

Saluda River Basin Council

**July 19, 2023 Meeting Minutes**

**RBC Members Present:** KC Price, Michael Waddell, Tate Davis, Eddie Owen, Paul Lewis, Larry Nates, David Lawrence, Rick Huffman, Robert Hanley, Patrick Jackson, Katherine Amidon, Rebecca Wade, Ed Bruce, Mark Farris, Jay Nicholson, Josie Newton, Charlie Timmons, David Coggins, Melanie Ruhlman, Justin McGrady, Brandon Grooms, Jason Davis, Devin Orr, Jeff Boss, & Kevin Miller

**RBC Members Absent:** Thompson Smith, Rett Templeton (Julie Davis, alternate, present)

**Planning Team Present:** Scott Harder, John Boyer, Andy Wachob, Tom Walker, Jeff Allen, Leigh Anne Monroe, Hannah Hartley, Alexis Modzelesky, & Kirk Westphal

**Total Present:** 50

**1. Call the Meeting to Order (K.C. Price) 10:00–10:10**

K.C. Price called to order the July 19<sup>th</sup>, 2023, meeting of the Saluda RBC at 10:00 AM. He introduced the meeting structure and reviewed the meeting objectives, including learning about water demand projection methodology, draft projections, the Scenic Rivers Program and the Middle and Lower Saluda Scenic Rivers, and FERC licensing and lake management in the Saluda basin. KC requested motions to approve the agenda, minutes, and summary documents from the previous meeting. The Saluda RBC members unanimously approved the RBC meeting agenda – Michael Waddell made a motion to approve – 1<sup>st</sup> which was seconded by Robert Hanley & Larry Nates – 2<sup>nd</sup> and unanimously approved the last meeting minutes and summary documents – Rick Huffman made a motion to approve – 1<sup>st</sup> which was seconded by Michael Waddell – 2<sup>nd</sup>.

The Housekeeping items and Announcements included RBC members departing (Jim Moore- Local Government and Sharon Appell- Water and Sewer Utilities). Robert’s Rules (Cheat Sheet was distributed). There were no public or agency comments.

**2. June RBC Meeting Review (John Boyer) 10:15–10:30**

John Boyer briefly recaps the June RBC meeting, where Kevin Kubach discussed the Aquatic Biodiversity of the Saluda Basin with the knowledge that 84 fish species are in the Saluda Basin, 60% of SC’s native freshwater fish diversity, and about 18 Regional Fish Species of Greatest Conservation Need are in the Saluda basin. Amy Chastain talked about Fisheries Management, and some of the points highlighted included: SCDNR conducts fish habitat enhancement

projects in Greenwood and Lake Murray, Creel Surveys conducted in Lake Greenwood, and about \$2.8M spent annually by anglers in Lake Greenwood. Dr. Luke Bower discussed Flow-Ecology Relationships. He highlighted streamflow gages, hydrologic foundation of streamflow and biological data, classified natural river types, and potential response regarding various water withdrawal scenarios risks. Finally, Dr. Nathan Smith discussed the Saluda Basin Agriculture Review, which included Corn, Cotton, Peanuts, Soybeans, and Wheat. Among the crops, corn required a higher percentage of annual water needed, followed by Peanuts and Soybeans.

**3. Water Demand Methodology and Saluda Basin Demand Projections 10:30–11:00**  
**(Alex Pellett, SCDNR)**

Alex Pellett facilitated this session on Water Use in the Saluda River Basin. He started discussing Water Withdrawal Reporting in SC, which included how SCDHEC tracks water use through the South Carolina Surface Water Withdrawal and Reporting Act and South Carolina Groundwater Use and Reporting Act. The regulation requires water users that withdraw 3 million gallons or more in any month to report their use annually to SCDHEC. The Surface and Groundwater Withdrawals in 2022 have surface water of 99.9% and Groundwater of about 0.1%. Planning will essentially focus primarily on the basin’s surface water resources. In other words, 99.9% of total water withdrawals are from surface water. Some of the highlighted historical water use issues are data limitations, including errors in reported trends of water withdrawal or errors introduced during data input, and some users fail to add metadata such as longitude, latitude, county, and basin information for a surface water intake or groundwater well. In summary, Saluda planning will focus primarily on the basin’s surface water resources, 99% withdrawals from surface water sources, SW top three categories: Water Supply (48%), Thermolectric (39%), and Industry (125%), no significant trends observed in the historical surface water withdrawals, except in the past three years for industrial and water supply categories.

