

Edisto River Basin Council

December 9, 2020

9:00 AM – 12:00 PM

Meeting No. 8 (Virtual)

**Agenda**

**Meeting Objectives:**

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| <ol style="list-style-type: none"><li>1. Surface Water Model Overview</li><li>2. Groundwater Model Overview</li><li>3) Environmental Flows Study Introduction</li><li>4) RBC Discussion</li></ol> |
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Minutes of the Edisto RBC Meeting  
Wednesday, December 9th, 2020  
Meeting was held virtually via the Zoom application

Members Present: Mark Aakhus, Laura Bagwell, John Bass, Kirk Bell, David Bishop, Danny Burbage, Joel Duke, Richard Hall, Johnney Haralson, J.J. Jowers, Hugo Krispyn, Alta Mae Marvin, Eric Odom, Hank Stallworth, Jason Thompson, Jeremy Walther, Landrum Weathers.

Alternates Present: Brandon Stutts (for Mike Mosley), Leland Reynolds (for Jerry Waters)

Members Excused: Trey McMillan, Mike Shugart, Alex Tolbert

Planning Team and Staff Present: Jeffrey Allen, John Boyer, Alex Butler, Rob Devlin, Joe Gellici, Vincent Guerrero, Scott Harder, Chikezie Isiguzo, Andrew Wachob, Tom Walker, Andrew Waters.

Total present: 62

1. Call the Meeting to Order (John Boyer, Facilitator) 9:00–9:08

9:00 recording begins.

John Boyer officially calls meeting to order - quorum at 9:00am. John Boyer recognizes Thomas Walker from Clemson and organization of meeting. John requests RBC members at the same location to let the facilitator know. Kirk Bell and Leland Reynolds were the only two meeting together. John highlights the meeting objectives. He notes some of the tools that will be utilized as the RBC moves to the second phase of the planning process, provides an introduction to the ongoing study that will be presented by Eric Krueger, and notes that the last hour will be used to finalize mission, vision, and goals to wrap up Phase 1 of the planning process.

- a. John Boyer reviews Meeting Objectives
- b. John Boyer requests a vote for approval of agenda

RBC members approve agenda with 11 - Yes and 0 - No. Agenda approved.

c. John Boyer requests approval of November 18 ERBC meeting Minutes and Summary

RBC members approve minutes.<sup>1</sup>

No other changes were made to the minutes or summary. The RBC approved meeting minutes with 10 – Yes and 0 - No. Minutes approved.

John Boyer announces housekeeping rules. Sign in using your name, not organization. He reminds members of the raise hand function so that you can be unmuted. He offers reminders for RBC members moving forward. First, reminding the RBC that they can seek input from technical advisors and technical advisors can serve to help RBC members. Second, there are two state advisory technical committees surface water and ground water advisory committees. These committees can be helpful to understand surface and ground water models. Third, RBC members can form subcommittees. Fourth, John Boyer will be sending out a google survey to review Phase 1 and use of virtual format.

2. Public Comment (John Boyer)

9:08-9:09

Request public comment to raise hand or submit email if by phone.

d. Public Comment Period<sup>2</sup>

No hands raised. No public comment.

3. Surface Water Model Overview and Q & A (John Boyer, CDM Smith)

9:09-9:47

John Boyer presents the Simplified Water Allocation Model (SWAM). Reviews the use of the model to facilitate regional and statewide water planning and allocation and the history of use from 2014-2017 in all eight South Carolina surface water quantity models. John notes access to the model is available at the DNR link. John presents the Edisto Surface Water model overview and scope of use and reviews what the model “is” and “is not.” John reviews ways that the model can be used in the planning process to assess surface water quantity and impacts during various scenarios. John reviews the formulation of inputs of the Edisto region using the SWAM model. John walks through the SWAM model main stem and major branch maps, primary tributaries maps, municipal water supply, industrial, thermoelectric, and golf course withdrawal maps, agricultural withdrawal maps, and wastewater discharge and returns maps of the Edisto river basin. John reviews the overall Edisto surface water model mapping and explains the larger aspects of the model framework using the map. John returns to the way the model works and reviews a variety of SWAM model calculations for supply. John also reviews the variety of SWAM model calculations for demand. Next, John discusses model calibration. John reviews recent 2020 surface water model updates. John reviews model limitations including uncertainty with the model given gauge limitations, pond storage, and stationary climate. John reviews the four base scenarios of the SWAM model: current scenario, permitted and registered scenario, business as usual scenario, and high-water demand scenario and possible discretionary scenarios as requested by the RBC. Finally, John reviews performance measures.

