

Memorandum

To: Coastal Georgia Regional Water Planning Council

From: Rick Brown and Katherine Zitsch, CDM

Date: November 15, 2010

Subject: Council Meeting 8 Summary

This memorandum provides the meeting summary of the Coastal Georgia Regional Water Planning Council Meeting 8 (CM 8) held on November 3, 2010 at City Center in Richmond Hill, GA.

1) Welcome and Introductions/Recap CM 6/Approve Agenda/Approve CM6 Summary

Chairman Ben Thompson called the meeting to order and welcomed the Council.

Chairman Thompson then recognized Mike Melton of Richmond Hill and he welcomed the Council to Richmond Hill and the new Richmond Hill City Center. Mr. Melton noted that the City is proud of the City Center facility. It opened in March of 2010 and there have been several meetings and conferences since that opening. The City has enjoyed the center, and hopes the Council does as well.

Chairman Thompson then asked the Council and the public to introduce themselves.

Chairman Thompson provided an overview of the agenda. The agenda was approved by consensus.

Chairman Thompson noted that the meeting summary for Council Meeting 7 was sent to Council members and asked if there were comments. The meeting summary was approved by consensus. It was noted by the Planning Contractor (PC) that the PC is still trying to accurately capture the comments from Merrill Varn with the St. Mary's River Management Commission. Ms. Varn spoke at CM7 during the public comment period. That portion of the meeting summary has been sent to Ms. Varn for review, but the PC has not received comments back to date. If changes are needed, the Council should keep this in mind for future meetings.

Chairman Thompson then turned the meeting over to the PC. The PC identified potential dates and locations for CM9. This will be revisited and finalized at the end of the meeting.

The planning contractor then recapped Council Meeting 7. Overall, 100% of Council Members felt CM7 was extremely useful. The meeting continued with an overview of the objectives for Council Meeting 8 including:

- Select Draft Management Practices for Regional Water Resources
- Review and Discuss Energy Forecasts
- Review and Discuss Initial Water Plan Sections
- Discuss and Develop Targeted Outreach
- Review and Discuss Schedule for Completing Regional Water Plan
- Identify Next Steps for Shared Resources

The PC then summarized the joint meeting that was held in Macon, Georgia on October 6th. It was noted that the joint meeting was well attended, with an estimated 50 council members and 25 public attendees. Key themes that came from the meeting include:

- The forum allowed an understanding of other Council progress
- Many regions do not have gaps
- Funding will be a major challenge for implementing plan recommendations
- Additional data and “adaptive management” are important to ensure decisions/solutions address needs.
- The PC thanked Council members Michelle Liotta, Phil Odom, and Larry Stuber for participating in the panel discussions. The meeting was panel format with 4 panels focusing on water quality, agricultural water use, water supply needs, local government and state coordination.

A council member noted that he attended the Joint Meeting and mentioned two points: 1) it would be important to provide a roadmap of how to move the plan recommendations forward; 2) there is not a institutionalized “committee” that looks at watersheds in their entirety and perhaps this can be accomplished by a joint group of members from the various Councils.

The PC summarized the schedule and where the Council is within the overall schedule. The term of the council members was discussed, with the council formally committed

through February 2012. The PC noted that most of the formal role should be completed by Spring 2011.

The PC handed out information on targeted outreach. The handout includes municipalities with the top five highlighted based on population and amount of water provided. As the Council goes through the management practices discussion, Council members should evaluate who are the key players in terms of implementation of management practices and major stakeholders that we need to do targeted outreach to. The PC also handed out the shared resources council member information for the Council to keep in mind as it moves forward with outreach to other councils regarding addressing resource gaps between regions.

The PC then proceeded to the next major agenda item.

2) Selection of Draft Management Practices

The PC stated that today's session includes the selection of draft management practices and it was emphasized that the practice are still draft and they can change in the upcoming month or so but if we are to have a final plan in January we need to finalize the practices in December. The PC handed out a draft list of management practices that was developed based on both feedback from council and the council's Management Practices Subcommittee. The PC noted that there is general agreement on the draft list of practices but not unanimity among the Subcommittee members. Some items remained on the list for full council discussion. The PC noted that when the council selects management practices, they need to make sure that the vision and goals and regional needs are met while also making sure that our gaps are filled. The PC noted that if the council needs to revisit the vision and goals, then that can be discussed today or in December.

