

Georgia Department of Natural Resources

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MEMORANDUM

TO: Council Members

FROM: Kevin Farrell, GA EPD
David Ashley, JJG

SUBJECT: Council Meeting 4 Summary
Middle Ocmulgee Water Planning Council

Georgia Comprehensive Statewide Water Management Plan Regional Water Planning Council Meeting 4 Summary

Meeting Date: November 16, 2009
Location: Flint Energies, Warner Robins, Georgia
Attendees: See list

1) Welcome and Council Member Introduction

Elmo Richardson, Council Chairman, welcomed everyone and introduced host Bob Ray, CEO of Flint Energies. Mr. Ray mentioned in his welcome speech that 16 percent of their energy comes from hydropower. Chairman Richardson then introduced Senator Ross Tolleson, Chairman of the Natural Resources and Environment Committee. Senator Tolleson welcomed everyone and gave an update on the Governor's Water Task Force (Task Force). He mentioned that each of the Council Chair was asked to be on the council and that this task force is not intended to take away work of the Regional Planning Councils, but will be more of an enhancement. Chairman Richardson mentioned that he had already been involved in one meeting and two conference calls, and that several additional meetings are on his calendar to develop alternatives on the Lake Lanier water issue. He asked that if the council had any questions or issues, such as interbasin transfers to please contact him and he would take it to the Task Force.

Senator Tolleson spoke again to ensure that the Council understood the full meaning of interbasin transfers, it does not always mean moving water long distances (e.g., moving water from south Georgia to north Georgia). Some counties have multiple river basins in them, so there already are numerous interbasin transfers occurring.

Chairman Richardson reiterated that the concerns were for “major” interbasin transfers.

Kevin Farrell updated the Council on the new leadership at EPD. F. Allen Barnes was appointed Director of the EPD in October 2009. Mr. Farrell read a memo that Director Barnes sent to the Regional Council members to thank them for their commitment to the task of regional water planning and advising that early next month he will convene the chairs and vice chairs for the Council Leadership Forum conference call. Mr. Farrell shared his optimism on the direction of EPD with Mr. Barnes’s leadership.

2) Agenda and Council Meeting #3 Recap

David Ashley presented a recap of Council Meeting #3 on September 10 and briefly discussed the agenda for Council Meeting #4. Mr. Ashley then discussed the Governor’s Task Force briefly, stating that the group would be looking at many options as directed by Governor Perdue. The Governor formed the Task Force as part of overall response to Judge Magnuson’s July ruling regarding Lake Lanier. The results of the Task Force’s work are expected by the end of the year. The Governor’s strategies include:

- Appeal
- Negotiations (as directed by Judge Magnuson in ruling)
- Congressional Reauthorization
- Contingency planning (focus of the Task Force)

The Task Force is comprised of over 80 business, environment, and government leaders; Coca-Cola Enterprises Chairman and CEO John Brock and Tim Lowe of Lowe Engineers are serving as co-chairs. The Task Force has met for first time on October 7th; will hold two more meetings and present recommendations before January 2010 legislative session.

3) Demand Forecast Update

Municipal Water Demand Forecast Update

Ms. Tai-Yi Su presented the council with the current status of the Municipal Water and Wastewater Demand forecast. She informed that today’s presentation would be a progress update. The revised population projections have not been released by the Governor’s Office of Planning and Budget.

EPD held two ad-hoc meetings on September 28 and October 2, 2009 to gather input from council’s expert representatives. Two members (Mark Wyzalek from Macon Water Authority and Marianne Golmitz from the City of Warner Robins) attended the September 28 meeting for the Middle Ocmulgee Council and a few additional members have also agreed to review the methodology. Following these meetings, the Planning Contractor had sent input request form and a questionnaire to major water

providers in the region at the direction of our Chairman to gather additional data input. So far we have received comments from Butts County, Newton County and Peach County.

