

Memorandum

To: Suwannee-Satilla Regional Water Planning Council

From: Rick Brown and Brian Keel, CDM

Date: 11/23/09

Subject: Council Meeting 4 - Summary

This memorandum documents the meeting summary of the Suwannee-Satilla Regional Water Planning Council Meeting 4 (CM4), on November 11, 2009 at the Youth Center in Douglas.

1) Welcome and Introductions/Recap Council Meeting 3/Approve Agenda/Approve CM3 Summary

Chair Darwin Eason initiated the morning session of Council Meeting 4. Mayor Jackie Wilson gave a welcome to all in attendance. The Public Attendees introduced themselves at the request of the Chair. The Council then recognized and honored all Veterans present in the meeting. A Council Member presented a copy of the resolution regarding interbasin transfer adopted at the Suwannee Upper Ogeechee meeting on November 10th. It was agreed that this topic would be discussed just after break.

The Chair presented the Agenda and the Council approved the Agenda unanimously. Garland Thompson, a public attendee, discussed the importance of water planning, aging infrastructure, and complexity related to legal concerns surrounding Atlanta's water supplies. He mentioned the idea of utilizing creative use of labor forces within the department of corrections to help address future needs.

The PC presented a recap of Council meeting 3, summarizing what was accomplished in CM 3, and provided an overview of where the Council was in the planning process. Some discussion followed:

- Council Member: How is our Council doing overall from a schedule standpoint?
PC Response: We are at or near the front of the pack. We have not fallen behind schedule on any topics except for population data, but all councils are in the same situation there.

A summary of results of the evaluation forms from Council Meeting 3 was also presented. The Chair asked if the Council had any questions on the Council Meeting 3 Summary and requested the approval of the Summary. Council member Gordon Rogers made a motion

to approve Council Meeting 3 Summary. The motion was seconded by Scott Downing and the Council approved the Meeting 3 Summary with a unanimous vote.

The meeting continued with an overview of the objectives for Council Meeting 5. These included:

- Review municipal and industrial water and wastewater forecasts;
- Build on resource assessment information presented at CM3 – discuss results of work and plan for joint meetings;
- Continue management practice discussion focusing on approach and potential future practices;
- Update/Adopt Vision and Goals; and
- Adopt a Public Involvement Plan.

Location and possible dates for Council Meeting 5 were discussed. The dates available for the next meeting are March 8th through 25th. The Council decided to rotate locations of the four meetings in 2010 around Valdosta, Tifton, Waycross, and Fitzgerald. A Council member suggested that technical colleges would be a good general location. It was decided to have the next Council Meeting at Valdosta. The Planning Contractor (PC) proposed March 25th as a possible date for Council Meeting 5. It was agreed that Council would finalize the date at the end of the meeting.

2) Suwannee-Satilla Regional Water Plan - Vision and Goals

The PC made a presentation on the Vision and Goals for the Suwannee-Satilla Planning Region. The PC presented the vision statement that was approved by the Council in CM3, and the draft goals that were sent out prior to the meeting. The approved vision statement is as follows:

“The vision of the Suwannee-Satilla Regional Council is to manage water resources in a sustainable manner under Georgia’s regulated riparian and regulated reasonable use laws to support the state’s and region’s economy, to protect public health and natural resources and to enhance the quality of life for all citizens while preserving the private property rights of Georgia’s landowners, and in consideration of the need to enhance resource augmentation and efficiency opportunities”.

The draft goals presented for the Council’s consideration were:

- *Manage the region's and state's water resources in a manner that preserves and protects private property rights.*
- *Protect and manage surface and groundwater recharge areas to ensure sufficient long-term water supplies for the region.*
- *Promote efficient use and management of surface and groundwater resources to allow for sufficient supplies for current and future generations.*
- *Identify opportunities to manage stormwater to improve water quantity and quality.*
- *Protect, maintain, and where appropriate and practicable, identify opportunities to enhance water quality and river base flows.*
- *Protect and maintain regional water-dependent recreational opportunities.*
- *Identify opportunities to optimize existing and future supplies.*
- *Optimize existing water and wastewater infrastructure.*
- *Manage land cover to help maintain water quality and quantity.*
- *Manage ground and surface water to encourage sustainable economic and population growth in the region.*
- *Ensure water quality and quantity to support population and employment growth while protecting natural habitats.*
- *Identify and implement cost effective water management strategies.*
- *Seek to provide economically affordable power and water resource service to all citizens of the region.*
- *Identify and implement actions to better measure and share water use data and information.*