The PC provided a broad overview of the condition of regional resources. The PC noted there were localized groundwater supply gaps and even though many council members know this, stating it in the plan is critical when talking to other councils, the legislature, and other states. Other gaps include surface water gaps at Eden and Kings Ferry, water quality gaps that result mainly from point sources (quality and additional infrastructure). In addition our plan should note and discuss planned actions to address existing impairments including non-point source TMDLs and the Savannah River TMDL. The PC also reminded council that preliminary nutrient model results are available for the Savannah River watershed and Satilla River watershed. The nutrient models predict phosphorous and nitrogen loading rates in pounds/acre/year, and while there are

currently no nutrient standards, council may wish to identify some Best Management Practices in anticipation of future standards being established.

The PC then walked through the document starting with a summary of gaps/forecasted needs. The PC noted that the discussion today surrounds fatal flaws, as these are draft management practices. If there are certain management practices that just won't work, let us know. Or, if we are missing items that the council wants to make sure we include, note that, too. This shortlist is based on input from the full council over the last 6 months and the management practices subcommittee.

A council member asked about whether there were groundwater management practices that affect agriculture or golf courses. The PC noted that Tier 3 water conservation practices address the agriculture and energy sector. In terms of golf courses, the coastal permitting strategy should capture that, but this needs to be confirmed. If we want to encourage water conservation of surface water to address gaps, we may want to do the same for groundwater both inside and outside the yellow and red zones. We need to coordinate with upstream councils on that point, too. Most council's are moving towards water conservation practices regardless of water source, but we need to discuss and confirm.

What EPD and Director Barnes have asked the Council and PCs to do is to be as specific as we can in choosing management practices, recognizing that there may also be limitations associated with existing data. The biggest discussion is whether the Council should recommend encouraging and incentivizing management practices or recommend stronger language. We need to discuss the balance between 1) incentivizing local utilities and governments and encouraging improvements and 2) being specific enough to monitor progress towards closing the gap and whether we're making significant progress in closing the gap. We are looking for tangible measures and where we want more data, make specific recommendations on what is needed to fill and data gaps.

A council member asked whether we have the data on how many acres in our region are agricultural and what the source of water supply is for each use. If this is where the state plan is headed, we need to look at how it affects our region. *The PC noted that we do have that detail and we will discuss the quantification of that after break. The PC reminded Council of Dr. Hook's presentation and methodology for agricultural forecasts. The PC also noted that the selection of management practices by Council is to help provide local solutions to local issues The State planning process is built on this idea. Council needs to inform EPD on how those local solutions should be used by selecting the most effective practices that are most implementable.*

A council member requested a memory refresher on what their mission is? We've talked about writing a plan and now we're talking about adopting management practices. What are we trying to do from here forward? *As you see, the challenge we have as a Council is we don't control all the pieces here because there are bi-state discussions going on and we need to also recognize local governments and utilities. What can the council do within the constraints of other ongoing efforts? The Council was charged with developing a plan to address the gaps/needs, all staying within the Council's vision and goals. This translates into management practices to help meet the goals and fill the gap, being as specific as we can and recognizing we have a lot of uncertainty we're dealing with. As discussed earlier if we cannot address all the issues specifically, we need to lay out a "road map" that moves toward closing gaps and addressing needs.*

- 3) Quantification of Gaps and Needs – The PC stated that the next step is to build on the previous technical analysis that was presented county-by-county at CM6 and CM7 and taking a more regional view based on the affected resource (groundwater, surface water quantity and quality). The fundamental premise of our regional plan is to build upon local planning. If there are planned projects that meet our needs, then we're good to go. If we're still short, then we need to do more. One of the challenges here is what happens when the planned projects and permitted capacities are affected by the saltwater intrusion issues.

It was also noted that EPD comments on Sections 1 through 5 requested that additional clarification be provided for justification of the alternate forecast. The PC and Council still need to work with EPD to incorporate this analysis and the rationale.

The PC noted that the council should keep in mind that we do not have groundwater sustainable yield results for every county in the region. Sustainable yield is at the aquifer level and some counties are not included within the model boundary where specific sustainable yield calculations were made. We need to use caution when we say groundwater exists and qualify it as only in those areas that were modeled.

The information presented includes groundwater needs in the red and yellow zones. In Brunswick, the PC makes the assumption that red zone demands can be met outside of the t-shaped plume. The PC presented forecast by each sector 2010-2050 and the incremental increase. This information also assumes that all self-supplied demand can continue to come from groundwater.

