MINUTES OF THE 9th PEE DEE RIVER BASIN COUNCIL (RBC) MEETING (HYBRID FORMAT) HELD ON FEBRUARY 28th, 2023, at Clemson Pee Dee Research and Education Center, Classroom #240 Darlington, SC 29532

RBC Members Present: Buddy Richardson, Cara Schildtknecht, Michael Bankert, Bill Wiegand, Megan Hyman, John Crutchfield, Frances McClary, Bob Perry, Tim Brown, Walt Beard, Jason Gamble, Brandon Durant, Doug Newton, Jeff Steinmetz, Michael Hemingway, Snipe Allen, Hughes Page, Cricket Adams, Cliff Chamblee, John Rivers, Lindsay Privette, Jeff Parkey, and Eric Krueger

Absent: Cynthia Walters (Connor Smalling, alternate, present)

Planning Team Present: JD Solomon, Matt Lindburg, Scott Harder, Brooke Czwartacki, Andy Wachob, John Boyer, Leigh Anne Monroe, Thomas Walker, and Chikezie Isiguzo.

Total Attendance: 40

1. **Call the Meeting to Order (Buddy Richardson, Chair of RBC)**
   a. Review of Meeting Objectives
   JD Solomon (the Facilitator) called the meeting to order at 9:00 AM and welcomed members to the ninth Pee Dee RBC meeting. He highlighted the main objectives of the meeting, which included reviewing the results of the initial surface water-use scenarios, reviewing current drought management plans, discussing water conservation practices by water use sector, discussing coastal county water supply, and learning about the SCDNR Scenic Rivers program.

   b. Approval of Agenda and January 24th Minutes and Summary
   The agenda was unanimously approved. Michael Hemingway made a motion to approve minutes and summary documents, which Buddy Richardson and Bob Perry seconded, which was unanimously approved.

2. **Public Comment (JD Solomon)**
   There were no public comments.
   Hannah Hartley from DHEC joined the meeting virtually and introduced herself as a new representative from DHEC which will be involved with the Pee Dee RBC through the river basin planning process.
   Hannah Mikell, of Clemson University Cooperative Extension, also joined the meeting. She introduced some activities and programs conducted by Clemson Extension and invited members of the Pee Dee RBC to participate in the events. She specifically invited the Pee Dee RBC to an event planned for August 2023. She promised to provide more information about the event as it becomes available.

3. **Review of unimpaired flow, current water use, and fully permitted and registered water use scenarios (John Boyer, CDM Smith)**

   John Boyer reviewed the Pee Dee River Basin Surface Water Modelling Availability results

with the members of the Pee Dee RBC. He reminded the members that the planning process was in the second phase, which involved evaluating current and future water availability issues. His presentation focused primarily on current water use, what the basin water regime looked like before there was any water use (unimpaired flows), and then what would happen if we pulled all the water out that is currently permitted and registered.
Subsequently, the model results of Phase 2 will be used to develop water management strategies in Phase 3 of the planning process and recommend strategies. He emphasized some definitions in the Planning Framework, particularly, Regulatory Shortage, which occurs when the water demand exceeds the permitted or registered amount for a water user.

COMMENT
How come the Surface Water Condition does not consider downstream demand?
John Boyer clarified that the Surface Water Condition is defined as a physical limitation to the amount of water that can be withdrawn. Also, one could decide to set a condition based on some downstream demands as well. Although not explicit in the definition, you could decide that it is important when you establish a service water condition.

The presentation for the day focused on Current Surface Water Use Scenario. The model takes an average of the last 10 years of withdrawal for all service wide users. However, the model uses the last three years' information when new users came online during that time. He also explained the Unimpaired Flow Scenario.
He explained that the Moderate and High Demand Water Use Projection Scenario results would be reviewed in the next Pee Dee RBC meeting.

John Boyer explained the data collection and model development process. He noted the assumptions, data from North Carolina, and adjustments made to create the daily flows for the model. He presented the results of water demands for the current use scenario and the permitted and registered scenario for all the sectors. He noted that although thermoelectric is the highest user in the model (475 mgd), most of the water used is returned to the water system. Therefore, if you look at all sectors together currently, when you include thermoelectric, they are only using about 50% of the permitted and registered amount. If you exclude thermoelectric, they are only using about a third, 36% of the permitted and registered amount. Finally, he presented scenario results, showing regulatory and physical shortages identified by the model.

COMMENT
How are these shortages determined?
John Boyer explained that the results were based on the model and its assumptions. He noted that there is a level of detail the model avoids ensuring that it meets the objective of being an effective planning model.

COMMENT
Is there any reason to separate or have a different scenario for natural water storage ponds and man-made retention or detention ponds?
John Boyer: No, because that would be a whole lot of work to figure out how many natural

versus artificial ponds exist, and we don't even really want to look at it from a modeling perspective. Just that there are so many of them, and most of them really do not have an impact to the amount of water availability for the actual users in the basin.