Opens to questions.

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<sup>1</sup> Kirk Bell was omitted from November 18<sup>th</sup> attendance list and will be corrected.

<sup>2</sup> To make a public comment you must be signed into the Zoom meeting to raise your hand, be unmuted, and formally recognized. Those who wish to make a public comment and are calling in must submit their public comment via e-mail to [tcwalke@clemsun.edu](mailto:tcwalke@clemsun.edu) by October 28, 2020 to be read at the next meeting.

Thomas Walker notes that Scott Harder highlighted there will be an updated Edisto River Basin SWAM model that will be posted and available for download.

David Bishop asks if the updates provide better real time calculation and asks if lack of gauges is an issue.

John Boyer replies noting models will be updated every 5 years and that adding new users is easy. New registered users are frequently added, and hydrology can be updated. The plan is for 5-year updates but that there are frequent new user updates. Secondly, Edisto has a fair number of gauges but there always can be more especially in head water areas.

Scott Harder also replies that the goal is to update the models as funding is available and models are kept up-to-date as much as possible. New gauges were installed recently and plan to be installed to address future water planning needs.

Hugo Krispyn requests are model budgeted in any recurring funding?

Scott Harder replies it is not recurring, but we have funding.

#### 4. Groundwater Model Overview and Q & A (Bruce Campbell, USGS (Retired)) 9:47-10:40

Bruce Campbell presents the South Carolina Atlantic Coastal Plain Groundwater Availability Model. Bruce presents the focus area study and SCDNR model update. An older USGS Groundwater resource report includes NC, SC, eastern GA, and southern VA and Bruce offers a copy of the report if requested. The project focuses on development of a comprehensive groundwater flow model of the coastal plain for South Carolina. Bruce presents a map of the groundwater model area and boundaries. Bruce presents coastal plain issues of population growth and increased demand. Bruce reviews objectives of the 2010 groundwater flow model and updates since the 2010 construction. Bruce reviews new data and model framework. Bruce reviews maps of synoptic potentiometric surface mapping, SCDNR groundwater level monitoring network map, and soil water balance groundwater recharge model map to highlight the new data sources that are included in the groundwater model framework. Bruce reviews model calibration including years, base-flow calculations, and model layers. Bruce presents simulated and observed graph of values presenting a graphic description of model accuracy. Bruce presents map of simulated surface water. Bruce presents graphic representation of Edisto RBC groundwater base-flow calibration examples with observed and simulated values with variations for various sites. Bruce presents model results and simulated water levels with various maps of the Aiken county area. Bruce presents the coastal plain GW recharge rates including recharge and drain rates. Bruce reviews how to model the Edisto basin using the selection of cells but notes that not all of the Edisto Basin is within the scope of the model with the area further from the coast not represented. Bruce presents groundwater flow model limitations of limited data, hydraulic conditions, underrepresentation of historic water use because of pumping rates less than 3 million gallons per month. Additionally, Bruce also presents Aiken County Groundwater Model.

Bruce introduces Jimmy Clark, supervisor for hydrological studies using the model for the Edisto Basin. Jimmy provides an overview of new scenarios proposed and deliverables. New scenarios include predevelopment for groundwater use scenario, current groundwater use scenario, permitted groundwater use scenario, business-as-usual water demand scenario, and high-water demand projection scenario.

John Boyer requests questions from RBC members. None noted. Bruce Campbell will also be available as a technical advisor for the GW model.

Question from David Bishop if there is a shift from a user to ground can you predict the impact to surface water?

Bruce replies it depends on the depth of the well and is easy to simulate if needed.

5. Environmental Flows Study Introduction and Q & A 10:40-10:59  
(Eric Krueger, The Nature Conservancy)

John Boyer introduces Eric Krueger who presents an ongoing research study to evaluate the stream health and flow in the Edisto river basin. The study team is comprised of Clemson, Nature Conservancy, DNR, DHEC, and RTI personnel.