A council member noted that these data that are presented to us include the yellow and red zones and asked how the forecast was determined. *The forecast comes from the Council's recommended gallon per capita per day (GCPD) multiplied by the population projections from the*

Office of Planning in Budget. We in Liberty County don't know what our agricultural forecast is. *Dr. Hook's information shows where he has tied agricultural information to water use.*

The PC noted that our chair has cautioned us not focus on developing 9 individual county plans and to make sure we have a plan that focuses water resource issues and needs we have on a regional basis and based on the scope and scale of the Resource Assessments (aquifer and watershed level), so we are now presenting things on a regional basis.

The PC then discussed net consumption at the nodes with gaps. At the Kings Ferry node, there are more returns to the Local Drainage Area than what is being withdrawn on an average annual basis. However, the gap occurs in the summer months, mostly due to agricultural use. In order to gain an estimate of how much water needs to be generated by management practices to address the gap it is important to have a sense of the total annual gap volume and the timing of the gap at Kings Ferry (the PC noted that the volume of water needed to address the gap changes from year to year depending on whether it is a dry, average, or wet year).

The PC also presented the time series plot of gaps for 2050 demands. Do we really need to close all gaps including the larger gaps that occur infrequently? According to Director Barnes' memo, we need to close all gaps. But, some of that can be addressed by additional data collection and monitoring. The Council can make significant progress by addressing the smaller gaps that occur more frequently.

A council member noted that there is an identified gap at Kings Ferry, but the stream typically dries up anyway. *During critical low flow conditions without any demands, the river would occasionally fall below the minimum established flows. When the demands are added back in, if they cause the frequency of critical low flow conditions to occur more often or to be more severe than without demands, then that gap needs to be closed. The Coastal council has established in the vision and goals the importance of the environment. EPD has set the standard for the minimum flow as the monthly 7Q10 or the lower of what was seen historically as unimpaired flow. This is why we're trying to produce management practices to protect that critical low flow period. To solve 88% of the gaps, you would need about 3,000 acre-feet per year (in other units - 960 million gallon/year or on an annual basis 2.6 million gallons per day. However, remember the majority of the gap occurs over about a 30-90 day period. Also note that the Kings Ferry gap is in part driven by uses upstream in the Altamaha and Savannah-Upper Ogeechee Council areas).*

A council member noted that, in his opinion, he's not for putting groundwater into the river as a management practice. If you put groundwater into the river, you're just putting clean water into the river and sending it to the ocean. That doesn't make sense from an

environmental perspective. It would make more sense for the agriculture people to use that water for irrigation rather than pumping into the river.

The PC noted that the task at hand is to determine what the management practices portfolio looks like as specifically as possible. How much of that strategy can be used to close the gap? Even more specifically, if that strategy has an impact on a particular user, then we need outreach to that user.

A council member stated that everything we're talking about leads to management practices which leads to somebody needing to do something which leads to who is going to pay for it? We shouldn't design the management practices to close all gaps just as you wouldn't design an air conditioning system for a 101 degree day that you only get once a year. It just doesn't make engineering sense. *Director Barnes guidance on selection of management practices is logical and reasonable. His guidance emphasizes that management practices will allow water users to meet forecasted demands and other regional needs while avoiding undue adverse impacts on water users and uses in the planning area or in other planning areas.*

A council member asked what is the 7Q10 at the Kings Ferry node? *At Kings Ferry, the flow regime under current conditions is 317 cfs.*

A discussion ensued about what gaps need to be closed and why. The Council expressed some concern that low flow occurs naturally and there is no way to close gaps while addressing other interests such as economical interests. There was also a discussion of the node selection. *Nodes were selected based on where there is a long-term gauge and where there are not significant withdrawals and discharges upstream and downstream of the node that would affect it. The third factor is that it needed to be close to a council boundary.*

A council member asked what the coastal region needs to do in respect to management practices if the demand is mostly upstream? *There are certain areas in our region that we need to address uses including Bulloch County since it has surface water agricultural use. Is Bulloch County, is agriculture increasing or decreasing? Council Member - There will probably be more irrigation on fewer acres. I don't think we have good figures on agricultural water since we aren't metering all farms. Council Member - We also have dry land farms that are being converted to irrigation by necessity. The council members that best know the trends need to weigh in as we work on management practices that affect the agricultural industry. Will changes in cropping patterns – including lower water use crops – change the water use in the region? Data collection will help close some of that gap or it might make part of that gap better.*

A council member requested that information be presented in consistent units between acre-feet and million gallons per day. If we adjust agricultural withdrawals, I'm not sure we address the gap. *PC – yes I believe we can address these gaps, but it is a matter of timing. We need to develop management practices that address the critical low flow periods these are caused by both natural conditions and by off-stream uses of water. Council only needs to address those that are related to off- stream uses and remember the gaps do not occur every year and they do not last the whole year. This allows us several options to address surface water gaps.*

A council member pointed out that if we ask people to conserve water at their house, then we'll decrease the returns from wastewater plants. *And reuse is the same issue.*

A council member recently attended a conservation conference. They projected an increase in small farmers/localized truck farming for farmers markets. That indicates a possible increase in agricultural farming land and a possible increase in water.