Discussion: Are golf courses lumped in with agriculture, how much do they use?

Ans: Yes, but they are separated out and golf water use is less than one percent of total withdrawals in this basin.

## **Saluda Basin Water-Demand Projections:**

The 1970s edition of water demand projections can be compared with historical water use (SCWRC projections). These components included thermoelectric, industry self-supply, public supply, irrigation, domestic, and livestock for predicting future water utilization. Projections are not forecasts in this discussion. The aim is to have some informational scenarios that the RBC can make decisions on. The stakeholder input mechanism, included feedback ( technical advisory committee feedback), enabled us to start putting the projections into water availability and, most importantly, provide general and sector-specific recommendations. The models are calibrated for each water user, with water withdrawal data from 2012-2021. Moderate calibration is based on the median water demand for each month and high calibration is based on the maximum water demand for each month. Projections of county population and industrial sector economic growth drive long-term projections of water demand. Alex then went through preliminary draft results for various water use sectors.

Discussions:

Q: This is statewide data?

A: Yes

Q: Regarding consumptive agricultural water use and return flows

A: The assumption is evapotranspiration makes agricultural water use 100% consumptive. Are there return flows in reality? If so, that is different from the assumption. Peach fields, for example, there is subsurface drainage in the lowcountry which is return flow in these situations.

C: We assumed the crops use all water (full consumption).

C: It depends on the soil – sandy soil on peach farms water goes into farm ponds and some use wastewater for irrigation.

Q: Can we account for non-registered agricultural use? How to deal with it?

A: USDA catches 1000 irrigators and do a stratified sample. 3 million gallons a month = 9 acre feet a month. 100 acre feet per year is above 3 million gallons a month. Users below that may

be about 1000 unregistered irrigators but it could be between 500 – 2000 users who are using between say 2 – 5 acre feet per year. Small portion of water use – however a cluster/concentration of these users could have an impact.

Q: What type of communication goes on between unregistered and registered users or with SCDNR or SCDHEC?

A: Sometimes unregistered users don't want to talk to us. Some are happy to report use.

C: Key things could be how to address / communicate with unregistered users.

A: An estimation of unregulated water use could be put into the model.

Q: Golf and ag were close on the chart, are there more golf courses? How many golf courses are registered versus unregistered?

A: We don't know - we do know the industry is moving to a more naturalistic setting for their courses. Golf courses fell out from ag due to ponds on-site or pulling less than the threshold.

C: Trends for golf sector – native natural areas, technology has become more efficient with irrigation and wetting agents and those have us beyond normal use (use less all the time). We know water restrictions will be drastic in the future, so the industry is trying to be more efficient and use less water.

C: The Lee Plant has shut down coal use and is now gas use.

C: Gas is super-efficient.

C: Lee Plant still withdraws water, but it is more efficient with the gas use. We've moved from a once-through to cooling towers (Appendix RBC Chat for more info). There is a shift from high withdrawals to less withdrawals.

Q: Is your 100 gallons/day per capita water demand correct for public supply?

A: The values could be correct.

A: We are lower: 50-60 gallons/day in Greenville.

C: For Laurens County Water it is about 134 gallons per household.

C: Do you use a 2.5 or 2.7 multiplier?

C: Seems like a higher number for projections since we are seeing trends of the number going down year by year.

A: Growing by projected population assumption is holding per capita the same due to high efficiency.

C: Interconnected network not always all things being equal – be careful with interconnections.

C: Those are usually obtained through the sanitary survey (emergency connections).