Ms. Su presented a table of preliminary per capita water use rate for each county calculated based on the 2005 raw water withdrawal and estimated population served by public systems reported by U. S. Geological Survey (USGS). Some of the per capita water use rates were revised according to the input received after the ad-hoc meetings. She highlighted the exemplary cooperation the Council has received from Newton County. Newton County has a complicated situation with water supply and services – water withdrawal right belong to one entity and treated water is distributed and resold through multiple entities (including Newton County Water and Sewer Authority and the City of Covington). The entities in Newton County had taken an initiative to organize several meetings regarding this issue and have provided the Planning Contractor with additional data to correct what was reported in the USGS guide. Working directly with water providers has been beneficial to the Planning Contractor in the development of more accurate data. Ms. Su encouraged the council members to follow up with their local water providers if they have not reviewed the preliminary water use information. She stated that feedback is needed from those the Planning Contractor hasn't heard from. The Planning Contractor plans to follow up with utilities that have not yet responded.

She then briefly discussed the methodology for projecting municipal wastewater generation. Total wastewater generation will be determined by multiplying the projected municipal water demand by the percentage of water used indoors, plus estimated quantity for inflow and infiltration. Outdoor water use is assumed to be 100 percent consumptive (loss). Indoor water use is assumed to correspond to wastewater generation. The Planning Contractor will estimate average indoor water use based on an established methodology explained in EPD's report "Georgia Water Use and Conservation Profiles" (March 2008).

The calculated wastewater quantity will be treated in either an onsite septic system or a centralized wastewater treatment system. For future projections, this population served ratio may be held constant (base scenario), or may be modified by the Council based on anticipated management practices. Treated wastewater is either discharged as a point source to existing surface waters or to a land application system (LAS). The ratio of flow from centralized treatment to each of these disposal options will be calculated based upon proportions of point source discharges and LAS currently permitted by EPD. For future projections, the ratio will be held constant, or may be adjusted based on additional input from Council members as part of the selection of management practices.

The Planning Contractor needs input from the council and local communities on where they think the trend will be for their communities in 2050 for 1) onsite treatment (septic) vs. centralized treatment, and 2) point discharge vs. LAS.

The next steps of municipal forecasts include:

- EPD will re-convene 'expanded' regional ad hoc groups to further refine county and municipal gpcd's and transient population considerations (early Dec 2009)
- The Planning Contractor will develop preliminary municipal water forecasts (Jan/Feb 2010)
- Presentation of preliminary forecasts and Refinement of forecasts (Feb 2010)

Question: What is the average (wastewater) return rate?

Answer: It varies from county to county. For large systems the return ratio may be about 80 percent, for some counties this ratio may be in the 30 to 40 percent range if they are mostly on septic tanks. Each county's rate has not been calculated yet, but this information will be shared with everyone as it becomes available. The Planning Contractor has reported wastewater quantities from EPD and will be comparing it to the estimated wastewater quantity based on indoor water usage.

Question: There are public water systems supplying water that have no sewer systems, are we taking that into account?

Answer: Yes, we have reported wastewater discharge data and will be comparing this data to the estimated wastewater quantities based on indoor water use. In some counties, the sewer system may only serve a small population and a large percent of wastewater goes to septic systems. The future trends may be very different in 2050 and we would like your feedback on these assumptions.

Question: Are there any other reporting agencies outside of Bibb County that give a breakout of outdoor/indoor water use percentage?

Answer: Six utilities were selected to participate in EPD study. There is also a statewide percentage.

Question: How did you use data to break out an outdoor/indoor water percentage?

Answer: Consumption rates were evaluated during winter and summer. The winter consumption is assumed to be the "indoor" usage. The difference between the summer months and the winter months is assumed to be outdoor usage.

Question: Traditionally, as areas go from rural to urban they also typically go from agriculture to municipal/residential/commercial. What allowances are there from one particular water use to another and from county to county?

Answer: We will look at four different categories of water use (municipal, industrial, agricultural and energy). We'll review existing comprehensive or master plans for future trends. Local feedback is needed from council members on future outlooks of their communities.

Comment: Still concerned - You can't use per capita numbers if we expect to transition. Rural counties are now what Newton County may have been 20 years ago. Need to take into account the changes in use.

Answer: The best data is local knowledge and the master plans for each community. We will take this issue back to discuss with EPD and other Planning Contractors.

Question: How far did the trend go back?

Answer: The water use data is from 2005 to 2008. However, Dr. Warren Brown considered historical trends for population projections.

