

Minutes of the Edisto RBC Meeting
Wednesday, February 16, 2022

Meeting was held in-person and virtually via the Zoom application

Members Present: Mark Aakhus, Laura Bagwell, John Bass, Kirk Bell, David Bishop, Danny Burbage, Johny Haralson, JJ Jowers, Hugo Krispyn, Alan Mehrzad, Eric Odom, Hank Stallworth, Brandon Stutts, Jason Thompson, Jeremy Walther, Jerry Waters, Landrum Weathers, & Will Williams

Members Absent: Alta Mae Marvin (Jon Burroughs, alternate, present), Amanda Sievers, Joel Duke, Alex Tolbert, & Trey McMillan

Planning Team Present: John Boyer, Scott Harder, Leigh Anne Monroe, Joe Gellici, Andy Wachob, Tom Walker, Jeff Allen, Andrew Waters, Chikezie Isiguzo, Matthew Petkewich, & Greg Cherry

Total attendance: 46

1. Call to Order, Approval of Agenda, and Approval of January 19 minutes.

Hank Stallworth called the meeting to order at 9:01 a.m. He reminded everyone the meeting is being recorded. He announced we have a quorum of Council members.

Hank reviewed the agenda that had been previously submitted to the council. Hugo approved the motion to approve the agenda, seconded by Jerry Waters. Approved unanimously.

Hank asked for motions to approve the minutes from the January 19 meetings. Hugo approved the motion to approve the minutes, seconded by Laura Bagwell. Approved unanimously.

2. Public Comment

John invited members of the public to submit comments. There were no comments submitted from the public.

3. Old Business/New Business

Laura Bagwell congratulated Jeremy Walther on the birth of his new child.

John asked when the next DHEC surface water regulation review stakeholder meeting will be held. Leigh Anne said they are still planning and there were no meetings scheduled right now.

4. Update on Edisto River Basin Plan

John announced that the support team was starting to assemble pieces of the river basin plan. Section 1 is drafted and sent to plan subcommittee for review and comments. Their comments and agency review comments are due by Friday. Following that process, there will be a meeting of the subcommittee to name the chair and sub-chair and develop recommendations for moving forward. The RBC will get a review of Section 1 once it is approved by the subcommittee, around February 21. He outlined further steps moving forward with the plan drafting process.

5. Land Use Implications to Evapotranspiration and Water Budgets (Devendra Amatya, Ph.D., U.S. Forest Service)

Devendra Amatya gave his presentation virtually.

For details of presentation, see presentation slides or meeting recording (distributed at meeting and available on the SCDNR hydrology website).

Discussion

David Bishop: Do we know the difference in ET rates in different-age classes of forest? Devendra said we do not have that type of analysis although generally younger trees have higher ET rates than older ones.

Alex Pellet: Does ag land have a greater average water yield than forest land? Devendra doubts there would be significant differences other than those already shown.

Jason Thompson: He was surprised by the decline in ET from periods of more precipitation to less precipitation. He expected the opposite behavior. Elliot (DNR) said there are a lot of factors that explain that behavior that are not just related to precipitation.

6. Groundwater Modeling Results for Current Use and Fully Registered and Permitted Scenarios (Greg Cherry and Matthew Petkewich, USGS)

Greg Cherry introduced the presentation and thanked project partners. Matthew Petkewich continued the final portion of the presentation.

For details of presentation, see presentation slides (distributed at meeting) or view the recording.

Discussion

Matthew said they will present on business-as-usual and high-demand water use scenarios at the next meeting.

Alan Mehrzad: What's causing more vertical inflow over time between aquifers? Matthew said if you're pumping aquifer more, there's going to be more vertical flow. As you're pumping more, you're stressing the lateral and vertical flows more.

Alan: After 2059, do you predict a discharge rate greater than recharge rate? Greg said they had to alter the model a little bit to calculate the projections after 2058. The enhanced rate is still within the range of the data, Matthew said.

John Boyer: What is the influence of groundwater pumping on discharge to streams, i.e. impacts on surface water quality? Hugo: If we pump more from groundwater, will we impact surface water quality? John: Data suggests we can switch to groundwater pumping in low stream-flow scenarios without significant impacts on surface water quality. John: Hard part will be determining what these types of declines mean for long-term planning process. We need to understand how we will respond to unacceptable projected impacts on the aquifer. This will be a challenging process because models will not be decisive regarding possible outcomes.

Break: The group went to break from 11-11:15.

7. Evaluation of Modeled Agricultural Surface Water User Shortages and Storage as a Water Management Strategy (John Boyer)

John noted there's been discussion about agricultural-user shortage projections in the smaller streams, primarily in upper portions of the basin. Data indicates these shortages are an anomaly in the model—there is evidence these shortages are not actually occurring. He gave a presentation on a possible explanation as to why this discrepancy is occurring in the modeling.

He noted that most of the monitoring points in these smaller streams are on a pond or directly downstream of a pond, which is influencing data. Storage in ponds may impact shortage projections because ponds are not discharging regularly. As you transition from normal flow to low flow conditions, impoundments appear to be influencing mainstream flows. However, this does not necessarily indicate there is a shortage because water is being stored in impoundment. Adjusting for storage in ponds appears to reduce shortage projections. However, he noted impoundments are adding evaporation. If other impoundments are similar to the ones studied, it suggests true shortages are occurring only in drought conditions because of pond storage capacity. This also suggests impoundments are an effective strategy for reducing shortages in low water conditions for agricultural producers. However, the cumulative impact of these impoundments is unknown.

