

Lower Savannah-Salkehatchie River Basin
Council

December 7, 2023 Meeting Minutes

RBC Members Present: Larry Hayden, Pete Nardi, Dean Moss, Courtney Kimmel, Sara O'Connor, Austin Connelly, Joseph Oswald, Brian Chemsak, Lynn McEwen, Tommy Paradise, Kari Foy, John Carman, Brad Young, Bill Wabbersen, Leslie Dickerson, Jeff Hynds, Ken Caldwell, Brad O'Neal, Reid Pollard, Brandon Stutts, & Heyward Horton

RBC Members Absent: Danny Black (Kathy Rhoad, alternate, present), Samuel Grubbs (Fleming McMaster, alternate, present), Taylor Brewer, Jeffrey Jones, & Will Williams

Planning Team Present: John Boyer, Scott Harder, Brooke Czwartacki, Andy Wachob, Tom Walker, Alexis Modzelesky, Joe Koon, Leigh Anne Monroe, Hannah Hartley, Kirk Westphal, & Joe Gellici

Total Present: 42

1. Call the Meeting to Order (John Boyer) 10:00–10:10
 - a. Review of Meeting Objectives
 - Heat not working
 - Meetings about learning about basins and building rapport
 - b. Approval of Agenda
 - Agenda approved
 - Dean Moss – 1st and Bill Wabbersen – 2nd
 - c. Approval of November 2nd Minutes and Summary
 - Minutes and summary approved
 - John Carman – 1st and Sara O'Connor – 2nd
 - d. Housekeeping Items
 - Virtual attendees
 - Some alternates in person
 - Introductions of people who weren't here last time
 - Joey Oswald, Allendale, farmer, irrigation business, representing ag sector
 - Reid Pollard, Almost retired banker, 10 yr SC resident, born and raised in W NC, concerned about water sources, water quality over the next 50 years
 - Restrooms locations
 - Wifi password
 - Location better for people coming from south
 - Identify an alternate. Send names and emails to Tom or John
2. Public Comment (John Boyer) 10:10–10:15

- a. Public Comment Period
 - None
 - b. Agency Comment Period
 - Sam Quinney, SCDA, introduced himself to the RBC members
3. Development of Process Metrics (John Boyer) 10:15-10:30
- Pop quiz review of previous meeting
 - Identification of process metrics
 - Process and progress metrics
 - Easy to understand and measure
 - 4 suggested process metrics- monitor processes that lead to RBC actions
 - Everyone in favor of keeping suggested process metrics
 - C: Nothing about participation and that will be important
 - A: Good point and we've lost folks along the way in other basins
 - Change metric 3 to "RBC meetings adhere to timelines with active participation from all groups"
 - 4 potential process metrics
 - Q: How to measure "info easily accessible"?
 - A: Post all info online, share to people before meetings
 - Q: Measure all metrics?
 - A: Yes, not all quantitatively measured, some qualitative
 - RBC agendas are focused
 - Don't need, removed #6
 - RBC members understand technical info
 - How effective is presentation of materials
 - Important, not a metric, people should ask for help if needed
 - Measure of people's understanding or how its presented? How presented
 - kept
 - What did other RBCs do?
 - Kept most, 10-11 of identical metrics
 - Don't need to reinvent the wheel
 - Best available science
 - How do we know it's the best available science?
 - Best available data
 - Kept, changed science to data
 - Info presented in unbiased manner
 - Kept
 - RBC members have equal opportunity to be heard
 - Kept
 - Use of models appropriately documented
 - Expand, people should understand why we made decisions we made

