

Broad River Basin Council

**December 8, 2022, Meeting
Minutes**

RBC Members present: Jason Wright, Frank Eskridge, Bryant Fleming, Ken Tuck, Steve Hilbert, Paul Pruitt, Kristen Austin, Erika Hollis, Angus Lafaye, Bill Stangler, Justin McGrady, Brison Taylor, & Jeff Lineberger

RBC Members absent: John Alexander, Jim Cook, Mike Daniel, Daniel Hanks, Karen Kustafik, James Kilgo, Chip Few, Jeff Walker (October Ivester, alternate, present), Amy Bresnahan (Ray Ammarell, alternate, present), & Mark Boland (Shane Parris, alternate, present)

Planning Team present: John Boyer, Kirk Westphal, Tom Walker, Scott Harder, Joe Gellici, Andy Wachob, Leigh Anne Monroe, & Pam Miller

Total Present: 34

1. Call the Meeting to Order (Ken Tuck, RBC Chair) 9:00–9:05
 - a. Review of Meeting Objectives
 - b. Approval of Agenda
 - Review of meeting objectives
 - Angus Lafaye made a motion to approve 1st, and Bill Stangler made 2nd to approve, all in favor - unanimous
 - c. Approval of November 10th Minutes and Summary
 - Erika Hollis made a motion to approve 1st, and Ray Ammarell made 2nd to approve, all in favor - unanimous
 - d. Housekeeping Items

2. Public Comment (John Boyer) 9:05–9:10
 - a. Public Comment Period
 - No comments
 - b. Agency Comment Period
 - No comments

3. November RBC Meeting Review 9:10-9:20
 - a. John Boyer reviewed the November RBC meeting.

4. Surface Water Modeling Topics (John Boyer) 9:20–10:00
 - a. The first major agenda item was from John Boyer who led discussion about Surface Water Modeling topics. Several important topics were discussed briefly with the Broad RBC members. The RBC reviewed the strategic nodes which were selected based on feedback from the RBC at the previous RBC meeting in November. John presented simulated flows at select strategic nodes using

unimpaired, current use, moderate demand, and high demand scenarios. Grace Houghton, CDM Smith, presented a brief review of two studies: *1988 Instream Flow Study* and *2009 SCDNR Instream Flow Policy* and reviewed the minimum instream flows (MIF) in South Carolina's surface water regulations. John then continued presenting modeling results which demonstrated the results of MIF and 5th percentile flows under the various planning scenarios. Eric Krueger then briefly discussed the strategic nodes for Flow-Ecology evaluation discussed at the previous meeting.

Break

10:00–10:15

5. Spartanburg Water Reservoir System Safe Yield and Summary of Surface Water Availability Results to Date (John Boyer) 10:15–10:45

- a. The next agenda item was a presentation from John Boyer which summarized the results of the Spartanburg Water system safe yield and surface water results to date. CDM Smith presented three safe yield calculations to the Broad RBC which included: safe yield scenario one for the entire Spartanburg Water system reservoirs (Lake Bowen, Spartanburg Municipal Reservoir #1, and Lake Blalock), safe yield scenario two which focused on Lake Bowen and Municipal Reservoir #1, and safe yield scenario 3 for Lake Blalock. John then reviewed modeled surface water shortages under the High Demand scenario (2070) and average annual demands by scenario for different water use sectors.

Questions: Why do we have flows that are lowered in UIF scenario?

Answer: The Enoree has 3 discharges, collectively, those are larger than withdraws. We do have more water in the Enoree than we did before withdrawal and discharges were put on the river.

Question: The withdrawal availability in May, June, December its 30% and 20% July through November, that would have an incredible impact, its 70% is available for withdrawal. So why is it broken down that way?

Answer: The higher flow goes into summer, when it goes into July, though that's when you see that standard pattern we fish, when that's happens the water stays low- so that's why we have a broken up which make sense.

Question: Why does the UIF scenario have the highest number of excursions below the MIF? Broad River below 99 Islands?