Council members suggested that we should make other Councils' vision statements available to the Suwannee-Satilla Council before the first joint meeting and we should provide our vision statement to other councils. A Council member suggested that it could be posted on the website. The following comments and questions were posed by Council:

- Council Member: We need to be careful about how we balance population and natural habitats with our goals.
- Council Member: The 11th goal listed sounds to me like it prioritizes natural habitats before population and employment growth.
- Council Member: Can we group these in a way that allows us to see connectivity?
- Council Member: From my perspective protecting ecosystems does not prioritize uses between humans and animals. Should we include maximum supplies?

Council agreed to let the PC work on editing draft goals during lunch and revisiting them toward the end of the meeting to decide whether or not to approve them. A discussion of the Metro North District and Lake Lanier ruling ensued:

- Council Member: How is the Metro North District different than our Council? *PC Response: Five million people started plan a few years ago to develop infrastructure management actions & conservation. We should be aware of their plan but not necessarily follow their lead. They will need to come in line with the statewide planning process.*
- Council Member: The Metro North planning process has the force of law, ours doesn't. They can legally make interbasin transfers within their district. We might need to have a briefing on what the difference is from an attorney. *PC Response: We will work with EPD to provide Council with a 1-page document of talking points prior to CM5.*
- Council Member: There are 160 reservoirs in north Georgia being studied by the Soil and Water Conservation Commission (SWCC) for water supply use. Some are on land owned by communities and some are on land owned by SWCC.
- PC: Next meeting there will be a discussion on water law but we may need to add more on Metro North planning.
- Chair: The Water Contingency Task Force discussed alternate water sources as one of several options. Interbasin transfer & desalination are the largest topics discussed to date. The Governor wants to show the judge we're doing everything we can to conserve & find alternate sources. If the judge's ruling stands there will be a 250,000,000 gallon per day (gpd) shortage of water in Atlanta.

Cliff Lewis (GA EPD) provided a brief background on the new Director of EPD, Allen Barnes. He is from Florida and was formerly the Chief of Staff for EPA Region IV. He is a partner with King & Spalding, who were involved in the Lake Lanier legislation. Director Barnes will be having a conference call with all Council Chairs, and Chair Darvin Eason

will provide an update to Council at CM5 on this conference call. Cliff Lewis asked Council members to please provide him any questions prior to this call that they want forwarded to the director.

The following action items for the PC were noted:

- We need to prepare and send the Governor a list of alternates in the same category as Linda Tanner, Chairman of the County Commission.
- Get a correct email address for Carroll Coarsey.

3) Water Plan Table of Contents

The PC asked for volunteers to form a group to work on the Table of Contents starting in the next few weeks. Volunteers are Greg Evans, Scott Downing and Wesley Langdale.

EPD and the PC will provide the group with a draft to start from and the group will coordinate with EPD and the PC via emails and conference calls.

- Council Member: Is the Colorado State Water Plan working? *PC Response: Yes and no. There are some political polarizing issues there that are not working.*

4) Energy Forecasts

The PC gave an introductory presentation on energy forecasts. The following questions and comments were offered by Council:

- Council Member: Are permits based on consumptive use or total withdrawal? *EPD Response: Withdrawal.*
- Council Member: Some steam plants consumptively use 30 – 60% of the water they withdraw. *PC Response: That's true, but they represent a small percent of total energy withdrawals.*
- Council Member: Will the energy forecast look at the pollution burden for air, water and land? *PC Response: Certainly for water, but we don't know about air and land. It would be an extensive effort to track down CO2 and Mercury output data, and newer plants are much cleaner in these respects.*
- Council Member: Will there be further analyses of the burden on fish (e.g., Mercury)? *PC Response: We don't know, this would depend on an analysis of airborne pollutants.*

- Council Member: Energy production permitting differs among states. Some permit based on total withdrawn and some permit based on consumption.