Question: Just to clarify, when you say master plan, do you mean comprehensive plan?

Answer: Yes, we are collecting various existing plans including comprehensive plans, water/wastewater master plans, etc. to understand more fully what has been planned in the region. Please let us know if you have any existing plans that we should consider for this planning process.

Preliminary Industrial Water Forecast

Mrs. Su gave a brief review of the forecast methodology. The industrial forecast focuses on the twelve major water-using industry categories (mining, food, textiles, apparel, paper, chemicals, petroleum, rubber, stone and clay, primary metals, fabricated metal products, and electric machinery). The automobile industry was added later on based on council input. Current (2005) industrial water withdrawal represents approximately 11 percent of the total water withdrawal in Georgia, and the twelve major water-using industry sectors represent over 90 percent of industrial water withdrawal in Georgia.

EPD convened an Industry Ad-Hoc Group meeting on August 18, 2009. Since they met, representatives of the industries have provided information relative to future water use in the state for the major water-using industries. The preliminary forecast is based on the revised employment projections (provided by UGA) for these industries and will be compared with information provided by the industries. The differences between the forecasts are currently being discussed with industry representatives. Ms. Su stressed that the preliminary forecast will be shared with the council members, but will not be published at this point based on an agreement with the industries. The Industrial Ad-Hoc Group feels that additional time is needed to work out the differences in forecasts. Basic assumptions for industrial water demand forecast include:

- Water use increases at the same rate as employment (growth estimates completed by Dr. Dorfman of UGA).
- If the industry sector is projected to be in decline, the existing water use/capacity will be held constant for the planning period so that the community may use this existing capacity to recruit or attract future industries.

Ms. Su showed the graphical illustrations of employment projections for the Middle Ocmulgee Region for the planning period (through 2050). The graphs prompted several question from council members.

Question: Do we know why they think fabricated metals will drop? What about Robins Air Force Base?

Question 2: I have a similar question - it doesn't really show Robins AFB.

Answer: Robins Air Force will be accounted for in municipal water use even though its current permits are industrial permits. It was decided that institutional use will be accounted for in the municipal category. The trends for the fabricated metals category are different council by council as are the other industrial forecasts. We'll have to check with Dr. Dorfman on the reason for the decline projected for the fabricated metal industry.

Ms. Su pointed out that while future employment in mining is projected to go down, water use for Kaolin production is captured in the Stone and Clay category and is shown a gradual increase through 2050. Kaolin is a major industrial water use in the Middle Ocmulgee region. Groundwater is its primary source of water supply.

Comment: Projections on textile industry is in decline but the rubber industry is shown to have a significant increase in future employment, but rubber industry relies on textile.

Answer: Even though textile is shown in decline, if municipality currently has capacity for, we are holding it constant. We will take the question of the rubber industry to Dr. Dorfman of UGA for consideration. Ms. Also stressed that some of industries may be supplied by public water systems and its water use may not be reflected in the forecast which is mostly based on existing self-supplied industries' reported withdrawals. This is why we need water providers' help so we can extract the industrial demand from residential and commercial demand.

Question: Agriculture is another category, how do we adapt if that transitions?

Answer: Something we need to look into. We will take this question to EPD and other Planning Contractors for discussion so there will be a consistent way to handle this issue.

Ms. Su pointed out that most of the projected water use shown today was based on reported water usage from self-supplied industries. If the industries are currently supplied by public water systems, their water use may not have been reflected in the projections unless this data have been provided to the Planning Contractor. For example, the food manufacturing (poultry processing) industries in North Georgia are supplied mostly by public water systems. The intention is to extract this publicly-supplied industrial water use from the municipal demand, if data is available. However, this demand may currently be captured in the municipal demand, but we want to avoid double-counting.

The next steps in completing industrial water/wastewater forecasts include:

- Sharing results with the Industry Ad Hoc Group and public (via website)
- Soliciting any additional input and making modifications where warranted
- Reconfirming results with Industry Ad Hoc group
- Completing forecasts for regional councils

(4) Special Presentation by Georgia Power – Energy and Water Use

Ms. Tanya Blalock, environmental manager for Water and Land Program at Georgia Power gave a presentation titled "Energy and Water Use". She gave a quick overview on where water is used in various stages of energy production. She then discussed the various terms of water use (withdrawn, reused, consumed, returned, and conserved). In energy production, more water is used for cooling purpose and the evaporation results in consumptive loss. Ms. Blalock showed pie charts of withdrawal and consumption data for various uses. Question was raised based on these charts.