A: We could potentially refine. Certain systems could have a lot of water loss/ real demand is higher (Georgia requires water audits) average of 10-15% water loss but some outliers are at 50-60% water loss.

Q: Have you considered planned use? Zoning which informs where growth would be?

A: We did not take land use into account but rate of migration/birth rate/death rate to 2070? Very speculative – what if we use a lot of water should be high for a high demand scenario.

Manufacturing: C: Shaw – textiles chemical manufacturing growth rate? Shaw could be 50% growth by 2070 with these rates.

Q: For projections how to account for new industries?

A: Great question – scenario possibly could help. In the Broad, new industry would connect to the Public Water Supply which would account for the growth.

C: (Appendix RBC Chat for additional comment)

C: Explain what you're doing for the next few months.

A: I'm putting together demand projections and will send to water users and will make adjustments from feedback received.

C: Should have some feedback by the August meeting and over the next two months. I'll discuss projected ag growth at future meeting.

Q: Will there be model scenarios?

A: Next meeting.

Q: Can we help get you feedback if you don't receive any?

A: For the Edisto we had 20 page reports. If you know someone who is a user, give them your point of view and stress it is a planning exercise.

#### **4. FERC Licensing in the Saluda Basin. (Elizabeth Miller, SCDNR)**

**11:10-11:40**

Elizabeth Miller facilitated this session; she discussed FERC Licensing in the Saluda Basin. Active SC FERC licenses comprise 22 projects and 32 facilities. SC rivers affected by active GA & NC FERC licenses are the Savannah River and Great Pee Dee River. At the same time, the non-FERC licensed dams in Saluda Basin include Saluda Lake Dam, Holliday Dam, and Boyd Mill Pond Dam. The six hydrologic projects in the Saluda Basin are Saluda Hydroelectric, Buzzards Roost Hydroelectric, Ware Shoals Hydroelectric, Lower Pelzer Hydroelectric, Upper Pelzer Hydroelectric, and Piedmont Hydroelectric projects. Federal laws regulate Hydropower licensing nationwide. The two Federal Power Acts are FPA Section 10(a) includes project must serve the public interest, not just power interests, and state comprehensive plans apply ( S.C Water Plan and State Wildlife Action Plan) and FPA Section 10(j) include license should adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by the project and states may recommend license conditions for PM&E of fish and wildlife resources. Opportunities for Public Input during FERC licensing Process, both the pre-filling and post-filling stages, are; submit study requests, provide written comments, provide oral comments at public scoping meetings and site visits, provide written comments on license applications, provide written comments on the FERC's environmental documents. SCDNR Responsibilities under Title 49 include water resources planning & coordination( SC Water Plan), Drought response planning & coordination, Aquatic plant management, Flood mitigation, and State scenic rivers.

SCDNR Interest & Objectives in Hydro Project Licensing:

- Recognize the river and reservoir as important public trust resources
- Manage the project to achieve public benefits

- Maintain & enhance water quality to meet state standards
- Provide downstream flows consistent with the S.C water plan
- Establish a drought plan or low-inflow protocol.
- Protect & enhance fish and wildlife populations and habitats
- Protect & enhance public opportunity for outdoor recreation
- Prevent impairment of water use by invasive, exotic aquatic plants
- Improve recreational safety at the project
- Protect cultural & historical resources

The Saluda Hydro's Comprehensive Relicensing Settlement Agreement includes; enhanced fish and wildlife habitat protection, establishment of minimum flows, low inflow protocol, Reservoir Drawdown Program, Dissolved Oxygen Enhancement to improve water quality, and Increased protection of rare, threatened, and endangered species.

Discussion:

Q: Does the new license for Dominion - Lake Murray Dam keep as reserve or is it peaking?

A: Reserve in new license.

Q: What is the minimum cubic feet per second?

A: 700 cfs baseline.

Q: Saluda Lake used to be FERC as did Boyd and Holliday?

A: Saluda Lake was and Holliday Lake was but now they're with DHEC not subject to FERC.

