

## Memorandum

*To: Suwannee-Satilla Regional Water Planning Council*

*From: Rick Brown and Brian Keel, CDM*

*Date: 12/09/09*

*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 Darvin 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 10<sup>th</sup>. 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 25<sup>th</sup> 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 11<sup>th</sup> 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: That planning process was started a few years ago to develop infrastructure management actions & conservation for a large metropolitan area. 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. Demands, supply, and management actions were well documented. At the same time there are difficult polarizing issues that still need to be addressed over time.*

### 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? Egglard'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 withdrawal 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 restricted 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 unimpaired 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 placed on the 303(d) list, 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 in the past some samples have been 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.*

EPA will release new nutrient standards for Florida on January 14<sup>th</sup>, 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. This causes "dead zones" of no oxygen.*
- 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: Does the unimpaired flow consider changes that have been made to the landscape as they affect flows and channelization? Does this go beyond just withdrawal and return (i.e. land use changes/impervious surfaces)?  
*EPD Response: In the Ocmulgee basin they are looking at land use changes and how it affects flows, but I don't think we are taking out the affects of landscape change in any of our basin models.*
- Council Member: Is there any intent to use Dr. Kramer's database for land cover and wetlands loss to look at unimpaired flows? Why won't this be used more broadly?  
*EPD Response: They're looking at that in the Ocmulgee basin but no others. It's mainly a financial issue at this time. Money is not available to conduct this study in all basins at this time.*
- Council Member: Are we going to get information based on actual or permitted flows?  
*EPD Response: We are using actual flows to determine your actual baseline conditions, 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.

- Council Member: Does pumping from the aquifer increase the rate of recharge to the aquifer from surface water? In other words, does it allow water that would normally run off instead soak into the ground?  
*EPD Response: Excellent Question. In fact pumping the aquifer does induce recharge, both from units above and below and from the side. When you lower the head in the aquifer, you will induce recharge from adjacent units.*
- 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: You would be removing some of the recharge water. We haven't done the flux calculations but it would probably not be enough of an effect to reduce the overall recharge volume 80 miles downdip.*

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: Will pumping in the coastal plain increase saltwater intrusion?  
*EPD Response: USGS is doing a very detailed groundwater model near the Brunswick area for the saltwater intrusion that has been induced from the deeper zone and they are starting to get some answers now. Coastal Sound Science initiative recently completed saltwater intrusion modeling for Hilton Head Island related to pumping in Savannah. EPD is working with a contractor to analyze and deal with these results with our colleagues in South Carolina.*

Dr. Kennedy described 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 off the Florida coast and now saltwater is flowing into the aquifer in these areas.*
- Council Member: Sometimes you have to drill to the Sandy Cretaceous sands to get water.
- 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 work 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: We were not originally tasked to quantify the flux from the surface water to groundwater but it is already built into the model. The modeling contractor is not tasked with delivering this to EPD, but we are expecting a proposal to pull these data out of the model and quantify fluxes both ways (surface water to groundwater and groundwater to surface water).*

For Geographic scale, the surface modeling nodes will be looked at in relation to the groundwater grids to see how well they match.

- Council Member: The geographic scale that matters is where the surface water group is modeling gains or loss of surface water base flows. As a practical matter, in the Satilla River for example we need to look at Waycross and Atkinson. *EPD Response: We don't yet know how well our different model grids will match, but again we have the proposal to try to match the fluxes between the models. The groundwater model grid is 2,000 feet by 2,000 feet. We will match them where we can.*
- Council Member: What percentage of total recharge to the Floridan actually occurs in the outcrop area? *EPD Response: Probably 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 potentiometric 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 Response: This is something we've known for a long time and I'm glad to see you agree with it.
- Council Member: When we get sustainable water information, will we be able to estimate overall withdrawal? *EPD Response: Yes.*

Dr. Kennedy discussed the phenomenon of the Alapaha River (aka, "Dead River") in north Florida that all flows into a sinkhole into the Floridan Aquifer and then presumably re-emerges 8-12 miles to the south as a spring to the Suwannee River. 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.

- Council Member: What is the local affect you're showing around the rivers? *EPD Response: That is local recharge from the rivers. Water from the river is recharging the aquifer.*
- Council Member: There are a lot of springs that pop up around the Ben Hill County area. If it's recharging there, how is the aquifer coming through the surface? *EPD Response: It depends. If you have a well field near a river and create a cone of depression, you can induce recharge locally to that well field and have another part of that aquifer a couple miles away where the water is coming out as a spring.*
- Public Attendee: When we see movement across semi-permeable layers, are there quality effects due to differences in quality between the aquifers? The Floridan has high quality water. What about the layers below it? *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.*
- PC: For the Council, why are we defining sustainable yield benchmarks? *EPD Response: Sustainable yield is the amount of water you can get out of an aquifer without creating an unacceptable impact. For example, pumping in Savannah causing saltwater intrusion in Hilton Head Island, or pumping causing nearby wells to go dry. We have performed literature reviews to find out what unacceptable impacts have occurred and choose metrics, or benchmarks, to define our sustainable yield.*

Dr. Kennedy presented some examples of sustainable yield benchmarks for groundwater and surface water. For example, drawdown of 30 feet in an aquifer; do not decrease streamflow below 60% of mean annual discharge between April and September or 40% between October and March. This is the Tennant Method for outstanding streamatology.