Eric Krueger presents quantified flow-stream health relationships across South Carolina. First, Eric acknowledges partners and discloses funding. Eric offers question guiding research of “how much water does a river need?” to answer this question it depends on do you have the data? Eric notes that he would like to share the tool that can be used to evaluate the impact of water scenarios. Eric presents the principles of the study and how to predict the behavior and amount of flow. Eric presents the goals of the study to identify the relationships of flows and living things and the strength and variability of relationships. Eric reviews building a hydraulic foundation of stream flow data. Eric provides a highlight of metrics. Eric presents a map of biological data. Eric offers an explanation of relationship of predicted biological data and mean daily flow and presents a variety of graphs depicting relationship of biological data and change in flow specific to a variety of areas in the Edisto. Eric concludes with next steps and projection for completion and publication for June 2021.

Hugo Krispyn questions, how does this mesh with the ongoing conversations about narrative/numeric flow standards, and how would we best integrate this effort into our recommendations as/from the Edisto RBC?

Eric replies that this leap frogs to level of detail of narrative standard and there is a rich pool of data that can reference the health that the standards should try to maintain.

No further questions noted.

- \*Break\* 11:59-11:10

6. Edisto RBC Member Vision Statement and Goals for the Edisto Basin 11:10-11:55  
(John Boyer & Planning Team)

John Boyer returns meeting from break to finalize the vision and mission statements and goals. John encourages discussion and unmuting and verbal discussion. John reminds RBC of definitions of mission statement and vision statement and goals. John reviews proposed mission statement from the last meeting “To develop, update, and support implementation of a River Basin Plan for sustainable management of water resources in the Edisto.” John notes that Laura Bagwell has offered a proposed mission statement.

Laura Bagwell notes that she really likes the proposed mission statement just noted. She also notes that she would like to reflect the fact that RBC's job is to influence water policy but that she also like the definition proposed just now.

John Boyer notes that we can revisit the influence of policy with goals.

Laura Bagwell agrees and notes that you can omit what she suggested, and she likes the proposed mission statement.

Jeremy Walther requests that an update should have a timeline and date. He is concerned that people will lose focus and that the group will possibly be run by only certain groups in the long term.

Jason Thompson replies that he understands that the RBC will be facilitated by stakeholders and that groups can be changed with different representatives.

John Boyer requests confirmation from the PPAC and when updates to the plan should occur.

Scott Harder replies that the plan does indicate updates every 5 years. He also notes that the implementation plan is supposed to encourage the RBC to remain active in the basin and RBC will continue to meet to update the plan but also have some activity between updates.

Jason Thompson request how everyone feels about the mission statement and moving forward.

Hugo Krispyn notes that rather than trying to put the update as a defined time frame, we can just note periodic updates.

John Boyer agrees.

Jason Thompson notes that periodically seems an additional word that is not needed in the mission statement and doesn't think that periodicity is a good word to add.

John Boyer request vote with mission statement as is. RBC vote for mission statement as is: 11 – Yes and 0 - Nos. He notes that there are missing votes but should be consensus with no nos.

John Boyer reviews RBC identified priorities from August 2020.

John Boyer reviews proposed visions statement using the vision statements sent in. "A resilient and sustainably managed Edisto River Basin where the human needs of current and future users are recognized and protected, and ecosystem needs are met." There are also two other suggested revisions.

Laura notes that because she is a scientist, she is hung up on the data driven basis, but she can put that in the goals. She notes that the revisions are more precise, and she likes the word balance and appreciates that all visions incorporate the human and ecosystem needs.

Hugo Krispyn notes that he would like the word needs for the second revision to be deleted.

David Bishop notes that he does like the first revision and would like to have some edits but he would like the first revision.

Jason Thompson notes agrees that water is to some extent a finite resource and asks so how can we guarantee that all future users (those yet to be permitted or registered) will be able to use water. He notes that he wonders if there should be prioritization of current users and environment, and guarantying future users may lead to over allocation at some point.

Hugo Krispyn replies it seems like future is something we should be concerned about.

Thomas Walker notes that it was noted in the chat that we should include the importance of resiliency.

Laura Bagwell notes that she has tried to come up with the high points of revisions and has sent it in the chat.

