

Memorandum

To: Suwannee-Satilla Regional Water Planning Council

From: Rick Brown and Brian Keel, CDM

Date: 10/01/10

Subject: Council Meeting 7 - Summary

This memorandum provides the meeting summary of the Suwannee-Satilla Regional Water Planning Council Meeting 7 (CM7), held on September 2, 2010 at Okefenokee Technical College in Waycross, Georgia.

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

Chair Darvin Eason called the meeting to order and invited Frank Baugh, the interim City Manager of Waycross, to make opening remarks. Mr. Baugh welcomed the Council and indicated the City was very happy to be hosting this meeting.

Chairman Eason provided an overview of the agenda and kicked off the meeting. The Chair asked for a motion to approve the CM7 agenda with the addition of a presentation by Council member Gordon Rogers. Jackie Wilson moved to accept the agenda; Scott Downing seconded the motion. Council voted unanimously to approve the agenda.

Chairman Eason provided an overview of the agenda, kicked off the meeting, and asked for approval of the agenda. The Council unanimously approved the meeting summary.

Next Scott Downing made a motion to approve the meeting summary and seconded by Howell McCallum; Council unanimously approved the agenda.

The PC then provided an overview of the CM 6 meeting summary and Council feedback regarding the meeting. Overall the Council felt CM 6 was very useful.

The meeting continued with an overview of the objectives for Council Meeting 7. These included:

- Review current and future conditions resource assessment model results and forecasted demands to identify and refine water and wastewater needs/gaps

- Develop and refine management practices to address water availability and wastewater needs and gaps (Subcommittee report out)
- Review and organize current water quality impairment information and the status of Total Maximum Daily Load Plans
- Discuss Subcommittee work on Water Plan development, and plan development review process
- Develop a deeper understanding of water resource dependent ecosystems in the region - Georgia Wildlife Resources Division (WRD) Presentation.

The location and possible dates for Council Meeting 8 were discussed. The PC suggested that Council members think about a location, date and a time in late October or early November that would work best for a meeting and it was agreed that Council would finalize the date and location at the end of the meeting.

A brief discussion of the energy forecast ensued:

CM: Are there currently any energy facilities in our region?

PC: No. The energy forecasting Ad Hoc advisory committee includes the larger energy producing companies. We can check if they are including some of the future potential minor facilities that were brought up by the Management Practices subcommittee.

CM: Is the energy forecast considering future facilities in north Georgia? We need to know this if it is going to impact our water resources.

CM: The only future location identified that might impact us is a biomass plant in Jasper, Florida that will use groundwater.

PC: Once we see the energy forecasts we can evaluate if there are any changes in water use upstream of the region

2) Quantification of Gaps and Needs

The PC presented an overview of the information that has been generated to identify gaps and needs on a county level. The PC cautioned Council about going into too much detail and ending up with a separate plan for each county. We need to think of the area as a whole region and develop a Plan that way. The PC indicated that at this point we believe we are reaching the limit in terms of the level of specificity of the data we have. IN general I believe we have good information draw quantitative conclusions. If we have data

limitations we can identify those and in these cases our conclusions and recommendations may be more qualitative.

The PC then talked Council through the Management Practice Subcommittee Materials handout, which summarizes needs and gaps in terms of groundwater availability, surface water availability, and surface water quality for the region.

CM: Conservation is a whole different topic with a lot of study already devoted to it. I suggest we refer to existing documents that already have detailed conservation practices.

PC: We are using several sources that lay out these practices including Senate Bill 370 (also known as the Water Stewardship Act) and the Water Conservation Implementation Plan.

The PC reviewed the explanation of how flow regime was determined from the monthly 7Q10 flows from the gauged period of record.

CM: If minimum flows are set by natural conditions and we add back human uses, the only way to get rid of a gap is to eliminate surface water use.

PC: The Council has identified in your vision and goals the need to support the region's economy, protect property rights and protect public health and natural resources. The Council's challenge is select management practices that are implementable and address these and the other goals that you have established. These practices can include conservation, alternate crops that use less water, groundwater replacement, recommendations for additional data and other actions that you identify. In the handout you will not that we are soliciting your ideas for the best management practices for the region.