## **5. State Scenic Rivers Program (Bill Marshall, SCDNR)**

**11:40–12:00**

Bill Marshall facilitated this session, " Middle & Lower Saluda S.C. Scenic Rivers." The South Carolina Scenic Rivers Act program was established in 1974, with about 30,000 miles of streams in South Carolina. The provision of the 1989 S.C. Scenic Rivers Act are:

- State Scenic Rivers Program- SCNDR as management agency
- Inventory and study of rivers-identify rivers with unique or outstanding values

- Designation of Scenic rivers-eligibility study, public meeting, agency approvals, and legislation
- Advisory councils- assist and advise DNR on protecting and managing designated scenic rivers.
- River management plans
- Riparian land acquisition- tax incentives for land donations
- The provision " compliment and are part of the State Water Plan"

Under the 1974 Scenic Rivers Act, the Middle Saluda was designed by the Sc Water Resources Commission and not by legislation.

In describing the State Scenic Rivers Program included; **Purpose-** S.C. Scenic Act: Protect unique, outstanding resource values of S.C. rivers—scenic recreational, geologic, botanical, fish, wildlife, historical, and cultural. **Approach:** Non-regulatory. Community-based partnerships for river conservation & stewardship, Advisory councils, management plans, and tax incentives for land donations ( fee simple or easements). Project Areas: designated State Scenic Rivers and River Corridor & watershed Planning areas. **Program Results:** ( inventory and study, designation- 10 State Scenic Rivers, river corridor & watershed plans, project-level actions and outcomes by DNR & partners). Designated State Scenic Rivers: 400 river miles, 1% of the 30,000 stream miles, 11% of 3,600 river miles. **The Middle Saluda Scenic River has Outstanding river values,** including Inland Fisheries, Wildlife Habitat, Recreational Fishing, Natural features, and Water Quality.

**The Lower Saluda Scenic River Outstanding river Values include;** inland fisheries, recreational fishing, and whitewater boating. Lower Saluda River Corridor Plan & Corridor Plan Update emphasized river interests/ issues, goals, and recommendations, including Resource protection, Public access, facilities, River-user safety info/alert system, Law enforcement, and Saluda Hydro FERC licensing. **State Scenic River projects:** project-level actions & outcome; engage with public permitting and local planning, corridor plans to enhance public recreational access, landowner outreach, promote conservation practices, river festivals, public outreach & education, river safety awareness and law enforcement, water trails & trail guides, land protection and volunteer monitoring of water quality, and trash cleanups.



Discussion:

Q: Any of those 5 that didn't make it in the Saluda basin?

A: They are not – FORR was trying to get scenic river designation but did get a corridor plan instead. Reedy never got designated.

Q: Save our Saluda – tried to get the South Saluda designated but didn't have community support.

A: One DNR had to say no to during the great recession. The Director, due to budget shortfall we had to say no more.

Q: Copy of the inventory online for public to view?

A: 2008 river assessment is, yes. Lower Saluda Advisory Council is sort of active and not completely dormant.

## **6. Lake Management**

**12:30–1:15**

### **a. North Saluda and Table Rock (Greenville Water)**

Jeff Boss facilitated this session; **Table Rock Reservoir** was built in 1925 on the South Saluda River and put into service in 1930. It was protected by a conservation easement through the Nature Conservancy. These facilities, along with the #6 storage reservoir, were sufficient to supply the Greenville area until the early 1960s. It has 9000 acres, a storage volume of 9.52 billion gallons, 24 MGD by gravity, and 32 MGD by pumping.

**North Saluda Reservoir:** completed in 1961 on the North Saluda River with a storage volume of 25 billion gallons, 24 MGD by gravity and 62 MGD by pumping. They are 18,000 acres protected by a conservation easement through the Nature Conservancy.

**Priorities:** the primary goal is to maintain an adequate drinking water supply for our customers and protect the downstream environmental habitats and other stakeholders.

For effective management and sufficient water supply, maintain releases to stay within a tight window at both reservoirs to create a buffer for excess rainfall and maintain adequate drinking water supply.