A council member asked if the correlation between land use and nutrient loading is pretty loose. When you're looking at nitrogen loading and most of that land use is forestry, to develop a BMP for forest fertilization would have zero impact since there is very little going on. *Correct – this should not be interpreted this way. In a constructive way, you should consider targeting agricultural BMPs in areas with agricultural water use. We will work with the subcommittee to get better language.*

A council member commented that he's worried about practices to fill gaps created by an arithmetic exercise when there is a gap anyway. *Keep in mind that there is a broad constituency that is going to look at our plan and we need to address things so they happen less often.* I agree – but if we're closing a gap, we need to make sure we're closing the gap and affecting a change and not putting in practices that don't impact that resource.

4) Energy Forecast Results -

The PC presented the results of the energy forecast. The forecast was developed by EPD and a consultant with input from an energy ad hoc committee. The ad hoc committee was made up of representatives from the power industry as well as GEFA. The goal of the forecast was to evaluate how water resources may be affected by energy needs.

The PC made the following key points:

- Energy production is somewhat unique. Some power generation facilities withdraw water but do not consume large amounts of water. Some production methods have higher consumption rates but overall the consumption on a statewide basis is about 7% of total withdrawal.

- In the Coastal region only about 1 percent of the water that is withdrawn is consumed the other 99 percent is returned.
- The single pass cooling method represents 88% of total withdrawals and these facilities withdraw higher volumes than other methods but return most of the water that is withdrawn.

The PC highlighted that the forecast has several scenarios:

- 2 Power Generation Needs Scenarios that includes: 1) baseline (1.74% growth, following historic trends) and 2) a “reasonable “high scenario that has energy growing at a slightly higher growth rate (2.14%) than the mean trend.
- 2 Water Demand Scenarios: 1) a scenario that quantifies water demand for planned facilities through 2017 and 2) a scenario that quantifies the additional water demand required if energy production from existing generating capacity is maximized (this scenario does not meet all statewide power needs through the forecast horizon).
- An Alternative Power Needs Scenario to quantify the total regional and statewide water needs to meet forecasted demands through the entire planning horizon.

The PC noted that the criterion used to determine planned facilities through 2017 was based on an accounting of those facilities with a completed Air Quality permit application. It was also noted that the energy forecast is regional through 2020 (2017). Beyond 2020 the forecasted need is at the statewide level and has not been distributed to individual regions of the state. The forecast did not specifically distribute water needs between 2020 and 2050 as this would be highly speculative

The PC then highlighted some general guidance to Council and made the following points:

- Even under the 2017 maximum capacity scenario 2050 demands cannot be met.
- The location of any additional energy capacity/generation method beyond 2017 is not known.
- Council can incorporate water withdrawal and consumption information associated with known and planned facilities.
- For energy water demands associated with power production beyond 2017 Council may wish to look at this more qualitatively in terms of understanding the

water resource implication if some additional power generation were to occur within the region.

The PC concluded with a summary of the information that will document the energy forecast including: A detailed Technical Memorandum; and Executive Summary; the PPT and presentations to Councils; additional guidance to Council similar to the above bullets; and a template that can be included in the regional plan.

A council member asked whether power generation from renewable, specifically biomass, is different than conventional water use. *PC - the main driver in water use is the cooling method not the fuel source.*

A council member asked what the overall energy consumption is statewide. *About 7 % statewide is consumed.*

A council member asked of the total water consumptions for all demand sectors, how much does energy consume? *A rough estimate on water **withdrawals (not consumption)** is as follows, but please note this just gives an idea and is by no means exact:*

Thermo-electric - 2,721 MGD - 50%
Public Supply - 1,180 MGD - 22%
Domestic/Commercial - 149 MGD - 3%
Industrial/Mining - 604 MGD - 11%
Irrigation - 752 MGD - 14%
Livestock - 67 MGD - 1%
Total = 5,471 MGD

5) Management Practices - Continued

Council members had the following comments on the draft management practices. PC responses are italicized.