5) Interbasin Transfer Resolution

A Council member brought up the fact that the Savannah-Upper Ogeechee Council passed a resolution that interbasin transfers be prohibited in perpetuity. The Council member passed around a copy of this resolution and asked that the Suwannee-Satilla Council consider a similar resolution. The Council member expressed a fear of legislations changing early next year that will allow interbasin transfers, and mentioned that the Governor's Task Force is currently considering this and that laws are made to be changed. The following questions and comments were offered by Council:

- Council Member: Georgia and Florida geologists are working together to assess groundwater resources that are shared.
- Council Member: The Santa Fe River & Springs in north Florida are running dry.
- EPD: We could have someone from north Florida speak to the Council about these issues at the next meeting. *Chair Response: I'll talk with you about it offline.*
- Council Member: Do we want to build fences and say absolutely no, they can't have our water?
- Council Member: Building reservoirs will require interbasin transfers to work (we want to let the process work).
- Council Member: I think we need to send some kind of resolution.
- Council Member: Thinking about conservation, why doesn't the state make HJAIA install waterless or selective-flush urinals? *Response from another Council member: Atlanta has the lowest per capita water use in the state due to conservation.*
- Council Member: Gwinnett County is building a pipeline to put highly treated wastewater back in Lake Lanier.
- Council Member Gordon Rogers offered to work on the wording of the Suwannee-Satilla Resolution.

6) Municipal Forecasts

The PC gave a presentation on municipal forecasts and the following comments and questions were offered:

- PC: There is probably a need to have the Municipal Ad Hoc group perform additional micro-scale outreach to water suppliers.
- PC: We should focus our follow-up with major water providers. We need to decide when we have sufficient data to call it “good enough”.
- Council Member: Irwin County has 1 treatment plant and it is land application.
- Council Member: There is no wastewater treatment plant in Brantley County so it can't have 98% point source discharge.
- Council Member: The Pierce County % septic seems too low.
- The PC asked for volunteers to do outreach to water suppliers. Greg Evans, Gordon Rogers, Scott Downing, Ernest Crussel (City of Douglas), Mike Allen (Lowndes County), and Chris King (Erco) volunteered.
- Scott Downing said the suppliers he talked to said the numbers we have are good.

7) Industrial Forecasts

The PC gave a presentation on industrial forecasts and the following comments and questions were offered. The PC is working with EPD to provide Council with clarification on items that do not have responses below:

- Council Member: Are Egg forecasts captured under food? Eggland's Best is in Blackshear and they are municipally supplied.
- Council Member: There are water plants in Douglas, Pierce, and Fitzgerald. Is water also captured under food? What about the water that is actually put into the bottles?
- Public Attendee: Are the numbers presented here actual use numbers or permitted values? *PC Response: I believe these are permitted numbers from EPD's permit database. (Note: PC has since received clarification that the numbers are actual use numbers).*
- Public Attendee: Don't double-count water sold to industry by municipalities.
- Council Member: There is a poultry plant in Fitzgerald that uses 1.5 MGD, but we don't know if it's self-supplied or municipally-supplied.

- Council Member: We need numbers for both what's permitted by source & what's actually used.
- Public Attendee: Industries are doing more with less people, so water use may increase without employment increasing. There is a plant in Valdosta that has low employment and a high water use rate. The chemical industry is doing more with fewer employees. *PC Response: Unfortunately this is one of the shortcomings of this forecasting approach. There is no way to account for changes in efficiency in any industry.*
- Council Member: Some industries could be planning to expand under existing permits.
- Council Member: Is employment a good surrogate for production, and therefore a good basis for forecasting water use?
- Council Member: What is the period of record of employment data used in the employment projections?
- Council Member: Some employment projections display strange patterns, with employment rates bottoming out at zero for several years and then slowly picking up again, such as the stone and clay category. How does the model come up with these projections? *PC Response: These patterns are predicted by the model based on cyclical growth patterns seen in the period of record of data for that industry.*
- Council Member: Was the recent economic recession factored into the projections? *PC Response: Yes, the industrial growth rate was reduced for the construction, finance, and retail categories.*
- Council Member: The petroleum industry shows a 12.3% growth from 2005 - 2010 with no water use. How can that be accurate? *PC Response: Even though this is a large increase percentage-wise, there are very few actual employees in this industry and the water use is not large enough to be captured in the permit database.*
- Council Member: The chemical industry shows 1.8% growth from 2005 - 2010. Is that 1.8% total over the 5 years or 1.8% per year for each of the 5 years? *PC Response: 1.8% total over the 5 years.*
- Council Member: Please provide employment projections for other regions to our Council.