Question: Why is water use for livestock only accounts for 1 percent of the total withdrawal but 5 percent of total consumption?

Answer: These two pie charts show the percentages, but do not show the actual quantities that are different. The total consumption is less than total withdrawal quantity.

Ms. Blalock reminded the Council that we need to look at the big picture. Is it a water withdrawal or consumptive loss? In a once-through cooling example, out of 2.4 billion of gallons (bgd) of water withdrawn, 2.2 bgd is returned and only 245 million gallons per day (mgd) is consumed.

Ms. Blalock pointed out that energy production is a challenge and a constant balancing act. The newer plants require less overall water withdrawal, but tend to use more cooling towers and therefore consumed more water (through evaporation loss). Some of the water also is used in scrubbers for air pollution control. New scrubbers are going on line at Plant Scherer and will increase water consumption. Scrubbers and more cooling towers increase water consumption (approximately 1.5 mgd is used per scrubber).

Ms. Blalock shared with the group that people ask if we can save water by saving electricity. To answer the question, she showed a graphic showing the base load of 24/7 stations that generate power consistently; then the intermediate load that occurs during the day; and then peak load generation when there is a heightened use of power – heat of the summer using air conditioners, etc. For the production of base load power needs, large coal/nuclear plants with cooling towers are used and they generally consume more water. For production of intermediate load during the day, combined cycle or once through cooling facilities are typically used. For meeting peak demand, combustion turbines are typically used and they consume little water.

Georgia Power has always prepared projection for future energy needs. Ms. Blalock stated that Georgia Power has to plan into the future because the lead time on building power plants could be between 3 years and a decade. Forecasting water needs from energy production is a more difficult task and has not been done. To associate water needed for a future plant is a challenge if it is going to be a base load plant or a peak type plant. The location of the plant may also be a challenge. Georgia Power is working with other energy companies in the State to assist EPD in this task.

Question: What is next best efficient plant? What about bio-fuel or hydro facilities?

Answer: Hydro facilities are the most efficient from a water use perspective. As water runs through a turbine, there is evaporation from the lake but no consumption through the power generating process.

Question: Where does electricity go to serve from the power plants?

Answer: It generally goes into a grid and goes out. Based on what the load is, a computer system dispatches turbines in the most cost efficient way (so base load first, then combined, then combustion). We cannot say all plant generation goes to “x”.

Question: Regarding Lake Jackson – do you know what base you need to run all the time?

Answer: During a drought, less power is generated from a hydropower facility, during times of peak flow there is more generated (the plant was used approximately half of the normal amount last year due to drought, and approximately 200 percent this year because water is available), most hydropower plants are “run of river” facilities, meaning what goes in, comes out.

Question: How much does Georgia Power consume in this region?

Answer: Plant Scherer is permitted to withdraw 63 mgd from the Ocmulgee River to Lake Juliette; but annual average consumption is about 35 mgd.

Comment: There doesn't seem to be a need for conservation other than the cost of water.

Non-Permitted Agricultural Water Demand - David Ashley

Mr. Ashley updated the council on the work being done on the non-permitted agricultural water demand forecasts per discussions from Council Meeting #3 in September. He explained that the issue arose that smaller agricultural uses are not captured in the current Agricultural Water Demand Forecast and members of the sub-threshold water-use sectors were concerned and wanted input into the forecasts. Some livestock, dairy, poultry and nursery agricultural water uses are not captured in the current forecasts. These sub-threshold water use sectors (< 100,000 gallons per day) feel that exclusion of their water use diminishes their economic importance to Georgia. Georgia Farm Bureau (GFB) has facilitated representation of sub-threshold agricultural water users and two meetings/conference calls have been held (September 30 and October 16) to discuss the issues relevant to these water users. Some council has formed sub-committees to investigate the non-permitted water use. EPD is working with these sectors to establish a state-sponsored effort that will be consistent throughout all regions. The collected data will be presented at Council Meeting #5 and the councils will decide whether to include the sub-threshold ag use in their plan.