COMMENT
So, how does the model treat withdrawal and return? Does it account for return?
John Boyer: It accounts for returns.
Regarding reservoir storage, we could experiment with the model, and this may be something you want to look at later. In our high-demand or moderate-demand scenario, we may have some shortages, but you know how much water could be released from Lake Robinson upstream and still stay within their operating levels and meet their minimum flow requirements.

John Boyer invited the members of the Pee Dee RBC to consider how the results of the model could influence strategic decisions, such as revising the list of strategic nodes, establishing minimum recommended instream flows, establishing a surface water condition in any location, and establishing reaches of interest. Reaches of interest are specific stream reaches with no identified surface water shortage but which are or could be experiencing undesired environmental or other impacts determined from current or future water demand scenarios or water management strategies.

4. **Drought Management Plans (Matt Lindburg, Brown and Caldwell)**
Matt Lindburg explained the importance of Drought Management Plans to members of the Pee Dee RBC. He described drought from five perspectives: Meteorological, Hydrologic, Agricultural, Ecological, and Socioeconomic. Meteorological drought is associated with low precipitation, maybe higher temperatures, lower runoff, and more evaporation. Hydrologic drought focuses on water supply: periods of low stream inflow, low water supplies, and declining reservoirs and water levels associated with hydrologic factors. Agricultural drought happens when there are conditions such as low soil moisture and crops are under stress, leading to lower crop yields. Ecological drought refers to scenarios when the natural environment is affected by lower stream flows, and it becomes difficult to recover. It can be driven by weather or human factors, like when water is diverted from a stream. Finally, socio-economic drought refers to when the weather drives shortages in goods or services, leading to reduced agricultural production. Other services, such as rafting services, are unavailable because most stream flows fail to serve socio-economic purposes as they used to.

He presented an overview of the South Carolina Draught Management Plans, the regulatory framework, and the administrative composition. He explained the four levels of drought – incipient, moderate, severe, and extreme. Matt explained the importance of drought indicators, mitigation measures, and the Drought Response Ordinance. He explained that drought mitigation strategies vary by severity. Drought triggers may be determined by a committee (Committee based). Some are determined by specific increases in demand or specific water use levels over a specific period of time (Demand based). Others are determined by streamflow, and in some cases, water quality is an additional trigger. Other drought triggers are based on water level and storage index.

Matt explained demand reduction strategies such as mandatory restrictions. The goal is to continually reduce water use in different stages of drought. He also explained alternative water arrangements as potential mitigation strategies during times of drought.

COMMENT
A comment was made regarding updating plans and the regularity of the updates.
Matt discussed that there is no mandate to update plans but that the SC State Climatology Office encourages updating plans, and while some do update their plans, many of the plans were last updated in the late 90s and early 2000s.

5. **Water Conservation Practices by Sector (RBC Members)**
The members had an extensive conversation about conservation practices in their various sectors. Each member that contributed noted that new devices and systems in their industries are helping them achieve better levels of water conservation. One of the challenges noted was the high cost of acquiring some of the new technologies, requiring significant investment, a cost some may find difficult if not impossible to pass on to customers.

COMMENT
Members from the Agriculture sector noted that the No-till system helps water conservation by encouraging water absorption, reducing erosion, and dramatically increasing water infiltration.
Members from the Industry sector mentioned that the environmental, social, and governance (ESG) policy requirements are driving them towards more sustainable and conservation practices.
Generally, the members appreciated the presentations, the knowledge shared, the opportunity to understand the needs of each sector, and how all these will help the council in the planning process. J.D. Solomon noted the importance of coastal communities and the gaps in the existing models. He encouraged the members of the committee to ensure that they note the interests of the coastal communities in the planning exercise (tell their story).

6. **Scenic Rivers (Bill Marshall, SCDNR)**
Introducing the presentation on Scenic Rivers, Bill Marshall gave an overview of the Scenic River program. He explained the legal framework guiding the designation of scenic rivers in South Carolina. The current legislation is the Scenic Rivers Act of 1989.
He explained the process of designation of rivers and how the status of a river affects how it is managed. He emphasized the need for the members of the Pee Dee RBC to understand the scenic rivers program in order to achieve a comprehensive water planning outcome. Bill explained the scenic river management plans focusing on Little Pee Dee, Lynches, and Black Rivers.
He reminded the members that land conservation is a priority in South Carolina. A Conservation Bank was established to foster that priority and help manage and protect river corridors. Finally, Bill summarized the project-level actions and outcomes of the Scenic River program.

7. **Closing Comments (Buddy Richardson and JD Solomon)**

The next meeting will feature a continuation of the SWAM model, a presentation on Flow-ecology, a presentation on Agribusiness and Agricultural Irrigation Efficiency, a discussion of the Edisto river basin report, and a follow-up on some things the members of Pee Dee RBC would like to have in the Pee Dee river basin plan.
The next meeting will be held on March 28th, 2023, at Clemson Pee Dee Research and Education Center, Classroom #240 Darlington, SC 29532

Minutes: Chikezie Isiguzo and Tom Walker
Approved: 3/28/23