- Council Member: Which mean annual discharge was used in determining the sustainable yield benchmark? *EPD Response: The period of record mean.* Council Member: What about the fact that it's decreasing in certain streams throughout the record? *EPD Response: We'll have to check on how we handled that. Rick, please capture this question. There was some period of record over which they established this mean and I think it's actually a dry year mean.* Council Member: But the dry year means have been decreasing. *EPD Response: I think they picked the lowest dry year mean in the period of record.*
- Council Member: So as we're pumping down the aquifer, we're drawing recharge out of the rivers? *EPD Response: Over stretches, not the whole river.*

- Council Member: You're looking at overall reduction of flows, not just in recharge areas? *EPD Response: To some degree. We pump in the model until we busted the first metric and then we stopped pumping in the model. Exceeding river flow reductions was rarely the first metric we busted in the model.*

Dr. Kennedy explained how different aquifer characteristics defined the cone of depression from pumping. Mathematically the cone of depression extends outward to infinity, but usually we say the cone of depression stops when drawdown is about a foot. Dr. Kennedy also explained how different aquifers interact across multiple planning regions.

Dr. Kennedy presented a summary of preliminary results. We modeled what is currently being pumped (from metered data or estimates from metered data) to establish our baseline. One of 3 things could happen: We find out current pumping is right at sustainable yield, current pumping is above sustainable yield, or current pumping is below sustainable yield. For some but not all aquifers in Georgia, it looks like current pumping is below the sustainable yield. We are still trying to quantify by how much.

Placement of wells is also important. A cluster of wells can create a localized problem even if the sustainable yield of the overall aquifer has not been reached. This work in this phase will not be used to establish a metric for mandatory minimum well spacing. We selected MODFLOW because it is accessible, not too costly, and does not require extensive specialized training to use.

- Council Member: Will the results you present in January be for the entire state or just these areas you've modeled? *EPD Response: We just have results for what we modeled (the priority aquifers), although we are trying to get authorized funding for additional modeling of other parts of the state.*

EPD showed the USGS resource information data available from the Council website, including maps and water use data. EPD also has water quality data linked from the website.

#### 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 22<sup>nd</sup> in Macon and January 28<sup>th</sup> 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.

The Council did not complete the Non-Permitted Agricultural Water Demand, Management Practices, or Regional Water Resources Overview portions of the agenda and may revisit these topics in the future. The presentations for these agenda items were provided to Council and posted on the Council web site.

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 25<sup>th</sup>, 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.



Suwannee-Satilla Regional Water Council  
 Council Members Attendance List

Suwannee-Satilla Council Members		11/11/2009
1	Joseph L. Boyett	X
2	Earl Brice	
3	William L. Brim	
4	Hanson R. Carter	
5	Carroll H. Coarsey	X
6	Ben Copeland	X
7	Scott Downing	X
8	Eugene Dyal	
9	Darvin Eason	X
10	Michael E. Edgy	X
11	Greg C. Evans	
12	Greg Goggans	
13	Jim Hedges	
14	Alva Joseph Hopkins	X
15	Donald A. Johnson	X
16	John Wesley Langdale	X
17	Joe Lewis	X
18	R.R. Rusty McCall	X
19	Donald H. McCallum	
20	Dan Raines	X
21	Scotty Raines	X
22	S. Gordon Rogers	X
23	Jay Shaw	
24	Frank G. Sisk	X
25	Miles A. Stone	
26	Linda Tanner	
27	Grady M. Thompson	X
28	Doyle Weltzbarker	
29	James R. Willis	
30	Jackie Wilson	X

*Totals*      17

Suwannee-Satilla Regional Water Council  
 Public Attendance List

Public Attendee		11/11/2009	Representing
1	Bill Twomey	X	Cook County
2	Jerry Permenter	X	Adel
3	Harvey Wiscovitch	X	ERCO Worldwide, Valdosta
4	Chris King	X	ERCO
5	Ernest Crussel	X	City of Douglas
6	Mike Allen	X	Lowndes County
7	Scott Purvis	X	DCA - Region II
8	Rahn Milligan	X	GSWCC
9	Chip Campbell	X	St. Marys River Mgmt Committee
10	Brittney Foster	X	Packaging Corp of America, Valdosta
11	Tom Putnam	X	Langdale Industries
12	Mike Copeland	X	GA Farm Bureau
13	David Marldin	X	GA Farm Bureau
14	Janet Price	X	Rayonier
15	Jeremy Wixson	X	GA DNR - Fisheries Management
16	Greg Lee	X	Moody Air Force Base
17	Albert Thornton	X	City of Homerville

*Totals*      17