CM: We are missing technological advancement such as conservation due to newer technology.

PC: We can capture this with "softer" management practices such as education and additional study.

CM: For this round of planning we're assuming agriculture is 100% consumptive. We need to recommend study to develop a more realistic number.

3) Management Practices

The PC summarized the Management Practices subcommittee meeting from July 28, 2010, and mentioned that we are working with EPD to make sure we have a good understanding of how agricultural surface water uses were represented in the surface water availability Resource Assessment model. Currently we are a little unclear how accurately the model accounts for dual-source agricultural use and there is a question as to how demands from irrigation ponds are modeled. This is another area where Council may choose to recommend improved data collection to determine the impact of dual-source and pond irrigation systems on surface water agricultural use.

The PC went over the list of potential management practices in the handout and asked Council to review them and add or subtract from the list, including an explanation for the change based on the effectiveness and implementability of the practice. You should think of implementability in terms of the ability to implement the practice based on technical factors and local government, water user and other stakeholder acceptance considerations.

The PC then presented an example from the county-specific gap handout using Coffee County. The PC explained how gaps were summarized for groundwater availability, surface water availability, and surface water quality for each county in the region.

CM: Didn't we take this further than other Councils?

PC: Yes, quite a bit further. One of the potential benefits of this document is that you can take it to your municipalities to help explain the gaps that your particular county is facing.

The PC then asked Council to review the handout and discuss the information with each other. The Council took a break and during the break discussed the information presented in the handouts among themselves. Following break the PC asked Council for initial thoughts on preliminary Management Practices, explaining that Management Practices should be specific without being over-reaching and meaningful to close gaps without causing hardships.

CM: How does groundwater affect stream flows? In our region this isn't as much of an issue but it is in the Flint. This Water Plan is for the whole state, so do we need to resolve this?

PC: EPD is looking for local solutions to local problems, so we should concentrate on problems specific to our region. In our region most of our groundwater use is from the

Upper Floridan and the Upper Floridan is not hydrologically connected to surface water in our region.

CM: The Gulf Trough runs through part of our region in the Alapaha basin and wells here have low yields so we can't rely on groundwater replacing surface water use here. Water use in this area is predominantly from ponds or direct surface water withdrawals.

CM: Agricultural surface water withdrawals are not 100% consumptive. We need a disclaimer in our plan that says ponds in upstream reaches are beneficial to hydrology in droughts. They promote smaller withdrawals over extended periods. We need improved data on how impervious area affects surface water flows. Urban runoff from industrial, commercial, and highway development that is collected in ponds helps to recharge the groundwater and contribute to streamflow in dry periods.

CM: These are good points. Dr. Hook said we haven't solved how agricultural ponds impact the hydrologic cycle. It could be a mistake to look at them as a negative impact in droughts. We need to highlight this problem in our Plan.

PC: This is what education and information management practices are for and we want specific recommendations from Council including additional analyses needed. Cliff Lewis is currently preparing a White Paper on farm ponds.

CM: I have observed changes in flow for example in the New River and that may be in response to some of the higher density development that has occurred in the watershed. We should include stormwater management as a practice.

CM: I think that one thing that has changed river flows is the amount of vegetation and sediment that has accumulated in some of our rivers and streams.

The PC then presented the Claxton Gauge (Canoochee River; out of our region, but emblematic) observed flow period of record on the Canoochee River, illustrating the increase frequency of flow dropping below 5 cfs in recent years. The data shows that the frequency of lower flow periods appears to increase beginning in the 1970 timeframe.

CM: It's possible there was a change in precipitation patterns over the period of record that contributed to the change in flow patterns. In my opinion, and I think the data support me, our region has experienced a shift in precipitation with less precipitation in summer and more in the winter.

