Meeting of the Edisto River Basin Council

June 23, 2021

Members Present: Mark Aakhus, Laura Bagwell, John Bass, Kirk Bell, David Bishop, Danny Burbage, Joel Duke, Johney Haralson, J.J. Jowers, Jr., Hugo Krispyn, Trey McMillan, Eric Odom, Hank Stallworth, Jason Thompson, Alex Tolbert, Jerry Waters, Landrum Weathers, & Will Williams

Members Present Online: Richard Hall, Mike Mosley, & Alex Tolbert

Members Absent: Jeremy Walther

Staff Present: John Boyer, Alex Butler, Greg Cherry, Murray Dodd, Joe Gellici, Scott Harder, Chikezie Isiguzo (online), Matt Petkewich, Andy Wachob, Tom Walker, & Andrew Waters

Presenters: Luke Bower, Greg Cherry, Joe Gellici, Eric Krueger, Brandon Peoples, & Matt Petkewich

Others Present Online: 22

Item 1: Call to Order

John Boyer called meeting to order at 9:01.

Jerry Waters makes a motion to add a discussion about change in time for meeting. John Bass seconded the motion. The motion passed by consensus.

Hugo Krispyn made a motion to approve the meeting minutes from May 26, 2021. Jason Thompson seconded the motion, which passed by consensus.

Item 2: Public Comment

Guests were invited to make public comments. No public comments were submitted.

Item 3: Meeting Time

Jerry Waters proposed moving the meeting time to 10 a.m. to 2 p.m. to include a business lunch. John reminded the group we may need to schedule longer meetings in the future. The Edisto REC will remain the meeting place for the foreseeable future. Jason Thompson commented that he preferred the 9 a.m.-1 p.m. period. Hugo Krispyn preferred having lunch at the end of the meeting. By consensus, the group agreed to leave the meeting time from 9 a.m.-1 p.m.

Item 4: RBC Chair and Vice Chair Nominations and Elections

John introduced the officer nomination and election process and reviewed the officer roles and terms. Nominations were submitted prior to the meeting and no new nominations were received at the RBC meeting. A majority vote is required for election. If more than two nominees, a runoff will occur between the top two vote getters.

Nominations for Chair: Laura Bagwell, Hank Stallworth, Jason Thompson

All three nominees agreed to serve if elected. No other nominations for chair were submitted.

Laura Bagwell spoke on behalf of Hank Stallworth's nomination for chair and Landrum Weathers for vice chair. She requested that those who nominated her consider her recommendation.

Hank Stallworth also spoke. He said he is willing to serve as chair because this is an important process for the state. He challenged the council to exceed the expectations of the General Assembly. He warned that this will be a complicated process, but it will be worth the effort. However, he endorses Laura Bagwell for president. If you vote for him, he asks the council to commit themselves to the process and be willing to sacrifice some of their own interests.

Jason Thompson spoke. He appreciates the nomination. He is willing to serve as chair, but he thinks there are better choices before them. Whether elected or not, he promises to continue to emphasize the scientific evidence (data) for plan goals and objectives in the planning process.

John counted members: 21 members were present. 11 votes are needed for election.

Chair Election

Laura got 1 vote,
Hank got 16 votes, &
Jason got 2 votes

Hank Stallworth was elected Edisto RBC chair by majority vote. He represents the environmental interest.

Vice Chair Election

Laura Bagwell and Landrum Weathers were nominated for vice chair. No other nominations were submitted.

Landrum Weathers spoke on behalf of his nomination. He said his thought on his agricultural interest will always be his first thoughts, but he is willing and able to recognize and support the interests of others. He will commit himself wholeheartedly to the work of the RBC.

Landrum Weathers received a majority and was elected vice chair and represents agriculture interests.

Item 4: Selecting Term Lengths

Member's term will be variable: 2 years (8 slots), 3 years (6 slots), 4 years (6 slots). Chair and vice chair will serve the rest of this calendar year (2021) and the next two calendar years (2022-2023).

Hugo Krispyn asked how long subsequent terms will be. John said 3 years.
Jerry Waters asked about alternates. John said alternates are at members discretion; their terms are the same as the members' term. Alternates are eligible to apply for RBC full membership. Mike Mosley volunteered to serve 3 years since he is the only power industry interest representative (Appendix).

Hugo Krispyn made a motion to approve Mike's appointment for 3 years. Motion passed by consensus.