- Added “the rationale behind RBC decisions is appropriately documented”
 - Added “the embedded assumptions, use, and outcomes of models...”
- 4. Vision and Goals Development (John Boyer and Murray Dodd) 10:30–11:50
- Setting the long-term vision and goals
 - Categories of priorities
- Example vision statements
- Different visions for different basins?
 - 1 RBC, 1 plan, multiple basins. Try to come up with 1 vision statement, could be multiple.
 - 1 vision statement, multiple goals
- Large group vision statement sharing
- 1: Viable river basins that equitably support the diverse demands and characteristics of the LSS region now and in the future.
 - Written like a mission statement
- Can do mission and vision statement if so desired
- 2: ~~Protect and enhance~~ water resources are equitably available and resilient for all stakeholders in the LSS basins.
 - Written as a mission statement
 - Equitable- not all groups need the same amount of water? Adequate, proportionately available better
 - Resilience is important but is it needed in the mission statement?
- 3: To make sure water is available for all in the LSS basins for the foreseeable future.
- Need to define and state the problem?
 - Water capacity issue, competing interests
- **Shared water resources are managed to sustainably meet the needs of all stakeholders in the LSS basins now and into the future.**
 - Less wordy than most basins
 - Other basins came up with draft and waited for couple months to finalize
- Goals
- Edisto RBC/ US RBC goals
- Changed US goals to LSS
 - Funding sources? Important to find sources to implement
 - Link vision statement and goals
 - Remove within 24 months
 - Goals change over time
 - Draft goals
- C: Pee Dee I liked
- C: Goals should be actionable, I liked the Edisto and US best
- C: Salkehatchie like Edisto and the US should be in line with the LSS
- C: Water use practices as well - smart water use
- C: We have 4 basins they are going to be different/have different needs
- Q: Are the goals for the result?
- A: I interpret it as what do we want to do

- Q: Intent of the goals?
- A: The PD were consistent w/ what the PPAC wanted to do. Whatever we're doing here has to be made in context of agencies and how planning will fit into SCDES. Simpler is better and keep goals fairly broad.
- C: Have broad goals and come back to it (keep it broad)
- C: Produce implementable plan that would be a success
- C: PD goals are council's goals others are goals of the plan itself
- C: Regularly review ourselves – we have to look at it regularly
- A: We can do that every phase
- C: Look at what problems each industry is trying to avoid
- Issues for each interest group
 - Agriculture- limited availability of surface water in US, stability of allocations for long-term planning, identify what's available
 - Water/ sewer- concern with allocations, meeting needs for growth for residential and industrial, flexibility within regulatory framework
 - Industry/ economic development- quality, availability- accurate accounting of current and future availability
 - Environmental- quality, protecting balance between salt and fresh water, aquatic organisms, sedimentation, regulatory, saltwater intrusion
 - Energy- quantity for production
 - Recreation- maintaining adequate flows
 - Local governments- land use decisions impact on providing service
 - Craft goals based on issues, US goals

Lunch

11:50-12:20

5. Review of the Planning Framework and Q&A 12:20–12:40 (Scott Harder, SCDNR)
 - Contents of planning framework
 - Introduction
 - River basin planning process
 - Methodologies for evaluating water availability
 - Where demand exceeds supply
 - Surface water demand scenarios
 - Current use, permitted use, moderate water demand, high water demand
 - SWAM models
 - Groundwater model
 - Technical advisory committees
 - Plan table of contents
 - River basin planning process implementation
 - 4 phases
 - River basin plan implementation
 - RBPs active, not static
 - Can't make anyone do anything, not regulatory
 - Hopefully state provides some funding. Number of grants/ funding sources
 - State water plan
 - Base state water plan on RBC plans

- Hopefully state water plan is adopted by governor/ legislature. Good because bottom up stakeholder led
- SCDNR hydrology website
- Q: Funding sources and mechanisms?
- A: Hopefully the state will provide some funding. # of grants and funding sources exist – mix of state \$ and applying for grants
- Q: is it the LSSRBC's job to pursue funding?
- A: There are some responsibilities and the state can help where it can
- Q: State Water Plan a document that would be adopted by the state as a whole or is it an agency document?
- A: Hope for formal adoption by Governor and General Assembly especially with a stakeholder process
- C: Governor and the General Assembly answer to us so hope it would be adopted
- C: Also educating others