- Council Member: Brantley was mining titanium through 2006 using a surface water permit, but they haven't been in operation since then.
- Council Member: There will likely be 5 or 6 new energy plants in our region in the future. *PC Response: These will be captured in the energy forecasts.*
- Council Member: These industrial forecasts don't feel right to me. They seem too low, and also don't account for returns.
- Public Attendee: There is a land application system for a major paper industry in the region. This has already been mentioned to the industrial stakeholder group.
- Council Member: Industries in our region pump out groundwater but return flows to surface waters that go to Florida. We are not returning water to the aquifers in Suwannee-Satilla.
- Council Member: How are wastewater plants incorporated? *PC Response: The existing water use data is for total withdrawals and wastewater is calculated based on industry water-to-wastewater ratios.*
- Council Member: In some cases can wastewater exceed water? *PC Response: Yes, for example in the case where an industry has on-site ponds for storing wastewater prior to discharge and these ponds catch rainwater.*
- Public Attendee: There are industrial discharges to Publicly Owned Treatment Works (POTWs) in southeast Georgia. How are we accounting for this? *PC Response: Yes but discharges for industrial forecasts are currently calculated. We will take this back to the wastewater forecast group. EPD Response: Cities are required to report this, and the information should be available from EPD pre-treatment records.*

8) Surface Water Quantity and Assimilative Capacity Resource Assessment

Dr. Liz Booth with EPD gave a presentation on surface water availability and assimilative capacity resource assessments for the Suwannee-Satilla region. Dr. Booth described the different resource assessments that are being completed (surface water quality and quantity and groundwater quantity) as well as the general model node configuration and how EPD is developing the unattended flow regime.

- Council Member: Please make the withdrawal and discharges PDF map available to Council.

- Council Member: What kinds of issues are we seeing with dissolved oxygen? The current water quality standard doesn't recognize naturally low DO in the Suwannee-Satilla region. *EPD Response: We are seeing lower dissolved oxygen that occurs in non impacted areas and we will need to look at this information as we consider water quality standards. EPD is establishing new water quality standards in 2010.*

Dr. Booth described causes of impaired stream segments highlighting organics, PH, toxicity, fish consumption, dissolved oxygen, sediment, and fecal coliform. If a water quality standard is not met then a water body is 303(d) listed, and there is a need to develop a total maximum daily load (TMDL). In Suwannee Satilla most streams are listed due to dissolved oxygen. EPD recognizes that there are some low dissolved oxygen streams naturally.

- Council Member: Is Council expected to consider management practices for those segments with a TMDL? There are TMDLs on some reaches where there are no development and no discharges. *EPD Response: Man-made changes and discharges in upstream areas can still affect channels along which there is no development or discharges. Also some samples were previously collected from non-flowing channels, which resulted in erroneous low DO readings. EPD has since issued guidance to not sample channels that aren't flowing.*

EPD will release a new nutrient standard for total nitrogen on January 14th, 2010 that will require upgraded wastewater treatment needs. EPD is also looking for a new bacterial standard besides fecal coliform.

- Council Member: Please clarify why is EPA pushing the standard for nutrients in Florida? *EPD Response: Because EPA felt the state is not moving quickly enough.*
- Council Member: Most wastewater treatment facilities were designed in the 1970's and 1980's and are not designed to handle nutrient removal. How will wastewater treatment facilities comply with future nutrient issues? *EPD Response: It will be a challenge and we hope to provide some time but it is hard to predict exact timelines.*
- Council Member: What problems do nutrients cause? *EPD Response: Consumption of oxygen causing hypoxia and ecological impacts in Gulf of Mexico and other tributaries to the Gulf.*
- Council Member: Can we remove nutrients at the source by growing algae? *EPD Response: For this to be effective you have to harvest the algae crops. If algae grow in a lake and consume all the nutrients then it will die and settle to the bottom. As it decomposes it re-releases the nutrients back into the system.*