CM: I have performed a similar analysis on the flow at the Atkinson node. There are many factors that can contribute to changes in these flow patterns such as loss of aquifer input, increased impervious surfaces, construction of drainage ditches, climate shift, and farm ponds. We need to understand the multiple variables contributing to this shift in flow pattern after 1970. This Claxton graph is similar to most black water streams in south Georgia.

CM: How do peak water surface elevations in these streams compare between pre-1970 and post-1970?

CM: They have gone up.

CM: If detention ponds are beneficial, why are farm ponds a problem?

CM: Spring Creek in southwest Georgia used to go dry frequently according to a witness, but the gauge says it never went completely dry prior to 1970... it just went down to a trickle at times. Now it goes completely dry.

CM: Could less forest and more fields be contributing to faster runoff?

CM: I think so.

CM: I still believe that sedimentation filling our streams and rivers could be contributing to the problem.

CM: I disagree.

CM: Couldn't the sediment be raising stages and slowing flows in streams?

CM: What percent of the problem is caused by this?

CM: How can we make recommendations when we don't know the causes of the problems?

EPD: In your Plan recommend the need for more data in cases where you are uncertain. At the same time there are some clear conclusions that you can reach and you can develop actions when you have more certainty about the issue.

CM: Is it really good to put more water back in streams? Could there be unknown adverse impacts such as more flooding?

PC: This has been a good discussion and I think if we look at the surface water gaps and demands in more detail we can reach some general conclusion. Let's start by breaking the gap into whether the gaps is associated with existing and future uses. For future surface water agricultural growth, you could recommend that we don't expand surface water use in dry periods and this may be easier to implement and have more support in the region. For existing gaps, it is more difficult to address we can look at practices such as education, conservation, and groundwater development in dry years. These are some of the preliminary ideas and we really need Councils input and direction here.

CM: If we look on a watershed basis, we can't ignore areas where groundwater is not available like the Gulf Trough.

PC: In these areas we have to consider alternate practices like stormwater returns and good development practices that maintain buffers. We can also get into more aggressive management practices like inter-basin transfers and pumping groundwater to surface water in dry periods. It is important to consider all possible practices that could help address the gap and this may include more aggressive measures. For example in some western states they have developed programs to lease water from farmers during dry years.

The PC asked Council members to send management practices comments to the PC and mentioned that the Management Practices Subcommittee will be meeting in a few weeks to discuss them. The PC also asked for Shared Resources volunteers to meet with Lower Flint-Ochlockonee and Altamaha Council members to discuss management practices.

CM: If there has been a shift in precipitation from summer to winter and things dry out much faster in the summer, this could be part of the problem. I want to see rainfall data for our region. We need to put disclaimers in our Plan that our decisions are based on the data we had.

CM: I don't understand evaporation from irrigation systems. Could this impact precipitation over a large enough area of irrigated fields? What about evaporation from soil? Some soils hold water better and longer than others.

CM: The University conducted a study on evaporation rates.

CM: Have you figured out what it would take to close the gap in MGD?

PC: That's the next step in the analysis. We will work on calculating the gaps volumetrically and have conducted initial research on this at the Claxton gauge on the

Canoochee River. It is clear that you can close approximately 80% of the gap with much smaller volumes of water that are needed to close all gaps in every year. This volume could represent an amount of storage or other sources/ demand reduction needed, although most farm ponds have less than a 30 day capacity. In most cases we will probably need more than one management practice to address some gaps.

CM: We need to meet with Lower Flint-Ochlockonee. Georgia law puts human needs first, agriculture second, and industry third so let's not forget this when we are trying to address these instream low flow shortages.

4) Guest Presentation by Jeremy Wixson of the DNR Wildlife Resources Division

Jeremy Wixson of WRD gave a presentation on the various hydrologic regimes as they relate to meeting the needs of aquatic ecosystems in the Suwannee-Satilla Region based on biodiversity. The presentation explained information on freshwater resources; stressing how biodiversity in natural systems are related to diversity associated with the natural flow regime - which has periods of lows, highs and floods. Natural systems have a great deal of variability within years and between years. This creates habitat areas and connectivity between areas, provides for species interactions, and variability very important.