6. Surface and Groundwater Resources 12:40–
 1:30 (Priyanka More and Brooke Czwartacki, SCDNR)
 surface

- Savannah basin overview
 - 3 states: SC, NC, GA
- Salkehatchie basin overview
 - Entirely in SC
 - 3 major rivers, no major reservoirs
 - Most extensive estuarine water bodies in the state
- Annual rainfall
 - Normal climate
 - Max and min rainfall, average of southern climate
 - Average isn't just from the basin
- Physiographic provinces
 - Blue Ridge Mountains, Piedmont, Coastal Plain
- LSS streamflows
- USACE Savannah River Drought Management plan
- Surface Water Monitoring Network
 - Stage gage- measures height of river at fixed spots
- Average annual flows-Salkehatchie River, Coosawhatchie River, Savannah River
- Average monthly flows- Salkehatchie River, Coosawhatchie River, Savannah River
- Flow duration curve- amount of time daily average flow was exceeded
 - Salkehatchie River- minimum flow 3 cfs, median 236 cfs, mean 314 cfs
 - Coosawhatchie River- minimum flow 0 cfs, median 57 cfs, mean 155 cfs
- LSS water withdrawals
 - Surface water withdrawals
 - Groundwater withdrawals
 - Reported water withdrawals 2013-2022
 - Next presentation will look by category
- Summary
- Q: For Savannah river the Lower Savannah is dependent on precipitation in the Upper

Savannah, so should include that info

- A: We'll have climate folks come in and give that part of the presentation
- C: Too big and not just our basin and the Upper Savannah info is needed
- C: More focused on low-flows
- Q: Streamflow gage – what is stage gage?
- A: River level measures
- Q: When talking GW withdrawals what is the threshold for reporting?
- A: 3 mgm for capacity use areas
- Q: Is LS considered regulated?
- A: Yes, main stem flows are
Groundwater
- Physiographic provinces
 - Fall line- see rapids and rocks.
- SC hydrogeologic framework along dip
- Coastal plain aquifer extents
 - Aquifers get recharged through rain.
- SC water withdrawals
- Reported groundwater withdrawals
 - Slight upward trend
- Groundwater monitoring network
- Water level measurements of an aquifer
- Hydrographs examples
 - Cluster sites, single aquifer
 - One point in time, one area
- Potentiometric water level of an aquifer
 - Contour map of an aquifer
- Cones of depression in SC
 - How far have water levels dropped since development
 - Cones of Depression: Myrtle Beach, Florence, Georgetown, & Charleston in SC, and another in nearby Savannah, GA
 - Does dredging have effect?
- LSS groundwater model
- Groundwater data online
- Summary
- Q: Fall line significance?
- A: Major cities on the fall line
- C: Where is that?
- A: Near JTO farms
- Q: Is dredging an issue with saltwater intrusion?
- A: In the SW system

7. USGS Streamflow Monitoring and Low Flow Characteristics
1:55 (Toby Feaster, USGS)

1:30–

- USGS history
- USGS South Atlantic Water Science Center

- 3 state offices, 8 field offices
 - 1,100 real-time gaging stations
 - National water dashboard
 - USGS in SC
 - Streamgauge basics
 - Streamgauge is a structure that measures the water level of the stream, streamflow calculated from water levels
 - Stilling well, bubbler/ pressure sensor, non-contact/ radar, index velocity
 - Rating curve- water level and flow
 - Streamgages used for a lot of things
 - Low flow statistics
 - Since 1960s
 - Last updated between 2007 and 2014
 - Annual minimums with various recurrence intervals and daily flow duration for different percentiles
 - Aim to use stream flow statistics for regressions
 - USGS doing 3 state study with DHEC and DNR to update low flow statistics and developing regressions
 - 7Q10- average minimum 7 day average flow with a 10 year recurrence interval
 - 10% probability that the annual minimum 7 day average flow at a site will be less than or equal to the 7Q10
 - Adopted as minimum flow for water quality criteria in 1967.
 - How computed?
 - Chattooga River, using 1940-49 climate year data
 - Climate year begins April 1, ends on March 31
 - Water year begins October 1, ends on September 30
 - Calculate weekly averages, take lowest average per year
 - Fitting distribution to minimums.
 - Find 7Q10 from the value that has 10% probability
 - Streamflow statistics influenced by length of record and conditions
 - What do you think about climate change? It is happening, unclear on why
 - With variable 7Q10 if you are applying for a permit by basing it on 7Q10 could you potentially have an undue impact on the system? Want to be conservative
 - A: Yes, want to have a longer term record
 - Q: Where are you on climate change?
 - A: We know climate change is occurring but unclear on the cause
8. Upcoming Meeting Schedule and Topics (Murray Dodd, CDM Smith) 1:55–2:00
- Potentially have joint meeting with US and Army Corp of Engineers
 - Might have to change date
 - Ideas for field trips – Farms, BJWSA, Golf course