Council member Tony Bass was asked to update the council on this issue. He said several of the groups had concerns about the non-representation (dairy, poultry not represented). Two Ad Hoc meetings were held to discuss issues to amend and update the agricultural forecast. Data is still being compiled. The lesson learned is that each person within their industry needs to be aware of the projections, take action to review the data and make the data better. Data compilation is still a work in progress.

Question: Will we get a chance to accept or reject data once presented?

Answer: Yes.

5) Resource Assessments

Surface Water Availability

Dr. Wei Zeng of EPD presented an overview of surface water availability assessment. He discussed the process of compiling existing municipal, industrial, thermal, and estimated agricultural water use from 1300 data-gathering facilities. The observed flow data were compiled for 76 nodes in the model from hydrologic data from 1939 to 2007.

Unimpaired Flow

Dr. Zeng defined the Unimpaired Flow as the natural flow in the streams or river prior to any reservoir regulation, evaporation, and any water withdrawals or return by users. The Unimpaired Flow is estimated by adding the consumptive water use back to gauged flow, and correcting the flow data by removing the effects of reservoir regulation, evaporation and precipitation. This data set tells us what Mother Nature would have given us, had there been no human impact to the system.

The benefits of using the Unimpaired Flow include: (1) the data provide a firm background for all technical analyses; all water uses, including off-stream or in-stream uses, will be evaluated against this

background; (2) Past and potential future reservoir operations can be evaluated against the same set of hydrologic input, making any comparison of reservoir operations meaningful.

Assessment Unit: Sub-Basins, Basic and Planning Nodes

The river basins are delineated into smaller hydrologic units (sub-basins) for better understanding of the rivers' behavior. In the model, Basic Nodes are usually located at existing USGS gages with long-term flow data. Planning Nodes are a sub-set of Basic Nodes where sub-basins are determined; the sub-basins are the basic spatial scale for Resource Assessment.

Desired Flow Regime

Dr. Zeng defined the Flow Regime as the pattern of flow variability for an individual surface water source. Flow regime involves the magnitude, timing, duration, frequency and rate of water movement. The Desired Flow Regime reflects the extent of in-stream flow protection that has to be in place as mandated by state and federal laws or regulations (what we need to preserve in the river system). EPD is being advised by the Scientific and Engineering Advisory Panel on scientifically defensible approaches in determining protective regimes. The Desired Flow Regime can reflect the Councils' additional consideration in the types of stream flow that meets their in-stream flow needs.

River Basin Planning Tool

The surface water availability assessment uses the River Basin Planning Tool developed by Dr. Aris Georgakakos' team at Georgia Institute of Technology's Water Resources Institute. The tool provides mathematical representation of aspects of managing water resources at river basin and sub-basin level. When populated with the Unimpaired Flow data, water use data, and water resource management options, the tool accounts for water movement in the river basin.

Current and Future Condition Assessments

Given the unimpaired flow data, the water use data, and the desired flow regime, we can evaluate whether there is enough resource availability to address all of the needs. The accounting of the amount of water over time tells us whether we can meet all of the needs, and when we would have a shortage. Also, we can tally the days when we see a shortage and learn how much of the time we would see a shortage. The "current condition" analysis focuses on determining whether there is a shortage meeting existing needs, and does not include adoption of any Management Practices. EPD and its Resource Assessment contractor are finalizing the modeling work, and plan to present the results at the joint meetings in mid-January.

Following assessment of current conditions, the future water use conditions will be evaluated. Alternative solutions will be developed if there are gaps between the available water and future needs. Best Management Practices will be selected to address the gaps between future water use scenarios and available water. The Councils and their Planning Contractors will inform the Resource Assessment team of their choices of Management Practices, and the Resource Assessment team will run the River Basin Planning Tool to see if the gaps can be addressed. This may involve several rounds of iterations between the Councils (or their technical representative) and the Resource Assessment team, until all gaps are addressed by appropriate Management Practices.

Question: What's the difference between a basic node and a planning node?