Answer: They are using the storage to supplement the UIF. 99 Islands has a minimum release that maintains flow more often above the MIF.

Question: Is there some reason for 5th percentile, is there some standard?

Answer: I wouldn't say there is a standard. We want to focus on eliminating

shortages and reducing through this in drought conditions and the 5th is a pretty severe drought condition.

6. Introduction to Water Management Strategies (John Boyer) 10:45–11:15
- a. John Boyer then presented an introduction to water management strategies to help frame the approach to selecting water management strategies for the Broad RBC. The Broad RBC will develop a portfolio of water management practices for the Broad River Basin Plan using supply side and demand side strategies. John reviewed examples of demand side strategies for municipal, agriculture/irrigation, industrial, and thermoelectric users. John then reviewed supply side strategies for consideration which included new or increased storage, water reclamation, conjunctive use, and conveyance with corresponding examples. John reviewed several examples of water conservation strategies and water efficiency and water loss programs. Jeff Lineberger, Broad RBC member, reviewed the Catawba-Wateree Water Management Group's (CWWMG) approach to planning including the CWWMG's water loss program analysis for members. John then provided some examples from the Edisto River Basin planning process of existing water management strategies and the Edisto proposed low-flow management strategy.

Question: How much is the cost of water audits?

Answer: The audit cost is not excessive. The cost of infrastructure and technology is expensive. That's a decision (water utilities) make. The system should be put in a position where you need to be where you can manage, and its financially viable because a lot of the systems are not sustainable. If you don't have a programmatic approach or build it very diligent in tracking your non- revenue water. We are continuously supplying information every month to our accounting department, and they are tracking everything.

Question: You guys all had to agree to start doing this, it was not required beforehand?

Answer: No.

7. Water Management Strategies for the Broad River Basin 11:15–12:00
(Small Group Breakout Session)
- a. The Broad RBC was divided into breakout discussion groups for the remainder of the meeting. The breakout discussion was intended to generate ideas by RBC members to develop Broad-specific water management strategies. The breakout groups were tasked with discussing four topics: identifying existing water management strategies in the Broad River Basin, effectiveness of existing strategies, whether existing strategies can be expanded or improved upon, and Broad-specific strategies to reduce or eliminate projected shortages, increase

available supply, minimize low flows, and help improve the flow regime for aquatic organisms and recreation and which strategies should the RBC evaluate using the surface water model. The Broad RBC reported out of breakout discussions facilitated by CDM Smith which will be distilled down and presented at the next Broad RBC meeting.

8. Lunch and Small Group Reports on Water Management Strategies 12:00–12:45
Group Reports – Q1: Existing Strategies in the Basin

Supply Side:

- Maintaining reservoir infrastructure – gates, dams.
- Low-flow - Reservoir operations optimization (maintain water in upper reservoirs for flexibility, consider timing of maintenance)
- Raise dams (Gaffney), increase reservoir capacity
- Interconnections between water systems (incl. emergency)
- Conjunctive use for small farmers where applicable
- Ag Demand Management – cover crops, intercropping, drip irrigation

PWS Demand Management:

- Conservation, education & outreach, citizen academies, social media, pricing structure (comes into play during drought), Smart irrigation, install second meter for irrigation water (sewer based on water use, will reduce sewer bill & help identify leak source, could cut off or manage irrigation in drought)

Supply/Demand:

- Reuse in industrial, water loss audits & follow up investments with financial plans, leak detection in Lawrence County
- Seed coating of herbicide/insecticide to reduce irrigation
- Onsite power generation, more efficient energy -more efficient water use

Demand Management:

- Requirement of smart irrigation – NC study 20 MGD could be saved throughout Catawba basin if owners on reservoirs had req'd smart irrigation.
- Local water managers monthly meeting for sharing lessons learned
- Reuse – blend onsite ponds for process water and fire protection, stormwater capture to augment all water uses, improved efficiency in condensate capture – heat exchangers.