Groundwater

In relation to the 1st bullet, a council member noted that the interface between groundwater natural discharge and the estuary is unknown. Do we need to address Upper Floridan impacts on the estuary? *No, because the Upper Floridan is not connected to the estuary. But the surficial aquifer is connected and can influence the estuary.*

Should we add management practices related to the surficial aquifer? *Page 7 and Page 4 include these management practices - minimize impacts of surficial aquifer associated with pumping of shallow and surficial aquifers.*

On Page 1 - could add continue to develop water from surficial aquifers, making sure the use of those aquifers doesn't affect estuaries. The language of the GA/SC saltwater intrusion group is to manage the aquifer to the sustainable yield. We could have that apply to all groundwater resources, not just the Upper Floridan.

Continue to develop groundwater has onerous sounding language. I think everyone's intent is to manage it to a sustainable yield, so maybe that's what the language should say: Continue to manage water from aquifer systems to their sustainable yield.

Suggested: Continue to sustainably manage the water from the Upper Floridan and other aquifers in unimpacted areas to their sustainable yields.

Page 1, 2nd item - Continue to develop water from other aquifers not impacting salt water intrusion. Is there leakage that we need to consider? *There is a leakage protocol that is in place.* Then update the management practice to state that the EPD protocol is followed.

Water conservation - do we need to deal with golf courses and groundwater in the red/yellow zone? DCA response: *The coastal permitting plan includes conservation practices in the red/yellow zone, but there is no enforcement of implementation. Do we want subregional permitting requirements for Tier 3 and Tier 4 in the red/yellow zones or other places where this is a gap?* DCA comment: There are communities that do not have a mechanism to distinguish between a residential, commercial, or other so enforcing that as Tier 3 may not be possible. Everyone should be doing a certain level of water conservation. Where there is a gap, that's where Tier 3 and Tier 4 come into play. Everyone should have a conservation outreach program. If you're in the coastal region, that is required anyway.

As a subcommittee, let's look at whether this needs to be applied subregionally rather than across the entire council.

Page 2, Aquifer recharge to manage saltwater intrusion - I don't see why we'd do this. I don't see putting surface water into an aquifer to decrease saltwater intrusion. Another council member responded that they are doing that now in South Carolina. We're working with South Carolina now on what to do about the saltwater intrusion problem. *The idea is that if we no longer have the ability to withdraw from the yellow and red zones, can you do regional groundwater development outside of that area? Aquifer Storage and Recovery (ASR) is an engineering solution to minimize saltwater intrusion. Remember we will possibly need multiple practices.*

Page 3, One problem is this is in the wrong place and not necessarily the wrong thing to do. Add the word "to." "Alternate to current groundwater source(s)".

Several Subcommittee members noted that: these practices are all here because they are reasonable alternatives to consider. There is an extensive amount of additional detail further on in the handout. You can put them here or in surface water. If you think about that gap on the Ogeechee, ASR comes to mind. If you could have some storage, you store when it's not dry and then agriculture pulls it back out when it is.

Subcommittee - We didn't want to omit any alternative that might be feasible so they can be further studied. "We must consider all of the tools in the toolbox or the toolbox is useless."

The salt water intrusion steering committee numbers they're throwing around are 85% reduction in groundwater use in the red zone. We need to consider all options.

Page 2, multi-county area: Camden should be included as an alternate location for sources. *The thought here is if additional groundwater is developed, the users could go outside the yellow/red zone. But they may not go the distance to Camden County. I'm uncomfortable having a document with all counties listed and not Camden. I'd just as soon have us include it.*

If one day we talk about a regional groundwater "group" there is no reason to exclude a county at this point. Also need to add Glynn.

Need to clarify this list better (none of red zone counties are on this list).

In regards to the reservoir alternative, there is minimal topography for surface water storage and the practice needs to note this fact.

The PC and several Council members noted: If we are keeping ASR on the table, does council want a recommendation to legislature on re-evaluating ASR on the regional level?

Remember discussion from this morning that reuse is not always beneficial when we start talking about discharges to the river for quantity purposes. Don't consider any practice individually - this needs to be wrapped into a cohesive plan.

Formation of a regional groundwater use and development "Group" to coordinate groundwater development, infrastructure development/use, and optimize yield and sustainability is an important structure to consider for implementing management practices and I also think we have to consider how ongoing planning will be tracked in

the region. This council has developed a lot of expertise and we don't want to lose this investment and progress; we should continue to work at some level to track water plan progress. EPD noted that Savannah Upper Ogeechee is also talking about an organization to continue the council's work (a forum).

Encourage land use practices in other councils that protect recharge areas of UFA.

Surface water

The agricultural extension service may have data that is usable. We may want to put something in that actually requires organizations like the extension service to provide data to other government entities so we're tapping into all data.