Meeting concluded: 2:25 pm

Minutes: Taylor Le Moal and Tom Walker

Approved: 1/4/24

RBC Chat:

10:12:50 From Leslie Dickerson Augusta University to Everyone:
C

10:13:27 From Thomas Walker to Everyone:
Reacted to "C" with 

10:15:44 From Leslie Dickerson Augusta University to Everyone:
haha

10:16:49 From Leslie Dickerson Augusta University to Everyone:
false

10:20:25 From Leslie Dickerson Augusta University to Everyone:
yes

10:20:44 From Leslie Dickerson Augusta University to Everyone:
Aye

10:25:27 From Brandon Stutts to Everyone:
It says viewing John's screen but the Review Meeting Objectives, agenda item 2 is the screen being displayed


10:26:00 From Thomas Walker to Everyone:
is anyone else having that issue?

10:26:08 From Leslie Dickerson Augusta University to Everyone:
its not picking up.

10:26:25 From larhayden to Everyone:
I can hear fine


10:26:37 From Kirk Westphal to Everyone:
Tough to hear some people.

10:26:48 From Thomas Walker to Everyone:
is the presentation coming thru ok?

10:27:00 From Joe Koon - SCDHEC to Everyone:
Reacted to "is the presentation ..." with 

10:27:01 From Thomas Walker to Everyone:
mic issue john just tried to address from folks

10:27:02 From larhayden to Everyone:
yes

10:27:21 From Miran Tyrrell, SRS to Everyone:


10:28:43 From Brandon Stutts to Everyone:
Audio is fine, screen has not changed

10:28:55 From Thomas Walker to Everyone:
try logging out and back on brandon

10:30:24 From Leslie Dickerson Augusta University to Everyone:
keep

10:31:00 From Leslie Dickerson Augusta University to Everyone:
Could it be informed by data...

10:31:38 From Thomas Walker to Everyone:
yes

10:32:28 From Leslie Dickerson Augusta University to Everyone:
yes

10:32:56 From Brandon to Everyone:
Tom, that worked, thanks

10:33:07 From Thomas Walker to Everyone:
great thanks Brandon

10:33:38 From larhayden to Everyone:
ok so far

10:34:13 From Thomas Walker to Everyone:
internet is ok here but there is a lag in the ppt slides moving from john to my computer

10:42:22 From Leslie Dickerson Augusta University to Everyone:
larger group

11:05:24 From Thomas Walker to Everyone:
thoughts on this vision?

11:05:26 From Leslie Dickerson Augusta University to Everyone:
yes

11:39:31 From larhayden to Everyone:
aquatic organism passage due to stream disconnectivity

11:39:55 From Thomas Walker to Everyone:
thanks, i will get that comment in in a second

11:40:04 From larhayden to Everyone:
Sedimentation from roads and farming

11:40:44 From Leslie Dickerson Augusta University to Everyone:
Maintaining adequate natural flow, saltwater incursion prevention

11:57:18 From larhayden to Everyone:
no

11:57:45 From Thomas Walker to Everyone:
dnr hydrology webpage and can find the lower savannah tab/area

11:58:02 From Thomas Walker to Everyone:
scott will have the info in his presentation

11:58:12 From larhayden to Everyone:
got it thankd

12:03:35 From Thomas Walker to Everyone:
break until 1220

12:21:20 From Thomas Walker to Everyone:
fixing the sound on the other comp

12:27:17 From Thomas Walker to Everyone:
we'll get there in a sec thanks for the patience

13:36:19 From Thomas Walker to Everyone:
train coming thru

13:53:53 From Miran Tyrrell, SRS to Everyone:
Can his screen be shared to online folks?

13:54:31 From Thomas Walker to Everyone:
it is, you may need to log out and log back in. brandon was having a similar issue earlier

13:54:46 From Thomas Walker to Everyone:
unsure why

14:25:48 From Thomas Walker to Everyone:
meeting adjourned