Minutes of the Edisto River Basin Council
Meeting: May 26, 2021

Members Present (in person): Laura Bagwell, John Bass, Kirk Bell, David Bishop, Danny Burbage, Joel Duke, Hugo Krispyn, Alta Mae Marvin, Michael Mosley, Eric Odom, Hank Stallworth, Jason Thompson, Jerry Waters, Landrum Weathers and Will Williams

Members Present Online: Alex Tolbert, Mark Aakhus, and Richard Hall

Alternates Present (in person): Becky Davis (sitting in for Johney Haralson), Amanda Sievers, Jonathan Burroughs and Eric Krueger

Members Absent: JJ Jowers, Jeremy Walther, Johney Haralson, Trey McMillan and Mike Shugart

Staff & Agency Support Present (in person): Jeff Allen, John Boyer, Murray Dodd, Joe Gellici, Scott Harder, Alex Butler, Tom Walker and Andrew Waters

Presenters Present: Kendall Kirk, Brandon Peoples and Luke Bower

Members of the public present (in person): 2

Online Attendance: 40

Item 1: Call to Order

John Boyer called the meeting to order at 9:00 a.m.

John asked each member to introduce themselves since it was the first in-person meeting.

John announced we do have a quorum of members for this meeting and reviewed the agenda.

Jason Thompson made a motion to approve the agenda. Hank Stallworth seconded the motion. The motion was approved unanimously.

Item 2: Public Comment

John asked members of the public if they would like to make a comment. No comments were submitted.

Item 3: Updates to State Water Planning Framework

Scott Harder gave a presentation on proposed revisions to the State Water Planning Framework. He first reviewed the purpose and guiding principles of the River Basin Plan.

He reminded the council that under the previous framework, the RBC had to consider shortages under "Baseline Scenario" planning protocols. However, current water withdrawals are only 10% of total permitted withdrawals. This makes it difficult to consider drought scenarios using historical data.

In the change framework, the Baseline Scenario concept has been replaced with "Planning Scenario," which will incorporate permitted withdrawals more effectively in planning projections. The "Planning Scenario" will incorporate a more general definition of water use scenarios. Other scenarios will remain as previously outlined in the Framework.

Questions:
Hank Stallworth: Do the current registrations affect DHECs ability to issue a permit for future use.
Alex Butler: It does affect the review process. Registrations are currently at maximum in the Edisto, with no additional registrations available. However, DHEC can still issue permits.
Hank Stallworth: How can we make an effective plan if, under current circumstances, registrations can't be issued in the future.
Scott Harder: We are trying to focus on realistic future water use in the Edisto Basin, independent of what current permitting regulations allow.
Jason Thompson: Regardless of other issues, the current restrictions on registrations are forcing a more conservative approach to future planning scenarios. Our process is already non-legal, so the law shouldn't restrict our planning approach.
Alex Butler: Some registrations do have to be renewed but the renewal is unlikely to affect future water use projections significantly.
Scott Harder: He encourages council to devise a plan that focuses on how water management should be done in the Basin. At some point, we will have to circle back to how the plan will address changes to current law and registrations, but our focus now should be on creating the best process possible.

Item 4: Clemson Agricultural Irrigation Research

Dr. Kendall Kirk gave a presentation on irrigation research conducted at the Edisto REC.

His focus is on harvest machinery technology. His work in water has been in software development of GPS/GIS applications related to irrigation distribution. He gave an overview of technological tools he is working to develop. These software applications are intended to help farmers develop and implement more efficient water irrigation management plans.

Center Pivot Mapper: Farmers can manage multiple pivots and record water usage in the application. This facilitates more efficient irrigation/water use.

Drip Fertigation Calculator: App for calculating proper drip fertigation rates. It is designed to encourage use of fertigation and eliminates guessing/waste. Fertigating is irrigation and

fertilization using a drip system. It is rapidly becoming a popular tool for horticultural producers.

Center Pivot Fertigation Calculator: Calculations for center pivots are entirely different and more complicated, so Clemson has developed a specific app for center pivot fertigation calculation. It is geared more toward row crop growers.

Pivot Irrigation Assessment Extension Program: This is a health checkup for a center irrigation system. The software application can demonstrate the cost-benefit of repairs to the center pivot system. Center pivots are 2/3rd of the agricultural irrigation systems in S.C. The software demonstrates where there are leaks or faulty equipment in the irrigation system. It reports cost savings as an incentive to drive water conservation. Clemson is training water resource and agronomic agents on using the software. The program is in pilot phase right now; full rollout is scheduled for September 2021.

Watermark Calculator: Doesn't require subscriptions. Application makes a recommendation on whether you should irrigate based on water calculations.

Dr. Kirk recommended the RBC should consider irrigation management plans as part of its recommendations. There are a variety of irrigation management planning methods available now, and they can be useful in promoting sustainable water use. In some states, there is cost share available through NRCS to farmers for financial assistance in developing these plans. Clemson is investigating how to get cost share available for South Carolina farmers.