Jerry Waters: New impoundments are using systems that draw from the bottom of the pond. This might further reduce shortage projections as these systems are implemented more broadly. He noted there are a number of regulations influencing permitted impoundments. If we are recommending impoundments for resiliency purposes we need to acknowledge the impact of those regulations.

Hugo: His understanding is that impoundments are excluded from surface water withdrawal regulations. Leigh Anne responded that it depends. Groundwater-charged impoundments are entirely exempt. Withdrawal regulations for surface-water-charged impoundments depends on a variety of factors.

John noted there are a variety of outlet systems in impoundments. The ones shown in the presentation are just an example. He presented a projection model based on a hypothetical impoundment at Givhans Ferry. For results of the simulation, please see presentation slides. The projection indicates that the hypothetical impoundment, with regular releases, appears to have a positive impact on flow projections at Givhans Ferry.

8. Review and Discussion of Surface Water Conditions and Management Strategies (working lunch)

John reviewed the process for water management strategies to this point. He reminded members that the RBC is expected to propose water management strategies that address surface or groundwater availability.

John's presentation reviewed the information currently available to the RBC. *Please see the presentation slides for more details on this review.* He reminded the RBC they are charged with developing an adaptive management approach that recognizes the potential for changing hydrologic or socioeconomic conditions over the time period covered in the plan.

Questions posed by John:

Does the RBC want to evaluate any additional surface water strategies?

John noted that our review of impoundments was part of addressing this question. No additional strategies for review were proposed by RBC members.

Should surface water conditions be set? Or should we wait until groundwater management strategies are discussed before addressing surface water conditions?

Jason Thompson: Recognizes that surface water conditions will be contentious. He suggests that we wait and review the completed groundwater scenarios. This will give us a fuller understanding before proposing surface water conditions that might not be based on comprehensive evidence. His recommendation is to have a preliminary discussion on groundwater conditions (after all information has been presented) then re-address surface-water condition proposals.

Hugo: Agrees with Jason that we should wait until groundwater projections are complete. He does feel that ultimately the RBC will have to set at least some surface water conditions.

Laura Bagwell: Concurs with Jason and Hugo—we need more information on groundwater before addressing surface water conditions.

John: There appears to be consensus about waiting on surface water conditions. RBC members generally agreed. No one opposed waiting. John encourages RBC members to attend in person over the next couple of months so we can have a robust discussion on this issue after groundwater scenarios are presented.

We will also table discussion on Low Flow management strategies.

9. Upcoming RBC Agenda and Schedule (John Boyer)

John noted the next meeting will be focused entirely on groundwater. We will discuss groundwater conditions and shortages, groundwater areas of concern, and potential groundwater management strategies. Next meeting will be Wednesday, March 16.

Jason: Asked the groundwater committee to consider potential water quality impacts to groundwater withdrawal recommendations. He would like to see that information be presented in March or April if possible.

10. Meeting Conclusion (John Boyer, Hank Stallworth, Chair)

Laura Bagwell asked if April meeting was scheduled for April 20. John: That is the default date. Planning committee will update asap if date changes.

Hank re-emphasized John's point about attending meetings in person. He feels it facilitates better discussion and participation. He encouraged members to attend in person whenever possible. We will have to address some difficult decisions in the upcoming meetings, and we can have a better decision-making process if most people attend in person.

Meeting was adjourned at approximately 12:25.

Minutes by: Andrew Waters and Tom Walker

Approved: 3/17/2022

RBC Chat:

09:02:02 From Thomas Walker to Everyone:

our floor mic is out here at the REC. we will use a traveling mic but bear with us please

09:02:15 From John to Thomas Walker(Direct Message):

ok

09:04:17 From Mark Aakhus to Everyone:

Yes

09:04:21 From David Bishop to Thomas Walker(Direct Message):

yes

09:04:48 From Mark Aakhus to Everyone:

Yes

09:06:09 From Thomas Walker to Everyone:
congrats

09:06:24 From Jeremy Walther to Everyone:
thank you

09:46:08 From David Bishop to Everyone:

It is clear that trees have higher evapotranspiration rates than grassland or ag land. Do we know the difference in ET rates in different age class floodplain forests? Does a 40 year old forest with more mature trees (but fewer stems per acre) have a higher ET rate than a 5 or 10 year old forest with smaller trees but more stems?

09:48:36 From Alex Pellett to Everyone:

So, ag land has a greater average water yield than forest land. Is the difference in water yield uniform over time, or is the difference greater or lesser during high or low stream flow periods?

09:58:47 From David Bishop to Everyone:

A summary thought on the landcover conversation based on what I could gather. More open land yields more water (but also has the potential to degrade water quality). Our natural upland forests would be scattered longleaf savannas, which would yield more water than pine plantations. Supporting these efforts to restore this type of habitat where appropriate is a good move for agriculture. Also, it seems like cutting swamp forests will actually decrease water yield (increase ET) because of the vigorous growth of more stems per acre.

09:59:20 From Thomas Walker to Everyone:

thanks david. it will be included in the minutes

10:02:15 From Alex Pellett to Everyone:

It looks like riparian areas have relatively constant recharge in wet and dry years. Compared with uplands, the riparian areas have less recharge in the wet year and more recharge in the dry year on the maps shown.