What does "sensitivity analysis" refer to? *PC – the forecasts and Resource Assessment model assumed that agricultural water use is 100% consumptive, if we modeled a lower consumptive use number, how would that affect the gap? We don't have enough data in Georgia, so we may be able to estimate a range of consumption based on literature and see if that help address the gap (90%-95% consumptive versus 100% consumptive). We will clarify this language.*

There are artesian wells throughout the coastal zone that are impacted by pumping out of the deeper water aquifers. We've seen that time and time again where artesian wells stop pumping when we drill Upper Floridan Aquifer wells. When those Upper Floridan Aquifer wells stop flowing, the artesian wells recover. So, I'm not so sure that stopping pumping out of shallow aquifers covers it all. I think we need to be careful about that language and make sure we have language on groundwater pumping and impact on free-flowing artesian wells – at least some level of study on impacts. Suggest striking shallow/surficial. *Would folks be okay if we add the estuary health issue here? Yes.*

What is an irrigation/agricultural audit? - *It is providing landowners a service to stop system leaks and to make sure water is supplied on a uniform basis along the length of system.*

Encourage additional groundwater development is in direct contradiction to the fact that there is federal funding to build more ponds. *We may want to clarify with additional language that explains the timing on the ground. Sometimes groundwater is preferential to surface water. We need to address the timing of the issues. If you do need to go to surface water, you still can, but it needs to be done in such a way that you don't make the gap worse. There are at least a couple of surface water issues that are addressed in the groundwater section of the handout, so you need to tie those in so you have continuity. Additional groundwater development needs to be outside the red and yellow zones.*

“Applicant should demonstrate that future surface water development will not make gaps worse” – how would an applicant demonstrate this? *EPD will work with applicants in a collaborative manner to determine how applications can be analyzed in terms of hydrologic impacts.* This should be a collaborative partnership so it is not overly burdensome to applicant.

In most cases, especially with farm ponds, if you dig a pond you will fill up the pond. Is that groundwater or surface water? *Point well taken - what is the source? Research and data collection improvements will get at this somewhat as some farm ponds do intersect groundwater and they do store surface water.*

We need a clear definition of groundwater versus surface water.

“Replace surface water with groundwater in critical periods” so long as it does not exacerbate surface water flows (refer back to artesian well issue).

A council member voiced concern about direct pumping of groundwater to surface water during critical dry periods. He didn’t like it without using it first in some way.

In relation to “modify ag pond operation minimum release in dry/gap years” – This should be focused on incentives for existing ponds. Future pond construction is different and some type of a requirement for use of some of the storage for dry year releases might be appropriate to consider.

There aren’t any agricultural pond releases to modify – it happens when it rains due to the spillway. *The question is would you want to see this happen? Future ponds could be required to have up some percentage of their storage made available for release to solve gaps.* This is something that may deserve a little more research. You’d have to change state law to protect that water from diversion.

There is no historically drained hardwood forest in the region. There may be small amounts of this here, but there aren’t signification systems that were converted to pine systems. You could close all the ditches that are out there and it would have zero impact on the river flow.

A council member pointed out that he didn’t want to take interbasin transfers off the table. The reality is it occurs and it does so in this area. To have a list of these that we may implement is challenging for four weeks from now, but maybe we should keep it on here conceptually. There is a moratorium on raw water transfers unless it’s studied. There are criteria for receiving basins and donor basins that have to be met. This is not a long term

concept, it is a current concept. Maybe it should state that we shouldn't cross council boundaries. In the long term, we need to be concerned about what might happen 50 years from now. We don't want to ruin our coast by allowing something now that could be implemented in a different way in the future. We've seen plenty of plans that start out as guidance and end up being lost. I don't want to ruin this coast with extending water too far away from the coast. The end point should be interbasin transfers to meet Coastal Georgia regional needs.

ASR and/or recharge of surficial aquifer to retain flows - under implementation considerations, I believe there were at least the beginnings of some studies that would help clarify how well those might work. We should ask that those studies be resurfaced and a new fresh look from a sound science point of view. It makes sense during extremely high flow rates to do something like this. We might find that the artesian wells offshore are beginning to flow during that time. Levels of treatment and other considerations need to be taken into consideration, including whether it's economically feasible. This needs to be in the toolbox. See what we need to do to finish studies.

Possible joint reservoir with Savannah-Upper Ogeechee, Oconee? Off-stream should be considered rather than on the river bed. A council member noted that he was against reservoirs directly on a river, but okay with non-main stem reservoirs.

