surcharges on water use during severe and/or extreme drought phases. Water users and those with water interests should submit their drought impact observations through the Conditions Monitoring Observer Reports (CMOR) when drought occurs.

Elliot described the supply-side strategies adopted by the Edisto and Broad RBCs. The Edisto RBC adopted Conjunctive use practices, Offline reservoir storage and small impoundments, and Groundwater pumping from less-used different aquifers.
The Broad RBC adopted the following: Adjust reservoir operations, Lee nuclear-generating station offline storage Season, Distribution of Gaston Shoals allocation – Gaffney, Renegotiate Gaston Shoals allowance with FERC licensee – Gaffney, Raise dam height of Lake Whelchel – Gaffney, Quarry storage – Gaffney, New Broad River intake – Gaffney, Connection to SWS – Gaffney, New reservoir on King's Creek – Gaffney, and New regional Reservoir – which would include Gaffney.

In conclusion, Elliot reminded the members of the Pee Dee RBC that they will choose their representative in the SC DRC. He also admonished them to consider when the drought management plan was last updated and whether the listed point of contact is still valid. He noted other things to consider, including if water supplies and demand are still the same. For wholesale water providers, does the customer's plan account for the provider's drought plan? Other questions include: Are plan triggers (metrics and data points) still valid, and do triggers include DRC declarations? Are water reductions (gal/day or gal/month) at different drought levels effective for supply conservation? Are violation fees effective for getting noncompliant customers to reduce water demands? Does the drought management plan state that it will notify DNR (drought@dnr.sc.gov) when there are changes to enacted conservation levels (worsening and improving)?

COMMENTS
Q: Is there any recommendation on how long before plans are updated?
A: It is recommended to update plans after 5 years due to the hazard mitigation plan schedule. However, each basin must consider its water system peculiarities and adopt a suitable planning cycle.

6. **Summarize Drought Management Plans, Development of Chapter 8 (Matt Lindburg)**

Matt Lindburg discussed the structure and expected content of Chapter 8. He reminded the members of the South Carolina Drought Response Program consists of legislation, regulations, and procedures that establish recommended and required response. The South Carolina Drought Response Act (2000) and the supporting regulations formally establish and describe the responsibilities of the South Carolina State Climatology Office and the South Carolina Drought Response Committee (DRC) as the major drought decision-making entities in the State.

He explained that Chapter 8 is divided into 2 sections. The first section will cover existing Drought Management Plans and Drought Management Advisory Groups. The second section will detail Pee Dee RBC's Drought Response, Roles/Responsibilities, Communication Plan, and Drought Management Recommendations.

Matt discussed each section and suggested some policy level recommendations to the members of the Pee Dee RBC for the second section. He recommended updating drought management plans, encouraging water users to submit drought impact observations through the Condition Monitoring Observer Reports, and forming a Drought Management Advisory function within the Pee Dee RBC. The Drought Management Advisory function will facilitate consistent drought response actions among neighboring utilities and coordinate drought messaging among all basin sectors. Also, it will perform added value collaboration, such as reviewing drought plans to identify commonalities or vulnerabilities and study surcharges on water use during severe/extreme drought.

C: Could we encourage folks to do it – utilities to update their plans?
A: Just asked for 5 minutes at rural water meeting to discuss updating plans
C: How do those overlay with drought response committee?
A: Who does the value added study?
C: Connection between local level and state level. Put out a model drought plan so local folks can follow a unified approach. DRC makes drought decisions at the county level. DRC goes through and makes recommendations for curtailment at severe and extreme levels. Each water system/utility is different

7. **Results of Surface Water Conservation Strategies analyzed for Pee Dee ((John Boyer and Matt Lindburg)**

John Boyer reviewed the water scenarios, highlighting the base and unimpaired (UIF) scenarios. He explained that the surface water quantity model answers the question: What if we cut back on our demand? How would that impact river flows? What will the impact be? The Base Scenarios include the Current Surface Water Use Scenario, which uses the most recent 10-year average withdrawals (as reported by month. The Permitted and Registered (P&R) Surface Water Use Scenario uses current fully permitted and registered amounts. The Moderate Water Demand Projection Scenario to the year 2070 is a future water demand projection based on moderate growth and normal climate, and the High Water Demand Projection Scenario to the year 2070 is a future water demand projection based on high growth and hot/dry climate. The Unimpaired Flow (UIF) Scenario models naturalized conditions (no surface water withdrawals, discharges, or reservoirs).

John further laid a foundation for understanding the model by explaining the various conservation scenarios by sector, after which he described the results.

The demand-side conservation strategies result in minimal impact on low flow conditions compared to the 2070 High Demand scenario. Generally, conservation strategies' impact on flows was generally the largest under Scenario 5 (conservation for agricultural, municipal, and industrial water users). At several locations, minimum flows decrease due to a reduction in groundwater withdrawals and the associated decrease in treated wastewater being returned to surface water upstream.

C: Conservation measures actually seeing less water?
A: Correct, can actually cause surface water levels to go down

Matt presented the benefits of Water Conservation and Efficiency. It reduces water costs for irrigation and possibly improves crop yields, lowers water costs for homeowners, and reduce or delays a municipality's need to develop more water supplies, conservation in groundwater-dependent communities may be important for sustaining groundwater supplies. Water conservation can help extend supplies for users on small/headwater tributaries and mitigate the impact of drought.

8. **Chapter Summary: Chapter 5 - Surface Water Only (John Boyer); Other Chapters (Matt Lindburg)**

John Boyer reminded the members that Chapter 5 focuses on surface and ground water. Focusing on surface water, he described the arrangement of the Chapter and provided an overview of each section. The first section discusses the methodology and explains surface water. The second section presents surface water performance measures. The third section presents the scenario description and the surface water simulation results. The fourth section summarizes the chapter.

Matt welcomed the members of the Chapter 5 review Subcommittee and appreciated the technical skills needed and J. D. Solomon outlined an approach for the subcommittee supported by John Boyer and other experts to deliver a comprehensive review. The subcommittee will have Cara Schildtknecht, Tim Brown, and Buddy Richardson as members.

9. **Closing Comments and Upcoming (Buddy Richardson and JD Solomon)**
J. D. Solomon appreciated the members of the Pee Dee RBC for their participation and stepping up for the subcommittee work. The next meeting of the PDRBC will be on November 28th, 2023.

The next meeting will be held at the Clemson Pee Dee Research and Education Center, Classroom #240 Darlington, SC 29532
The meeting concluded at 11:47 AM.

Minutes: Chikezie Isiguzo and Tom Walker
Approved: 11/28/23

RBC Chat:
09:02:13 From Thomas Walker To Everyone:
we are going to get started in a few mins.
09:45:52 From Michael Fu Man Yip To Everyone:
Is Georgetown not reporting or just no usage?
09:52:04 From Thomas Walker To Everyone:
one second jason
10:08:25 From ahughes To Everyone:
Excellent presentation, Alex!
10:14:25 From Thomas Walker To Everyone:
15 min return 1030
10:14:31 From Thomas Walker To Everyone:
break
11:15:57 From Thomas Walker To Everyone:
5 min break
11:47:47 From Thomas Walker To Everyone:
meeting adjourned