MINUTES OF PEE DEE RIVER BASIN COUNCIL (RBC) MEETING (HYBRID FORMAT) HELD ON September 27th, 2022, AT CLASSROOM #240, 2200 POCKET ROAD DARLINGTON, SC.

RBC Members Present: Buddy Richardson, Frances McClary, Everett Allen, Bob Perry, John Crutchfield, Michael Hemingway, Cricket Adams, Michael Bankert, Cliff Chamblee, Jeff Parkey, Megan Hyman, Cara Schildtknecht, Cynthia Walters, Lindsay Privette, Bill Wiegand, Jeff Steinmetz & Jason Gamble

Absent: Walt Beard (Bert Beatson, alternate, present), Eric Krueger (David Bishop, alternate, present), Doug Newton (Pat Rogers, alternate, present), Hughes Page (Seth Cook, alternate, present), Brandon Durant, Christy Everett, Charlie Gray & John Rivers

Planning Team Present: Brooke Czwartacki, JD Solomon, Scott Harder, Andy Wachob, Joe Gellici, Leigh Anne Monroe, Joe Koon, Jeff Allen, Thomas Walker & Chikezie Isiguzo.

Total Attendance: 47

1. CALL TO ORDER AND WELCOME

J. D. Solomon, Pee Dee RBC Facilitator, called the meeting to order at 9:10 AM and welcomed members and alternates in attendance. He highlighted the main items on the agenda.

2. REVIEW OF THE MEETING OBJECTIVES AND APPROVAL OF THE AGENDA

The agenda was unanimously approved. Bob Perry – 1st made a motion to approve minutes and summary documents which was seconded by Buddy Richardson - 2nd and was unanimously approved.

3. PUBLIC COMMENTS

There were no public comments.

4. **SURFACE WATER RESOURCES OF THE PEE DEE BASIN** – (Priyanka More)

Priyanka More (Hydrologist, SCDNR) presented an overview of the Yadkin-Pee Dee Basin from the Blue Ridge Mountains to Piedmont and the Coastal Plains. She explained the differences in the hydrology of the different physiological provinces and listed the major tributaries and reservoirs of the basin. She described the rainfall patterns in the basin as showing higher rainfall in the mountains and coastal plains compared to other parts of the basin and an annual rainfall of 47.5 inches. She informed the members of the surface water monitoring network in the basin, which include 24 and 39 active USGS streamflow gages in South Carolina (SC) and North Carolina (NC), respectively. She showed the members how to use information from the dataset to understand the basin's hydrology.

QUESTION: What are you measuring here? Is it just the flow or the height of the river?

Priyanka clarified that the flow and the discharges are measured. USGS technicians go every eight weeks for random measurements and to check the integrity of the gages. She also presented water withdrawal

data showing surface and groundwater withdrawal in the basin by sector. Finally, she invited the members to appreciate the complexity of the hydrology in the basin, that only 38% of the basin is regulated, and the flows in the basin can be highly variable. Hence there is a need for proper management of the basin's resources.

5. YADKIN-PEE DEE HYDROELECTRIC PROJECT NO. 2206: FERC Requirements and Reservoir Operations (John Crutchfield)

John Crutchfield (Duke Energy) described the Yadkin-Pee Dee Hydroelectric Project in central NC, its historical background, and regulatory requirements. The project consists of Tillery and Blewett Falls developments. The FERC licensing requirements regulate the lake operating levels. He explained how Duke Energy maintains power output in seasons of low streamflow and high energy demand, highlighting the importance of hydroelectricity compared to other power sources. The generation capacity of the project is 105.4 MW.

John explained some relicensing issues the project faced, including instream flow requirements, migratory fish passage, water quality, lake level management, recreation and shoreline management needs, rare, threatened and endangered species, cultural resources, and other protection, mitigation, and enhancement issues. He also described how the project manages minimum flow requirements in Tillery and Blewett Falls as part of FERC licensing conditions and reservoir operations. The Yadkin-Pee Dee Drought Management Group collaborates with other agencies such as North Carolina Department of Water Resources (NCDWR), SCDNR, Duke Energy, and Cube Hydro to implement the project's low inflow protocol (LIP), which includes preparing a monthly LIP report. The report highlights the Low Inflow Triggers and Flow Requirements using a 4-stage protocol to guide management actions.

6. US GEOLOGICAL SURVEY STREAMFLOW MONITORING (Toby D. Feaster, USGS)

Toby commended the members for serving on the committee, reminding them how essential their service is to the community. He introduced the USGS and its organizational structure and mission areas. The USGS works with numerous partners to monitor, access, and conduct targeted research on a wide range of water resource issues. He introduced the USGS National Water Information System (NWIS), which originated in the 1800s from a need to gauge the flow of rivers and streams for potential irrigation in the western US. The USGS continues to improve the methods of streamflow monitoring and publish public data. The USGS monitors streamflow in about 8,500 sites and water levels in about 1,700 additional sites.

Toby showed the members a view of the NWIS site and some installations used for data collection. He introduced the USGC South Atlantic Water Science Center (SAWSC). The SAWSC operates approximately 900 real-time streamflow gaging stations using satellite telemetry.

QUESTION: From the slide, do you notice that along the coast, the USGS does not appear to have any installations at all?