Mr. Wixson continued his presentation highlighting the following points:

Hydrologic variability and yearly flow variation including low flows that some rivers experience in extreme drought where there is flow that is only at or below aquatic subsistence flow level. However, species also need flow for other important life cycle function for example flow conditions at higher flows support certain functions (i.e., spawning, recharge flood plain, exchange of nutrients, change channel morphology etc.). In addition there are different ecological species that benefit from different flow levels. Protection of low flows such as the 7Q10 is more of a subsistence level flow - 7Q10 is minimum required to assimilate waste and provide minimal protection for aquatic life. This is also minimum level that would allow for minimum habitat for short period of time. Subsistence flows provide minimum protection for aquatic life - maintains some key habitats - allow fish to swim freely.

Why would we need to go beyond subsistence flows? Base flows are typically higher than 7Q10 and can provide more diversity of habitat. High pulse flows are important for flushing system (silt and waste assimilation).

Mr. Wixson then noted some data on economic benefits of fisheries both recreational and commercial; including some of the fishing tournaments that attract people to the region. He also highlighted several species; including mussels, and mentioned that several species are fairly rare species.

Mr. Wixson presented some optional ideas about different flow options related to Georgia's Instream Flow Policy (three options for interim instream flow in Georgia: Monthly 7Q10, site specific instream flows, and mean annual flow options) and mentioned a few ideas to improve river flows including water conservation; return water near the location of withdrawal; direct withdrawals versus storage; identify high priority streams for conservation where environmental flows are especially important for the protection of aquatic life. (For additional detail please see Mr. Wixson's PPT presentation contained in the CM 7 presentations available at <http://www.suwanneesatilla.org/>)

CM: If the Satilla River has the second-highest growth rate of red-breasted sunfish in the State, what river is highest?

Mr. Wixson: I don't know.

CM: Is the creel survey you mentioned from 2006?

Mr. Wixson: It's a 4-year average from 2006 - 2010.

The Council thanked Mr. Wixson for his presentation and attendance at the meeting.

5) Guest Presentation by Gordon Rogers

Council member Gordon Rogers gave a presentation on blackwater streams in south Georgia. The presentation included information about the physical and chemical characteristics of blackwater systems. The presentation gave descriptions of how these streams function in a healthy state and presented examples of how these streams may have been altered by urban development, agricultural and silvicultural ditching/drainage, water use, increased sediment and nutrient loads, and resultant lack of low flows and higher but shorter peaking flows. The presentation also illustrated certain aspects of how land use in south Georgia has changed since 1974 using infrared imagery (data credit: Dr. Liz Kramer at UGA). Data show that both the Satilla and Ogeechee (out of planning region) watersheds have lost one-quarter of their forested wetlands since the 1970s.

CM: Regarding the time-shift land use graphic, could changes in tree canopy be due to harvesting and recovery?

GR: Yes; however just because a hardwood canopy exists, that doesn't mean the hydrology hasn't changed. Hardwood canopy and trunk biomass can be harvested, then recover, over a ditched and drained system. (Reference photos in the PPT presentation, on the ground). Conversely, just because the canopy (or lack thereof) shows that there has been harvest, does not mean there is a drainage structure there, that the hydrology has been permanently altered. Canopy itself is not the single determinant of the health of an ecosystem, particularly the hydrology.

CM: There are some changes visible in the [Okefenokee] swamp. What is going on there? There are no human uses there.

GR: most likely the effect of fires, or lack of fire, opening and closing grassland wetland v. open water v. forested wetlands. A closer look would tell for sure.

CM: There are lots of non-regulatory management options available such as land use trading.

GR: Yes. In fact, Dr. Kramer and I have discussed at length how one or a team might examine the relative efficacies of such approaches, hydrologic bang for the buck, if you will, and make policy recommendations that are non-regulatory in their nature. "Water volume" trading this could be termed; easements focused on hydrologic improvements; expansions and tweaking of existing programs to incentivize the changes needed as revealed through careful investigation. The federal WRP program is one example among many possibilities.

CM: Are there shorter-term things that allow flexibility over permanent conservation easements?