Water Quality Management Practices

Modification of discharge location - please clarify. *We are trying to get this more detailed - in a couple of locations in other regions, moving the discharge ¼ mile can eliminate the issue.*

Why are non-point sources not considered gaps? *There is no standard for non-point source, so there is not technically a gap.*

We need to better define a gap. In this case, I think a gap is a lack of knowledge on all sorts of things, including DO levels and fecal coliform levels. The rivers are on the TMDL list and they may have had 1 sample 20 years ago. When this plan goes forward, we need specifics on what we were referring to when addressing some of these issues. We need to work diligently on filling in as much space as possible on implementation considerations and outreach.

Forestry BMPs - concerned with language as it comes to specific practices. The PC will work on this with John Godbee. For instance, we don't sample soils, we sample foliage. Fertilization in forestry is so miniscule - once every 20-25 years, only 5% of the forest may

receive a treatment. Get a group that transcends a couple of regions to participate on this issue.

There are several programs to fence cattle out of streams, so this is typical and has been done for a long time. We're not saying you can't ride by and see some cows in a small pond, but the majority of people in the cow industry not doing that.

Incentives to restore wetlands and historically drained hardwood and other areas - Needs more research.

Need to include industrial, municipal and every other area in impaired stream BMPs. Need to look at more than just the land use around it. Need to look at defining sources of loading.

The tool/literature resource to use is Metro North Georgia, which could have good management practices. This is a resource on best practices. DCA could provide tons of resources as tools for other examples.

Need to capture issues related to flows in Atlantic slope rivers and address our unique coastal environment.

What's missing in this list of management practices is how to deal with county dirt roads. The sediment that flows off of county dirt roads into riverine systems is substantial. Rahn has provided the Georgia Better Back Roads information and the PC should include it in the plan.

The council had several suggestions on plan drafting and implementation. The PC asked what the plan needs to consider in regard to the role of the State and implementing entities (GEFA, EPD, local municipalities, etc.). The following points were made by Council:

- We need to put a fine point on ideas to ask the state to help us make things happen, including creative financing.
- We need to get sense of cost and implementation challenges on the most likely future issues.
- One of the concerns as we look at scheduling and how we move forward is we're going to present the plan and then we have 8-9 months before council ends. We haven't heard anything about possibility of bringing at least chairs and vice-chairs up

to the general assembly to assist. Are there any follow on roles that the council can have. We need to explore that. *This process was endorsed by highest level of state, but this council should come up with potential scenarios of the future that could inform EPD.*

- The biggest issue is we're writing this plan and there are so many dynamic things that might happen with the saltwater intrusion issue. This affects at least Liberty County if not further. We're writing a plan that will be somewhat obsolete the day it's finished. I'd like to have some discussion amongst this council as to interest level in seeing this thing through in petitioning the legislature to extend our mandate to absorb this 13 years and \$15 million of study. At least let those that are affected by this dramatic saltwater intrusion issue take a stab at developing a plan that addresses this issue.
- There has been some discussion of aligning with the Coastal Regional Commission. That should be recommended as a fallback to a general assembly consideration. We should investigate all reasonable options.
- When the legislation was created, we need to loop back around with current legislators. Especially since both ex officio members are not active with council. It might be worth the council's while to caucus with the house and senate natural resources committee. Extend an invitation to our next meeting, especially those that just got elected.

6) Water Plan Development

The PC provided a summary of the progress to date on Sections 1-5 and Sections 6-8. The goal is to have a Draft Plan approved in January and submitted to EPD by January 31, 2011. The PC mentioned that there will be a follow-up full Council meeting after formal public comment, probably between March and April.

7) Discuss Additional Outreach Needs

The PC discussed the handout of critical stakeholders and mentioned that it is important that we communicate with local governments and utilities that may need to know more or that might be affected by issues in the Plan or that may be issues that local government/utilities are facing. The PC highlighted the outreach process that we have implemented to date.

8) Discuss Role of State in Water Plan Implementation

The PC asked the Council to make sure that our plan identifies the specific recommendations and who/how those recommendations will be implemented. This will be important to inform policy makers as well as helping identify specific benchmarks to monitor plan implementation.

9) Schedule for Completing Regional Water Plan

The PC discussed the next critical path items to complete. EPD asked how we will address shared resources. The PC noted either via conference call or subcommittee meeting. Our Council has identified specific parties and we need to coordinate with other councils.

10) Local Elected Official Comments

There were no local elected official comments.