**Importance Buffered Evaluation:** Reservoirs have the ability to hold major rainfall events without downstream locations and keep water from going over spillway. The Water Resources Model that was developed is utilized to predict climatological and specific weather events.

Discussion:

Q: When you open the valves does Greenville Water draw out of the top or bottom?

A: From the bottom for the cold water of the Lake instead of warmer surface water. Cold water is helpful for fish.

Q: The last major drought – how low did the Lakes get?

A: 2008 Table Rock was 21 feet down and the N. Saluda was down 4 feet.

#### **b. Lake Greenwood (Julie Davis, Greenwood County)**

Julie Davis facilitated this session; she talked about the management of Lake Greenwood. Lake Greenwood is located approximately halfway down the Saluda River and covers 11,400 acres and 212 miles of shoreline. It feeds primarily by the Saluda and Reedy Rivers, with the following other attributes: fed by Turkey Creek, Mulberry Branch, Rabon Creek, and Cane Creek. The aim of purchasing land in three counties (Greenwood, Laurens, and Newberry) was to create a Hydroelectric project. FERC Licensed Project is for a 40-year term, issued in 1995, contained in Articles 201-417. The lake management duties include fishing access area, shoreline management plan, stream flow gauges, fishery mitigation plans, recreational areas, cultural resources management program, canoe portage and tailrace areas, boat ramp, occupancy of project lands/waters, encroachment permits, lake log removal, mosquito spraying, aquatic weed management, island camping, maintenance of earthen dam, and homeowner education.

**Aquatic Invasive Plant Management Plan:** integrated aquatic plant management is the key to addressing invasive aquatic weeds where chemical, biological, and physical treatment options are applied. In 2006, however, Lake management tried to control mosquitoes and educate lakefront property owners. This program has helped control some mosquitoes within the project boundary. Other programs are Hazardous Log Removal and Shoreline Management Program.

Discussion:

Q: How many adjoining properties have septic systems and do you inspect them?

A: No, we only manage Greenwood County Lake property. Also don't do water treatment.

Q: Do you have a public education program? Encourage riparian buffers?

A: We do – critical habitat adjoining property cannot be touched. Other property they can cut all the way down to the Lake. Part of the FERC license requires buffer education and softer walls.

Q: RFQ 148 square miles study – can you describe? In February, master plan land around the lake.

A: Lake Greenwood master plan does have funding for a master plan and there is a firm from Greenville and they are still looking at funding and there will be public meetings and a public comment period.

Q: Are aquatic weeds aggressive and how are they being addressed?

A: We did stock grass carp and have since 2010 – hydrilla has been kept in check. Alligator weed and primrose are emergent issues.

Q: Greenwood – nutrient pollution and algal bloom issues in the past. Are nutrients still an issue?

A: DHEC 303 list monitors water quality – partnered with Laurens water and sewer and REWA on the Reedy – which monitors what's coming in from the Reedy (Woolpert as consultants) nutrients can be problematic.

Q: Sediment an issue? Reedy arm has a lot of sediment and clear cuts around the lake.

A: We get a lot of calls on Reedy side about sediment.

**c. Lake Murray (Brandon McCartha, Dominion Energy)**

The last presentation was facilitated by Brandon McCartha, who discussed Lake Murray. Lake Murray is 650 miles of shoreline, 48,239 Surface Acres, and 763 Billion Gallons of Water Storage. The Dominion Energy Shoreline Management Plan (SMP) was developed in 1975 with the Federal Power Commission now (FERC) to ensure compliance with the licensing requirement for the Saluda Hydro project. Dominion Energy operates its shoreline permitting activities under a general permit, allowing the agency to do residential permitting on Lake Murray. The Shoreline permitting includes Docks (13,000), Dock Modifications, Boat Lifts, PWC Lifts, Marine Ralls, water removal, Erosion Control, Excavations, Geothermal, and Marine Rails. He stated the prohibited activities include; Boathouses ( no boathouse), Patios, shelters, Fences, No Barbecues, Walls, Pools, Houses, and sand/Earthfill. It takes about 20 days to do a Zone line inspection and about 2500 permits annually.