- EPD: Historic farming and treatment processes have created some water quality changes.
- Council Member: How was unimpaired flow calculated? Does this go beyond just withdrawal and return (i.e. land use changes/impervious surfaces)? *EPD Response: I'm not sure; I do not think it is being done other than some pilot work in Ocmulgee.*
- Council Member: Dr. Kramer's database was used to look at land use changes. Why won't this be used more broadly? *EPD Response: It's mainly a financial issue at this time.*
- Council Member: Are we going to get actual or permitted flows? *EPD Response: Initially actual flows, then we will add permitted capacity to determine future flows.*

9) Groundwater Resource Assessment

Dr. Jim Kennedy, State Geologist, presented the basic geology of Georgia's groundwater resources. Dr. Kennedy described the interactive aquifers and the recharge areas and described the confining layers, which are in fact semi-permeable. Dr. Kennedy also highlighted those areas of the outcropped aquifers and mentioned that at the location of the outcrop they are no longer confined, and that the aquifer can be impacted by withdrawals in these recharge areas but this would not be expected to be a significant impact.

Dr. Kennedy described the process that was used to develop the modeling approach for the aquifer and the different types of models developed (Numeric Models, Mod Flow). Currently water balance modeling is being done for northern Georgia. Dr. Kennedy described how the priority aquifers were configured to focus on specific/relevant modeling zones/areas and explained the Claiborne Model configuration. Pumping of the aquifer in the case of Claiborne does not induce recharge. EPD is tacking on the Clayton Aquifer to their study. Lester Williams with USGS is looking at coastal aquifers.

- Council Member: Is there a valid concern if a well field was constructed in the recharge area? Would that adversely affect the aquifer? How much of a concern would that be? *EPD Response: There would be effect but would not yet describe that as a concern. We are still quantifying.*
- Council Member: Will pumping in the coastal plain increase saltwater intrusion? *EPD Response: USGS is modeling groundwater near the Brunswick area and they are starting to get some answers now.*

- Council Member: Sometimes you have to go to the Sandy Cretaceous aquifers to get water.

Dr. Kennedy briefly mentioned the work being done via the sound science initiative and issues surrounding salt water intrusion and the various partners/participants in that process. He also described the Gulf Trough influence that partially separates the Floridian Aquifer.

- Council Member: Will salt water begin or has it begun to seep into the Upper Floridan? *EPD Response: Yes, there used to be freshwater springs from the Upper Floridan discharging to the ocean and now saltwater is flowing into the aquifer in these areas.*
- Council Member: The Claiborne and Clayton aquifers are mostly in western Georgia. In some areas it seems there is still water in the ground below Claiborne and Clayton. *EPD Response: EPD may expand some modeling to address that area (Claiborne & Clayton) in more detail. This is not yet approved but EPD is aware of this potential need.*
- Council Member: At the end of modeling can EPD quantify the effects of pumping on the surface water base flows? *EPD Response: The modeling was not tasked to look at the flux between surface water and groundwater but it may be possible to look at this.*

For Geographic scale, the surface modeling nodes will be looked at in relation to the groundwater grids to see how well they match. The geographic scale that matters is where the surface water group is modeling gains or loss of surface water base flows. The groundwater model grid is 2,000 feet by 2,000 feet.

- Council Member: What percentage of recharge actually occurs in the outcrop area? *EPD Response: About 8%*
- Council Member: How long is the time for surface water to infiltrate the Upper Floridan? *EPD Response: Thousands of years.*
- Council Member: Then how does it draw down and respond to stopping pumping within days or weeks? *EPD Response: These are localized effects due to changes in pressure in the aquifer.*
- Council Member: Has the Upper Floridan changed in level? *EPD Response: Yes, the potential metric surface has changed by tens or hundreds of feet in some places. It has dropped in many locations, but in other locations it has gone up.*

- Council Member: Are there areas where a cessation of pumping would not result in a recovery of groundwater level in the Upper Floridan? *EPD Response: No, not to my knowledge. There is enough water in the aquifer that it should recover in days or weeks.*
- Council Member: When we get sustainable water information, will we be able to estimate overall withdrawal? *EPD Response: Yes.*

Dr. Kennedy described the Florida mega model very briefly to illustrate the horizontal influence of well draw down into surrounding areas. Pumping in north Florida draws down the aquifer under Suwannee-Satilla by a couple of feet.