11) Public Comments

Rita Kilpatrick - SACE - The comments I'd like to make relate to the energy water forecast. We have only seen these results for the past few days because they became available last week. We have long awaited these but there have been delays. We are doing what we can to review those and we want to encourage you all to roll up your sleeves and look carefully at that forecast and pay attention to several of the things that are included.

We have major concerns and we will be having experts beyond those on our staff to look more closely and will include those moving forward. Our overarching concern is that the power sector is working to lay claim on water in ways that are excessive and will take advantage of competing usage of that same water. We are very concerned about that. We have not seen best management practices included in this analysis or in discussions so far. It's important to have best management practices for the energy sector as well. The good news is that the BMPs that are available boost the economy, offer job creation and do other good things we'd like to see happen.

There are different paths that we can follow as a state as local communities to get the energy we need. We can do this in a way that is highly water consuming as is projected or we can do it in a way that is water conserving and shares water with other uses as we go forward. The scenarios that you've seen offer a baseline scenario and one that's called alternative scenario. That's a bit of a misnomer because in this industry, we don't usually

call the alternative scenario one that uses the most water. We'd like to see another scenario brought in that captures the best management practices.

There are other concerns we have around forecasting, specifically Georgia's water use for out of state power needs. We need to hone in on what we need for Georgia to meet our energy supplies as opposed to setting up a broader system. This should be done instead of setting up as in the past for providing energy elsewhere. This gets exacerbated as competing uses come into play and have their water uses as well. I have other comments, but I want to keep in brief. Pay attention to this analysis. We would like to help you further. We have not been involved as it was done except to have a briefing with EPD recently. There are many players in the industry in our state beyond the few utility companies that are represented. There are many businesses that stand to gain if we do more water conserving practices as we move forward. They would be happy to be involved as well.

Rahn Milligan with GSWCC noted that he had information to share with the council. He distributed a fact sheet concerning the various programs that the commission works with from a water quality standpoint. We also work with various water quantity, but this shows fact sheet shows water quality. We are also handing out an agricultural BMP manual that we distribute and are being used throughout the state and nation. Each practice has a three digit number which coincides with the NRCS detailed standards.

12) Wrap-up and What to Expect Next Meeting

The Council agreed to hold the next two meetings in Richmond Hill (if available) and Midway EMC if Richmond Hill is not available. The final dates were left to be determined.

cc: Jeff Larson, EPD

Coastal Georgia Regional Water Council Attendance List 11/3/2010		
1	Dennis G. Baxter	X
2	Fred G. Blich	X
3	Chris Blocker	
4	Kay W. Cantrell	X
5	Frank E. Feild	X
6	Rick Gardner	X
7	John F. Godbee	
8	William K. Guthrie	X
9	Duane Harris	
10	Bill Hatcher	X
11	Cecily Hill	
12	Don Hogan	
13	Eric Johnson	
14	Michelle L. Liotta	X
15	Reginald S Loper	
16	John D. McIver	X
17	Michael J. Melton	
18	Randal Morris	
19	Phil Odom	X
20	Keith F. Post	X
21	Tom Ratcliffe	X
22	Tony Sammons	X
23	Mark V. Smith	X
24	Larry M. Stuber	X
25	James Thomas	
26	Benjamin Thompson	X
27	Bryan Thompson	
28	Horace Waller	
29	Marky Waters	
30	Roger A Weaver	X

Total 17

**Coastal Georgia Regional Water Council
 Public Attendance List**

Public Attendee		11/3/2010	Representing
1	Brad Baugh	X	SACE
2	Chris Conner	X	GSWCC
3	Deatre Denion	X	DCA
4	Todd Faircloth	X	GA Farm Bureau
5	Joel Fleming	X	GA DNR - WRD
6	Don Gardner	X	UGA CAES Coop Extension
7	Wayne Johnson	X	City of Statesboro
8	Rita Kilpatrick	X	Southern Alliance for Clean Energy
9	Christi Lambert	X	The Nature Conservancy
10	Bill Lovett	X	HGBD
11	Rahn Milligan	X	GSWCC
12	Tricia Reynolds	X	Coastal Regional Commission
13	Jeff Rickets	X	Ft Stewart Growth Mgmt Partnership
14	Charles Sexton	X	BJWSA-SRBAC
15	Donna Shea	X	Skidaway Audubon
16	Bryan Snow	X	Georgia Forestry Commission
17	Tas Smith	X	GA Farm Bureau
18	Jackie Teel	X	Chatham County - Savannah Metropolitan Planning Commission
19	Sonny Timmerman	X	Liberty County Planning Commissioner

Total **19**