Toby D clarified that his slide did not capture all USGS installations. He explained the USGS National Water Dashboard, the USGS Water-Watch, the USGS Water Quality Watch, the USGS WaterNow, the USGS StreamStats, and how the data is useful for the committee's water resource planning tasks.

QUESTION: I live in coastal SC on the Waccamaw river. There is a river gage in the Marina Heritage Plantation that measures the water in the Waccamaw river. But it, basically, measures from the bottom of the river to the top of the water because its tide averages between 15 feet and 18 feet. That is absolutely no help to those of us who are coastal and know that the elevation of our lot might be twelve feet. Therefore, it is not of any use to the residents to gauge whether it will flood or not. Do you gauge the height of the water, or do you put an elevation to guide the residents in the area on their property level?

Toby D. noted that USGS has noted the concern raised by the question and is trying to address it. However, the survey points are linked to the elevation of the area. Also, the USGS summaries provide useful information that can help work out specific information that may useful for residents.

QUESTION: I get a lot of questions like this from people in the watershed asking how to interpret the data or how to use your website. Are there resources available to work people through all these different applications and how to interpret it?

Toby D suggested that the USGS sites are user-friendly compared to other sites and noted the difficulty of producing a guide that will meet the need of all users. However, he recognized that USGS must continue to work on making its content user-friendly and easy to understand by a knowledgeable audience.

7. LOW-FLOW STATISTICS IN SOUTH CAROLINA (Toby D. Feaster, USGS)

Toby informed the members that USGS started computing low-flow statistics in SC in the 1960s. The USGS collaborated with SCDHEC between 2007 and 2014 to update the SC low-flow statistics at continuous-record stream gaging stations. The study produced six USGS reports, with the Pee Dee report published in 2007 and the summary of all the studies published in 2017. He explained the low-flow statistics computation, which was based on various averaging periods. As of April 2022, the USGS has started a new two-phase study with SCDNR and SCDHEC to update the SC Low-flow statistics and the mean annual flow statistics at the USGS stream gages in SC and develop regression equations that can be used to estimate low-flow and mean annual flow statistics as ungagged locations.

He explained the 7Q10 concept to the members - the annual known seven-day average flow with a ten-year recurrence interval. In terms of probability of occurrence, it is a 10% probability that the annual minimum 7-day average flow at a site will be less than or equal to the estimated 7Q10. Toby mentioned that the 7Q10 in SC regulation is used for water quality standards, source water protection, and interbasin transfers. He highlighted the importance of climate-year and demonstrated how to compute 7Q10. He concluded with the usefulness of 7Q10 computation in managing water resources in the SC for such tasks as permitting and wastewater management.

QUESTION: I know that you are looking at climate change and changing weather patterns. How can they affect the model?

Toby D. for low-flow and high-flow, the USGS uses an annual value and, because of this, may not see things that are going on in a shorter time.

8. CLIMATOLOGY OF SOUTH CAROLINA (Hope Mizzell, Climatology Office SCDNR)

Hope Mizzell introduced the functions of the State Climatology Office of SCDNR, including acting as the liaison agency for the FEMA Flood Map Program. The Climatology Office promotes climate and weather awareness and knowledge through the development and delivery of science-based climate services and tools on a local and state level. She presented SC climatic and weather patterns from 1900 to 2020 and discussed the implications for water resources management. She concluded by presenting projections based on the analysis of historical patterns with the greatest concern being the possibility of a warmer climate that could lower water availability in SC.

QUESTION: You mentioned that there were no statistical trends in precipitation in South Carolina, just like the averaging overall. Are you tracking to see if there's a trend in the types of rainfall we're getting?

Hope Mizzell confirmed that they are currently working with a team from Louisiana to track the data that will help achieve the model.

9. SC DROUGHT MONITORING (Elliot Wickham, Climatology Office, SCDNR)

Elliot Wickham started by inviting members to define drought. He described drought as a natural occurrence that does not have a universal definition. He drew the attention of the members that each stakeholder may define drought differently than others. Therefore, there is a need to appreciate other stakeholders' perspectives on drought. Using the Palmer Drought Severity Index, he explained the SC drought trend from 1895 to 2020. He went further to describe the SC climate divisions using the Climate Division Scale to show the position of the Pee Dee River Basin. He cautioned the members about relying only on current trends to assume a very low drought risk in the basin but to consider the historical data.

Elliot discussed the SC Drought Response program, the enabling regulation, and the instrumentality of the Drought Management Area (DMA) and Drought Response Committee (DRC). He invited members to consider joining or nominating someone to join vacant DMA/DRC roles. He discussed the indices for drought monitoring and response in SC which include streamflow levels, lake levels, and groundwater levels. He concluded with a detailed description of the components of the SC Drought Response Program and local level drought plans and lessons the members can draw from DRC processes. He invited the members to visit scdrought.com for more information.

10. UPCOMNG MEETING AND SCHEDULE

J. D. Solomon noted the need for regular communication among members. He also noted that four members were absent and requested members to inform the planning team of anything that could help sustain the full participation of all members. The next meeting will be held on October 25th and will feature a combined meeting and field trip at the City of Sumter water treatment plant. Future Pee Dee RBC meetings are scheduled for November 15th and December 13th.

Minutes by: Chikezie Isiguzo and Tom Walker

Approved: 10/25/2022