GR: I would hope so. Some things need to be permanent; some do not. A careful investigation of the options is in order. Private landowners need maximum flexibility for their business models, and their heirs.

CM: Federal programs are either permanent or 30 years, but hopefully yes, there are more temporary options available that are more market-based.

CM: Such as farmers being paid to let fields lie fallow in a drought. Dr. Rebecca Moore at the Cornell School at UGA is calculating the monetary value of improving water quality in the State.

CM: There are 3 river basins in Ben Hill County. It would only take a small incentive to run water from one basin to another, either as return flow management or an inter-basin transfer.

For more information please see Mr. Rogers PPT which is included in the CM 7 presentation available at <http://www.suwanneesatilla.org/>.

6) Current Water Quality Impairments

The PC provided a summary of the “tools” and process that the PC and Management Practices subcommittee has been using to look at the dissolved oxygen conditions of stream segments based on the dissolved oxygen modeling results completed by EPD and mapping of water quality impairments derived from the 303 (d) list of impaired water bodies. The PC also mentioned that there is a nutrient model (nitrogen and phosphorous) that has been developed for the Satilla River basin. The PC mentioned that in Georgia there are no nutrient standards at this time but they are expected to be developed in the next several years. The Council has an opportunity to consider some overall best management practices that might be used to help be proactive and be better prepared for potential nutrient standards.

The PC then provided a brief overview of the proposed grant program to assist regions in addressing current water quality impairments. The PC and EPD mentioned that EPD will provide up to \$100,000 in non-competitive Section 319(h) funds to a specified funding recipient(s) in each Water Planning Region. EPD is making these funds available to encourage Council discussions about nonpoint source pollution impacts on water quality and to facilitate implementation of nonpoint source pollution management practices. These funds will be provided to a jurisdiction(s) identified by the associated Council to serve as a recommended eligible funding recipient. It was noted that there is an annual cycle of funding for the overall 319 Program from the Environmental Protection Agency and this process for the Councils will fit within that program. There will be up to \$1 million in funding (up to \$100,000 per Council) and the funding recipient (and partners, if applicable) must demonstrate implementation commitment by providing a minimum of 40% in non-Federal matching funds or in-kind services for use in completion of the project. EPD has prepared a guidance memo (provided to the Councils) to guide the Councils (and their planning consultants) in the selection of an implementable nonpoint

source pollution management project to be included in their recommended Regional Water Plan.

7) Shared Resources Discussion

The PC provided a recap of neighboring Councils with whom the Suwannee-Satilla Council shares water resources. The PC asked for volunteers to attend inter-Council meetings. The PC also noted that EPD is organizing a Joint Meeting for members of all Councils on October 6th. Details regarding the meeting will be distributed in the near future.

The PC presented draft suggested topics for joint meeting discussions. The Council discussed whether there was a need to meet with other Councils and determined that meeting(s) should be held in situations where:

- there are surface water gaps in the Coastal region and the surface water drainage area extends beyond Council boundaries and there are surface water demands both inside and outside the Council boundaries
- there are surface water quality issues in watersheds that are within the Coastal Council boundary and the watersheds also extend upstream beyond the Council boundary

The following Council members volunteered to work on the shared resources issues described below:

Surface water gap at Atkinson - Gordon Rogers and Mike Edgy

Surface water gap at Pinetta - Carroll Coarsey, Doyle Weltzbarker, Wesley Langdale

Surface water gap at Statenville/Jennings - Scott Downing and Wesley Langdale

Surface water quality Satilla Watershed model for nutrients - Gordon Rogers and Mike Edgy

Surface water quality St. Mary's River dissolved oxygen - Gordon Rogers and Joe Hopkins

GR: pointed out that the Surface Water Gap at Atkinson needs to be discussed with the Altamaha Council due to Jeff Davis, Appling, and Wayne county footprints; and, that meeting with the Coastal Council (Hopkins, Edgy, Rogers) addressing issues in the lower St. Mary's and Satilla are in order.