- Public Attendee: When we see movement across semi-permeable layers, are there quality effects due to differences in quality between the aquifers? *EPD Response: Yes, but this movement of water is not a direct "pipeline". The changes in quality are attenuated. The Floridan Aquifer is high quality. Deep aquifers are lower quality; hotter and have more dissolved solids. We believe this is due to the fact that the lower aquifers are closer to the Earth's mantle, which is hot and therefore increases the solubility of solids in the lower aquifers.*

Dr. Kennedy described sustainable yield benchmarks using the mean annual stream baseflow discharge from the period of record of available gauges.

- Council Member: Which mean annual stream baseflow discharge was used in determining the sustainable yield benchmark? What about concern over lower flows in more recent years? Was the lower mean used? *EPD Response: We'll have to confirm this and get back to you.*
- Council Member: How is the model populated for waste load allocations of withdrawals for municipal/industrial, self-supplied industrial/self-supplied domestic, USGS vs. EPD? *EPD Response: We modeled what is currently pumped.*

10) Joint Meetings

The PC showed the dates, locations, and resources included for each of the January Joint Meetings and explained that all meetings were open to all Council members, but members were not required to attend meetings. The two meetings that will discuss resources shared by the Suwannee-Satilla Council will be held on January 22nd in Macon and January 28th in Waycross. Joe Hopkins, Rusty McCall, and Frank Sisk volunteered to attend one or both meetings. The PC will distribute a sign-up sheet via email for other Council members to indicate whether or not they want to attend either of these meetings.

11) Revisit Goals

Council reviewed the Goal statements that the PC revised over lunch. Scott Downing made a motion to approve the Goal statements. Gordon Rogers seconded the motion. Council voted unanimously to approve the Goals.

12) Public Involvement Plan

The PC presented changes to the Public Involvement Plan (PIP) that were proposed by members of Council. Scott Downing made a motion to approve the PIP and Mike Edgy seconded. Council voted unanimously to approve the PIP.

13) Local Elected Official Comments

There were no local elected official comments.

14) Public Comments

There were no public comments.

15) Wrap-up and What to Expect Next Meeting

The Council agreed to hold the next meeting in Valdosta on March 25th, 2010.

16) Council Meeting 4 Evaluations

The PC distributed the evaluation forms and members of Council filled out the forms. The PC collected the forms. The meeting was adjourned.

cc: Cliff Lewis, EPD

**Suwannee-Satilla Regional Water Council
Council Meeting 4 Sign-In Sheet
November 11, 2009**

Please initial next to your name to indicate your attendance:

- | | | |
|-----|----------------------|------------------------------------|
| 1. | Joseph L. Boyett | <u> JLB </u> |
| 2. | Earl Brice | <u> </u> |
| 3. | William L. Brim | <u> </u> |
| 4. | Hanson R. Carter | <u> </u> |
| 5. | Carroll H. Coarsey | <u> CHC </u> |
| 6. | Ben Copeland | <u> BCP </u> |
| 7. | Scott Downing | <u> SD </u> |
| 8. | Eugene Dyal | <u> </u> |
| 9. | Darvin Eason | <u> DE </u> |
| 10. | Michael E. Edgy | <u> ME </u> |
| 11. | Greg C. Evans | <u> </u> |
| 12. | Greg Goggans | <u> </u> |
| 13. | Jim Hedges | <u> </u> |
| 14. | Alva Joseph Hopkins | <u> AJH </u> for Joe Hopkins |
| 15. | Donald A. Johnson | <u> DAJ </u> |
| 16. | John Wesley Langdale | <u> JWL </u> |
| 17. | Joe Lewis | <u> JL </u> |
| 18. | R.R. Rusty McCall | <u> RRM </u> |
| 19. | Donald H. McCallum | <u> </u> |
| 20. | Dan Raines | <u> DR </u> |
| 21. | Scotty Raines | <u> SR </u> |
| 22. | S. Gordon Rogers | <u> SGR </u> |
| 23. | Jay Shaw | <u> </u> |
| 24. | Frank G. Sisk | <u> FGS </u> |
| 25. | Miles A. Stone | <u> </u> |
| 26. | Linda Tanner | <u> </u> |
| 27. | Grady M. Thompson | <u> GMT </u> |
| 28. | Doyle Weltzbarker | <u> </u> |
| 29. | James R. Willis | <u> </u> |
| 30. | Jackie Wilson | <u> JW </u> |