Hugo Krispyn asks if we are looking out for “users” or “stakeholders.” He argues there are plenty of users who will not withdraw water, but they will be using the river and resources.

Jason Thompson, I wonder if ecosystem is already capturing what you are talking about.

David Bishop notes that Alta Mae liked the idea of “human needs”

Alta Mae replies “human needs” captures the future and is more inclusive.

Hugo Krispyn, I am okay with all of the visions in proposed vision.

Jason Thompson, It sounds like everyone likes this it’s just the words human, user, and stakeholder.

John Boyer request vote for the first vision statement. 2 – Yes and 0 - Nos; Vote for second vision statement 9 – Yes and 0 - Nos; Last vision statement 0 – Yes and 0 - Nos. John asks, what tweaks for the second vision statement.

Hugo Krispyn, human in place of stakeholder.

John Boyer request a vote for human to replace stakeholder. RBC votes 7 – Yes and 2 – Nos.

Hugo Krispyn asks, curious why human is no?

Jeremy Walthers replies, Does human represent agriculture?

Landrum Weathers replies, I like stakeholder better than human.

Jeremy Walther, I prefer stakeholder myself.

Jason Thompson asks, Can we vote again?

John Boyer request a vote with the word human - Yes, stakeholder - No; RBC votes 3 - Yes and 8 - Nos. John reviews second vision statement – no members disagree. John notes goals next, he notes that some members noted that goals appeared as redundant.

Jason Thompson, I like number two because it gets into strategies and policies.

Jeremy Walther, if we use number two then we should focus on water quantity.

Jason Thompson, the framework does incorporate quality and thus should eventually include quality to some extent.

Thomas Walker confirms, for future iterations this will include water quality.

David Bishop, I wonder if we should incorporate 1 and 2 and use best available science to develop strategies.

Hugo Krispyn, do we want to say this resource of the Edisto River Basin? This resource feels a little less involved and its more than just a resource. Also are we talking about all the water users or the stakeholders?

John Boyer request a vote for Goal 1: vote Yes if you like it and No if you are uncomfortable; 11 – Yes and 0 – Nos. Goal 1 approved.

John Boyer request, do we agree with Goal 2?

Hugo Krispyn request change to word to include stakeholders and public understanding.

Thomas Walker asks do we need to number or prioritize our goals.

John Boyer replies, no we do not need to prioritize but we should number.

Jason Thompson, it seems to me that it should be focused on RBC activity and if RBC does outreach to the public.

Hugo Krispyn asks are we only protecting future uses or are we including sustainability.

John Boyer replies you can argue that current and future uses includes environmental.

Jason Thompson replies that semantically “use” is “withdrawal”.

Hugo Krispyn, I think we should add environmental needs.

Jeremy Walther replies, I worry that you are driving the conversation and it wasn't but a few years ago that your organization was spreading information that the Edisto was going dry.

Alta Mae notes I want to add a thought that the words we use can have a different use for different people at different times.

Jeremy Walther asks can we put understanding of factual water policy issues? I think that certain organizations put out information but this group should focus on science.

John Boyer request a Yes or No for Goal 2; 11 – yes and 0 – Nos, Goal 2 approved.

John Boyer presents Goal 3 and request comments.

Jason Thompson, I like this goal worded the way it is.

Hugo Krispyn asks, are we specific to the sectors noted in the goal?

John Boyer replies yes we are specific to the sectors.

John Boyer request a Yes or No for Goal 3; 10 – yes and 0 – Nos. Goal 3 approved.

John Boyer notes we have three down and four more let's look at these goals for the next meeting.

7. Meeting Conclusion (John Boyer)

11:59-12:00

John Boyer reviews wrap up of Phase 1 and moving to Phase 2. He reviews the focus of first several meetings of Phase 1 and preview next month's meeting and topics.

Hugo Krispyn requests will we still postpone voting for a chair and vice chair since we are not scheduled for in person meeting?

John Boyer will add that question to the survey and provide feedback.

Jeremy Walther suggested waiting for in person meeting.

Meeting was concluded at 12:00pm.

Minutes by: Vincent Leon Guerrero, Andrew Waters, and Tom Walker

Minutes approved: January 6, 2021