8) Draft Plan

The PC presented the draft Water Plan review schedule and criteria. The PC mentioned that within the next month we will need to have meetings with our Management Practices Subcommittee and Plan Drafting subcommittee, as well as the Shared Resources meetings.

The format of the plan was initially focused on completing the general “template” information that was developed from the original strawman Table of Contents and preliminary draft language for Sections 1-5. The next challenge is to add Council specific issues and topics and complete Sections 5-8.

The PC then provided some examples of the criteria that will be used to evaluate the plan.

The PC mentioned that a next draft version of Sections 1-8 of the plan is due to EPD on October 15. The PC mentioned the Suwannee-Satilla drafting subcommittee has noted the tricky dynamics associated with concurrently doing our analysis and drafting the plan and emphasized that all of our work is dynamic and may change as we get new information.

The PC also pointed out that we need clarification on what is meant by Watershed Plans. It’s possible this means Watershed Improvement Plans, which are extensions of TMDL Implementation Plans. The PC will work with EPD to clarify this issue.

9) Local Elected Official Comments

There were no local elected official comments.

10) Public Comments

Tom Putnam: Mr. Putnam noted that Wesley Langdale and he met a reporter from the Valdosta Daily Times and made a call for more public attendance at these meetings. The story made the front page. It’s important that we do what we can to get folks to these meetings.

Gretchen Quarterman: Thanks to all of you serving on the Council. Being proactive in our water planning is better than being reactive. The outreach Tom mentioned in the newspaper is good. Sustainability should be included in the plan.

CM: We have previously covered sustainability in past meetings such as the groundwater sustainable yield analysis.

11) Wrap-up and What to Expect Next Meeting

The Council agreed to hold the next meeting in Fitzgerald on October 27th, 2010.

12) Council Meeting 7 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 Members Attendance List

Suwannee-Satilla Council Members		9/2/2010
1	Joseph L. Boyett	
2	Earl Brice	X
3	William L. Brim	
4	Hanson R. Carter	X
5	Carroll H. Coarsey	X
6	Ben Copeland	
7	Scott Downing	X
8	Eugene Dyal	
9	Darvin Eason	X
10	Michael E. Edgy	X
11	Greg C. Evans	X
12	Greg Goggans	
13	Jim Hedges	
14	Alva Joseph Hopkins	X
15	Donald A. Johnson	X
16	John Wesley Langdale	
17	Joe Lewis	X
18	R.R. Rusty McCall	
19	Donald H. McCallum	X
20	Dan Raines	X
21	Scotty Raines	
22	S. Gordon Rogers	X
23	Jay Shaw	
24	Frank G. Sisk	
25	Miles A. Stone	X
26	Grady M. Thompson	X
27	Doyle Weltzbarker	
28	James R. Willis	X
29	Jackie Wilson	X

Totals 17

Suwannee-Satilla Regional Water Council
 Public Attendance List

Public Attendee		9/2/2010	Representing
1	Mike Allen	X	Lowndes County Board of Commissioners
2	Rich Batten	X	South Georgia Regional Commission
3	Frank Baugh	X	City of Waycross
4	Al Browning	X	Browning Environmental
5	Chip Campbell	X	St. Mary's River Management Committee
6	Ernest Crussel	X	City of Douglas
7	Carlos Herd	X	Suwannee River Water Management District
8	Dave Hetzel	X	City of Milton
9	Nick Lacey	X	SKLF
10	Rahn Milligan	X	GSWCC
11	Bill Miller	X	Satilla River Keeper
12	John Mitchell	X	Valdosta
13	Jerry Permenter	X	City of Adel
14	Crawford Powell	X	Lowndes County
15	Tom Putnam	X	Langdale Industries
16	Gretchmen Quarterman	X	Lowndes Area Knowledge Exchange
17	Bryan Snow	X	GA Forestry Commission
18	David Still	X	Suwannee River Water Management District
19	Bill Twomey	X	Cook County
20	Chip Wildes	X	SAFT America Inc.
21	Jeremy Wixson	X	GA DNR Fisheries Management

Totals 21