Discussion:

Q: You manage 10 parks?

A: Yes and the department has a tree program.

Q: Similar aquatic issues?

A: Yes we do weed surveys and put in carp – haven't had too many calls this year.

## **7. Upcoming Meeting Schedule, Field Trip, and Topics (John Boyer) 1:15–1:30**

Our next Saluda RBC Meeting #6 will be August 16<sup>th</sup>, 2023- The Ridge at Laurens (10:00- 2:00) but we may change the location. Field trip to LCWSC at Lake Greenwood and possibly Buzzard's Roost Hydroelectric Facility. Look out for the Phase 1 Survey in the next several weeks.

Discussion items to keep everyone abreast before our next meeting are: a presentation from Alex Butler or someone from SCOR about the SC Resilience plan and possibly Jeff Lineberger from Duke Power discussing the RBC decision making process. Do we want to form subcommittees – such as a water demand projections subcommittee for Public Supply?

KC Price made a motion to form a subcommittee to discuss Public Supply Water Demand projections – 1<sup>st</sup> which was seconded by Katherine Amidon – 2<sup>nd</sup>. Unanimous approval.

Jason Davis will get with Thompson Smith to discuss forming a subcommittee for agricultural use for maybe Newberry and Lexington Counties.

Motion to adjourn the meeting – Katherine Amidon 1<sup>st</sup> and Jason Davis 2<sup>nd</sup>. Unanimous, meeting adjourned at 1:52 PM.

Minutes: Iffy Ogbekene and Tom Walker

Approved: 8/16/23

**Appendix:**

**RBC Chat:**

09:49:40 From Patrick Jackson to Everyone:

FYI-David Coggins is running about 20 minutes behind but will attend in person. Thanks,  
Patrick

09:50:10 From Thomas Walker to Everyone:

ok, thanks patrick

10:07:07 From Charlie Timmons to Everyone:

Thanks

10:07:11 From Thomas Walker to Everyone:

i moved the mic a bit

10:07:11 From jnicholson to Everyone:

much better audio now

10:08:04 From Thomas Walker to Everyone:

thanks for letting me know

10:45:59 From Thomas Walker to Everyone:

thanks paul

10:59:05 From Ed Bruce to Everyone:

I can hear you all but evidently you all cannot hear me. Lee has converted from coal generation to natural gas generation and that uses less water from cooling. At the same time, the Lee site has transitioned from mostly once-through cooling (high withdrawals) to more cooling tower use (less withdrawals).

11:00:28 From Thomas Walker to Everyone:

thanks ed

11:00:59 From Ed Bruce to Everyone:

Yes slightly more consumption. Long term, there will be less carbon generation overall including natural gas so the trend will be down regardless over the next 30 years.

11:18:13 From Mark Farris to Everyone:

Experience with industrial usage, at least post-textile era, shows significant reductions as a result of efficiency and process changes. However, recent 'mobility' industrial announcements e.g. EV batteries might increase demand.

11:19:58 From Thomas Walker to Everyone:

thanks mark

11:21:21 From Katherine Amidon, AICP Bolton & Menk to Everyone:

Mark - do we have a concern from Crypto Mines coming to this area?

11:28:33 From Thomas Walker to Everyone:

12 min break reconvene at 1140

12:16:15 From iPhone to Everyone:

Lower Saluda one of those he is speaking of I'm sure

12:32:49 From Thomas Walker to Everyone:

20ish min break - reconvene at 12:50

12:32:56 From Mark Farris to Everyone:

We actually haven't seen any, at least that have requested help from us. I understand there are a couple operating in the area. We made an assessment several years ago of the resource requirement vs. public benefit and discovered the cost/benefit would be negative.

13:52:00 From Charlie Timmons to Everyone:

Thank you everyone.

13:52:15 From Thomas Walker to Everyone:

meeting adjourned