Drawing:

2-year Terms: David Bishop, Danny Burbage, Laura Bagwell, Alta Mae Marvin, Mark Aakhus, Alex Tolbert, Trey McMillan, & Will Williams

3-year Terms: Mike Mosley, Hugo Krispyn, Jeremy Walther, Eric Odom, Richard Hall, & J.J. Jowers, Jr

4-year Terms: Jason Thompson, Joel Duke, Johney Haralson, John Bass, Kirk Bell, & Jerry Waters

Item 5: Flow Stream Health Relationships Study Recommendations & Discussion

Eric Krueger continued discussion of stream health relationship study from last meeting. He reminded the Council he had submitted written responses to questions from previous presentation.

He reminded the council of the study group proposal and its rationale:

The study team proposes that the RBC Incorporate 4 flow-ecology metrics as performance measures of Edisto River water use scenarios in Edisto Basin Plan:

- Mean daily flow (MA1)
- Base Flow index (ML17)
- Duration of Low Flow (DL16)
- Timing of Low Flow (TL1)

Metrics were chosen based on:

- Relevance to water withdrawal and drought management
- Strength of relationship
- Distribution
- Readily calculable in SWAM

Why? Metrics enable evaluation of actual impact of flows on basin health and compare multiple scenarios quickly.

How? Recommendations are:

- Evaluate the performance of water use scenarios on stream and health.
- Use metrics in a risk management context: high, medium, low risk, for example.

Luke Bower reviewed applications for the study findings. The study determined there is a positive linear correlation between fish species richness (biometric) and percent change in mean daily flow. He also reviewed how high, medium, and low risk metrics were calculated. He reviewed projections for two scenarios using the four recommended metrics: Current use scenario and 2070 "Business as Usual" scenario. You can apply this model to see biometric impacts on change in flow. He suggests these flow model relationships should guide discussion of how change in flows will impact biometric factors. Eric informed everyone these projections can be automated for convenience so the RBC won't have to conduct calculations.

Discussion & Questions (See Appendix for Zoom chat comments)

Jason Thompson thanks the research team for responses to questions. He asked for definition of perennial runoff. Luke said perennial runoff are streams that have high flows in flood-type events. Stream classifications were predetermined by a national classification system. Eric can distribute definitions to the group.

Laura Bagwell thanked presenters for developing the model. She asked for definition of Base Flow metric. Eric said that metric is used to determine short-term base flow against longer mean values. The calculation comes from USGS.

Landrum asked if the model can be used to recommend minimum flow levels. Landrum also asked if there is possibility that using study recommendations can violate or effect other state and federal regulations. He recommends we have legal counsel to evaluate these kinds of recommendations going forward.

Eric replied that the model could be used to target levels of biological health if the committee wanted to use it that way. Luke elaborated that the reverse analysis would pose some problems in terms of manipulating the variables. However, the linear regressions can be switched. Brandon said it is not possible to use model to see how

fish biodiversity can affect flow. John Boyer commented the study should be used to look at comparisons, not set conditions for thresholds.

David Bishop said that as an environmental interest representative he believes this study helps make sure nature has a voice in the decision process. He thinks using this kind of data makes us more aware of environmental impacts on flow recommendations through scientific data.

Hugo Krispyn said South Carolina looks at specific points of comparison versus reaches of concern. This process is a place where the RBC can look at changes to approach that help make positive changes for state regulation and policy.

Jason Thompson made a motion to vote on study group recommendations/proposal—incorporate the four flow-ecology metrics as base performance measures to all RBC strategic objects. Laura Bagwell seconds motion.

Discussion on motion: Landrum Weathers said he would prefer the council consider quantity first and quality as a secondary objective. He worries we are attacking too many issues at this time by adopting this proposal. He would prefer to not adopt this proposal at this time because he worries this will bog down our process.

In response, John Boyer reminded the RBC that the study was focused on quantity and does not account for changes in water quality. The modeled relationship is only based on flow projections. Eric Krueger concurred with John's comment.

Mike asked how these proposal metrics would affect other metrics used for the RBC planning process. John Boyer said he did not believe the other metrics would be affected by adopting this proposal.

Landrum commented that we need to consider high flow metrics as well. Luke said high flow metrics can be added if desired.

John asked if there was any further discussion. Hugo Krispyn asked for clarification: does vote require us to use proposal. John: No, vote is only to incorporate this proposal into deliberations, not require they be used for plan recommendations. Jason asked Landrum if he was OK to vote on this measure if high flow metrics can be provided later. Landrum said yes. For informational purposes, Scott Harder told RBC this study will be presented to surface water technical advisory committee later, and he plans to ask them for their support for use of proposal recommendations.

John called for end of discussion.

Vote: In favor 15; opposed 1. Motion passes on majority vote.