Group Reports – Q2: Effectiveness of Existing Strategies:

- Study to track benefits of industrial strategies
- Amount of storage in basin is good buffer for growing demand – effective
- Lack of real or modeled shortages indicates existing strategies, which are mostly comprised of storage reservoirs, are effective.
- General abundance of water and the constructed storage has limited the need for other

strategies, based on current demands.

Group Reports – Q3: Can Existing Strategies be Expanded

- Improve consistency with public messaging
- Improving funding for agricultural conservation measures
- Many rate structures are currently flat
- Planning for increased sedimentation in reservoirs/decreasing storage – requires partnering with other agencies
- Need strategies to ensure enough water for fish/environment – currently addressed by minimum releases which may not be met when inflow < min. release
- Review utility ordinances to ensure they have authority to restrict usage when necessary (in Catawba this was an issue)
- Regionalized public education
- Increased water audits
- Onsite storage for irrigation of public lands and industrial sites
- User group of chief engineers from textile industry from Carolinas, Georgia, TN – sharing best practices. Expand in other industries and document best practices shared

Group Reports – Q4: What Strategies are Relevant in the Broad and Should be Further Evaluated?

- Update drought management plans
- Expand water audits
- Identify funding sources for addressing results of water audits
- Knowledge sharing locally, basinwide, statewide on strategies that work
- Interconnections (pot. Opportunity for Greer)
- Gaffney increasing height of dam – assess in model
- Conjunctive use for small demands like ag or golf courses
- Potential benefit from increasing storage – existing capacity increase or new reservoirs
- More onsite use of water and onsite generation of power (energy & water conservation & WQ benefit)

9. Upcoming Meeting Schedule, Topics, and Review of Meeting 12:45–1:00
(Ken Tuck and John Boyer)

- a. The meeting concluded with a review of the meeting schedule and topics for future meetings. The next meeting is scheduled for January 12th and will be held at Harbison State Forest.

The meeting concluded at 12:56 PM.

Summary: Iffy Ogbekene & Tom Walker

Approved: 1/12/23

RBC Chat:

08:56:03 From Thomas Walker To Everyone:

we hear you

08:56:21 From RMPRP2 To Everyone:

Thank You

09:00:07 From Thomas Walker To Everyone:

going to wait a few more minutes so folks can get down to the meeting room. good morning all

09:01:19 From RMPRP2 To Thomas Walker(Privately):

I apologize, but I a conflict at 12 and will need to leave early.

09:02:23 From Thomas Walker To RMPRP2(Privately):

thanks Paul

09:08:07 From Kristen Austin To Everyone:

Approve

09:16:39 From ekrueger To Thomas Walker(Privately):

Hi, Thomas... just letting you know I'm on in case questions come up on the bio standard applications that John can't answer

09:16:55 From Thomas Walker To ekrueger(Privately):

thank you Eric

09:49:17 From Thomas Walker To Everyone:

quick break. back at 10:05

10:37:34 From Kristen Austin To Everyone:

Curious if Ken knows where the Landrum water loss is today since they've tightened up practices since 2004?

10:38:17 From Thomas Walker To Everyone:

hold on i'll ask in a sec

10:44:50 From Kristen Austin To Everyone:

 Thanks!

10:49:31 From Brison Taylor To Everyone:

We perform annual water loss audits as well. always requested on our sanitary survey

11:08:21 From Kristen Austin To Everyone:

Thomas, is it okay to sign off now?

11:08:46 From Thomas Walker To Everyone:

if you need to sure.

11:09:14 From Thomas Walker To Everyone:

we're going to do an online breakout with kirk

11:09:36 From Thomas Walker To Everyone:

i'm going to put rbc members into a breakout room

11:09:36 From Kirk Westphal To Everyone:

Tom, will we use a separate breakout room or just stay here?

11:09:49 From Kirk Westphal To Everyone:

You just answered my question.

11:09:52 From Thomas Walker To Everyone:

i was going to ask john what he'd prefer

11:09:58 From Kristen Austin To Everyone:
Okay, I do need to sign off now. Thank you!

11:11:47 From Thomas Walker To Everyone:
breakout time. meeting recording paused