Break: John Boyer called for a break at 10:40.

Meeting readjourns at 10:55.

Item 5: Flow-Stream Health Relationships Study

Dr. Brandon Peoples, Dr. Luke Bower, and Eric Krueger (TNC) made a presentation on a flow-stream/health-relationship study conducted in the Edisto Basin.

The study was distributed at the meeting.

Dr. Brandon Peoples provided a background for the study. Study performs monitoring of instream conditions and water quality by measuring impacts on aquatic habitat. He described rivers as hierarchy of habitats. He stated the appropriate unit for monitoring is stream segment, although it is difficult to measure conditions on a stream-segment basis. There are over 28,000 stream segments in S.C. (over 15,000 river miles/wadeable streams). Therefore, we can use aquatic organisms to monitor stream segments. The southeastern U.S. is a hub of aquatic biodiversity. S.C. has 146 freshwater fish species and 1,092 invertebrate groups. S.C. has a rich fish/invertebrate diversity. Bioassessment uses aquatic diversity to measure river health. Bioassessment techniques date back to the 1980s. Bioassessment can be based on different

measures; this study was based on changes/patterns in instream flow. Species' traits, richness, and diversity can all be used to conduct bioassessment. Study relates fish metrics/invertebrate metrics to flow measure in linear relationship.

Luke Bower presented on the results of the study. Objective of study was to quantify relationship between key flow metrics and biotic response to inform flow standards for S.C. water systems. 24 metrics were used for the data analysis. Different stream types were classified so flow-ecology relationships could be measured based on stream type. Data was also classified by ecoregion (Blue Ridge, coastal plain, etc.). There were 500 fish/530 macroinvertebrate sites in the study.

Major Findings:

- Numerous relationships exist between species metrics and stream metrics.
- All components of the flow regime are important to bioassessment of species.
- These relationships differ between stream classes. Some relationships won't apply in some regions.

Findings for Edisto Basin:

- Many relationships were predicted. A collaborative of project partners prioritized relationships for the Edisto Basin. The strongest relationships were prioritized. Metrics that were easily interpreted were also prioritized.
- Relationships can be used to predict responses for aquatic organisms based on flow.

Eric Krueger (TNC) reported on the study's proposal for the Edisto Basin RBC:

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.

Questions:
Jason Thompson: Can we see how recommended metrics were calculated?
Luke Bower: Yes, we can provide statistical modeling to members.
David Bishop: Can we use this model to compare existing water use regulations to results of study?
Eric Krueger: Not sure how that could be accomplished at this time.
Hugo Krispyn: Can we assess the viability of the 20/30/40 standards using this model?
Eric & Luke: Yes, that is possible.
Jason: Goal should be to get to a river basin plan that does not require changes to law, then focus on recommendations for changes/new regulation.
Because the meeting was running short on time, John Boyer suggested moving a vote on the proposal recommendations to the next meeting. The RBC agreed by consensus to defer a decision on recommendations to next meeting. June 23rd is date of next meeting. Questions for the discussion/decision should be submitted within the next two weeks.

Item 6: Updates on RBC Schedule and Field Trips

Next three meetings are scheduled for June 23, July 21, August 18.
Consensus was to keep schedule from 9 a.m. to noon for now.

Alta Mae Marvin proposed a canoe trip for the group. She is part of the Edisto River Canoe and Kayak commission. They have canoes and kayaks available for the group. The trip would be about 3 hours. John Boyer suggested a canoe trip in the morning and a visit to Charleston Water System intake in the afternoon.

Most members indicated interest in participating in the trip. John suggested having the trip as the agenda for the July meeting. Group agreed by consensus to do canoe trip for the July meeting. Next meeting will be at Edisto REC on June 23rd. Plan is to have the July 21 meeting as a canoe trip.

Item 7: Membership Discussion

Mike Shugart has left the Denmark Water Utility. He would like to remain on the RBC but needs to be shifted to a different membership category. John asked the group to consider whether Mike should remain on the RBC? Vote to remove requires a super majority. We do not have limits on each category, so he could be added to other categories, John reported.

Hank Stallworth: We should ask the Denmark CPW if they have a replacement for Mike.

Jason Thompson: There are only two water utilities on the Council. We are reaching a point where withdrawal groups are approaching less than 50% of committee. We need to be careful about makeup of council since we are making decisions that will affect withdrawal groups.

Jason makes a motion for Denmark to maintain representation and Charles Shugart would no longer remain on the RBC. Motion was seconded by Joel Duke.

Following discussion, Jason revises motion: Remove Mike Shugart from RBC and attempt to replace him with someone from a water utility, preferably Denmark CPW. Joel Duke seconds revised motion.

In favor: 14 votes. Opposed: 0 votes. Abstentions: 1.

Jason's motion passed. Mike Shugart is removed from RBC. He can reapply under his current status if he wishes.

Meeting was adjourned at 12:44 p.m.

Minutes: Andrew Waters and Tom Walker

Approved: June 23, 2021