Item 6: Groundwater Modelling Approach Presentation (See Appendix for Zoom Chat comments)

Joe Gellici (SCDNR) made a presentation titled “Groundwater Resources of the Edisto Basin.” For details of presentation, see slides. Major points, results, or recommendations are summarized here:

- He believes groundwater resources in the Edisto Basin are the best in the state, with possible exception of Savannah Basin.
- There are no cones of depression in the Edisto Basin. However, we do see some decline—5 to 15 feet over the last 30 years.
- Groundwater is a hidden resource—wells are the only way to monitor.

Matt Petkewich and Greg Cherry (USGS) gave a presentation titled “South Carolina Atlantic Coastal Plain Groundwater Availability.” For details, see slides. Major points, results, or recommendations are summarized here:

- Major Groundwater Issues for Coastal Plain: population growth, water quality issues, increased agricultural withdrawals, and impacts of increased groundwater withdrawals on surface water levels.
- USGS will be working on “Revised and Updated SC Coastal Plain GW Model” in upcoming months.
- Model attempts to analyze simulated groundwater levels vs. actual groundwater levels.
- Data used for model calibration dates from 1904-2015.
- Model limitations include: limited & incomplete data.
- Calibrated model will be used to calculate groundwater scenario simulations this summer. Period covered for simulation scenarios will be 2020-2070.
- Deliverables: Presentation to RBC; published results.

Discussion: Scott Harder said draft projections for entire coastal plain have been developed and incorporated coastal-plain-wide.

Laura Bagwell: Glad to see recharge included in model improvement. City of Aiken has recently purchased land around water supply that can be used to evaluate and model recharge rates.

Hugo Krispyn: Why does recharge and Edisto levels diverge around 2005 at Givhans Gage (used in presentation)? Greg: USGS is trying to determine reason but does not have theory yet.

Jason Thompson: Do you know what aquifers are affecting or influencing inflow at any specific gage on the river? Matt said the aquifer influence can be estimated but not recorded.

Item 7: Updated on July Field Trip

Canoe trip is July 21. We will visit Charleston Water Intake at Givhans Ferry following the canoe trip. Details will be emailed to RBC in early July. Trying to get in river by 9 a.m. Canoes, PFDs, transportation, and guides will be provided. You should bring your own sunscreen, bug spray, change of clothes, etc. Plan is for 6-mile trip; 2-3 hours. There will be 2 people in each canoe; inexperienced paddlers should be paired with experienced paddler.

9 RBC members indicated an interest in joining the canoe trip. We are trying to keep the group to 20. Open slots will be made available to support staff. John said we will provide a firm head count to Alta Mae two weeks in advance. We will keep members updated regarding weather conditions.

Item 8: Meeting Conclusion
Next regular meeting will be August 18 at Edisto REC, 9 a.m. to 1 p.m. Topics will include: Updated Surface Water Scenario Results; Initial Groundwater Scenario Results; Discussion of Groundwater Performance Measures (looking at other states). John and staff will work out agenda with new RBC chair and vice chair.

Scott Harder asked to add review of Groundwater Management Plan to agenda at next meeting.

Meeting adjourned at 12:10 p.m.

Minutes: Andrew Waters & Tom Walker

Approved: August 18, 2021

Appendix: Zoom Chat

RBC Member Term Length:

09:29:01 From Mike Mosley to Everyone:

I am only member representing power generation interest category. I am ok if you decide that I serve at least 3 years so there will continue to be power generation representation on the RBC

Clemson and TNC Ecological Flow Discussion:

10:12:26 From devendra amatya to Everyone:

Not sure, but I thought there is or should be some type of minimum flow threshold for a given aquatic/biological species. Yes that is what the in-stream or environmental flow threshold is established I just heard answered.

10:21:04 From Mike Mosley to Everyone:

Maybe would be helpful to explain how these ecology based metrics would be used in conjunction with other metrics to be used in RBC planning process?

10:29:21 From devendra amatya to Everyone:

generally return periods of 10- or more years may be assumed as High flows base on some literature. Also depends upon the objectives.

10:38:17 From devendra amatya to Everyone:

Some streams in lower coastal plain may have some water during summer with high ET demands but not moving i.e. zero velocity for that matter zero flow. So can the stage of low water depth measured for zero flows during those dry periods serve the purpose of ecological/biological indicators. Or it must be flowing water?

Groundwater Presentations:

11:32:02 From (Private Question):

Does projected scenario also factor in change In impervious surface as part of growth projections and loss of forest ecosystem functions in that residential conversion?

11:57:07 From Mike Mosley to Everyone:

Cope station is a current GW user and has GW withdrawal permit

11:58:13 From Mike Mosley to Everyone:

There is a GW management plan for the Western CUA. We should take this into account

11:59:44 (Private Question):

Is anyone in forest management weighing in on GW recharge? Are their forestry BMPs that promote improved recharge?