Answer: All basic nodes were selected at where long-term monitoring data is available. Planning nodes are special basic nodes. The Resource Assessment is done at the planning node (sub-basin) level.

Question: Have there been any true flow deficiencies other than the Chattahoochee River basin?

Answer: The Chattahoochee River shortage is more of a result of a "policy shortage". For example, the Magnuson ruling in July 2009 puts hundreds of million gallons per day of municipal water supply in jeopardy.

Question: Are there any other rivers that have a public perceived shortage?

Answer: In 2007 during the height of the drought, the Oconee River experienced a true shortage – they had to get permission to withdraw water below the required minimum flow level. This is one example of a physical shortage or "real" shortage. In 2007, when the Army Corps of Engineers decided to limit hydropower generation from Lake Allatoona to conserve storage in the lake, Alabama Power Company pressured the Corps to do the opposite, increasing hydropower generation and resulting in more release from Allatoona, to rescue the Alabama Power lakes downstream on the Coosa River. There was not a physical shortage since these lakes have much larger drainage areas than the Corps projects in Georgia. This was not a physical shortage because earlier in the season, Alabama Power Company made releases that were much higher than the requirements, even when their projects were lower than normal. In other words, the status of these lakes was at least partially the result of Alabama Power Company's earlier policy.

Question: Low flow standards and environmental impacts. Before man-made lakes were formed and these low flow regulations were required, droughts would draw river flow lower than what we are required to maintain now. Nature would adapt.

Answer: As an example, the regulated low flows below Lake Seminole were poorly conceptualized and constructed without good data. Sometimes the problems were overfishing, not lack of water. For example, the Gulf sturgeon population was depleted due to overfishing. When commercial fishing stopped, the population of Gulf sturgeon steadily recovered. In setting the initial Interim Operation Plan (IOP) flow thresholds that were extremely high, humans tried to protect the sturgeon by requiring minimum flow that is less than science-based. This resulted in the low system storage that lasted through the peak of the 2006-2007 drought.

On Flow Regime, before more scientific studies become available and adopted by the state, we will use the State Interim Instream Flow Protection Policy in its place. The current interim policy calls for passage of the monthly 7Q10 (7-day average flow that occurs once in 10 years) flow below water intake, among three options; if the flow is lower than the 7Q10 or what is required of the other options, the permitted facility (excluding the grandfathered ones) is required to let inflow pass.

Groundwater Availability

Dr. Jim Kennedy of EPD gave a presentation on the status of groundwater resource assessment. He first gave an overview of Georgia's aquifers. There are multiple aquifers in Georgia and the most significant

defining feature in the State is the Fall Line that runs from Columbus to Macon to Augusta. Well yields from the major Coastal Plain aquifers south of the Fall Line may be on the order of 1,000 gallons per minute (gpm) while well yields from the crystalline rock aquifers north of the Fall line are often less than 100 gpm. Well yields in the Paleozoic rock aquifer of northwestern Georgia may also be on the order of 1,000 gpm. Approximately 86.5 percent of groundwater was withdrawn from the Coastal Plain aquifers.

Dr. Kennedy described the needs to prioritize aquifers for sustainable yield analysis because a comprehensive accounting of all aquifers in Georgia would be extraordinarily expensive and time consuming. He discussed the criteria used to prioritize the analyses. It was determined that the more sophisticated numerical computer model (MODFLOW) would be used for Coastal plain aquifers south of the Fall Line where groundwater withdrawals were highest during 2005. These include the Upper Floridan aquifer (in the Dougherty Plain, in Tift County area and in eastern Coastal Plain), the Cretaceous aquifer between Macon and Augusta, and the Claiborne aquifer in southwestern Georgia. Models of prioritized Coastal Plain aquifers were built by refining a regional Coastal Plain aquifer model previously developed by the USGS.

The “Water Balance” models are used to analyze the aquifers in North Georgia where less groundwater is withdrawn. Water Balance models consider water input and withdrawal information and are an appropriate tool to determine sustainable yield of Paleozoic rock aquifers in northwestern Georgia and crystalline rock aquifers in the Blue Ridge of northeastern Georgia. Groundwater from crystalline rock discharges to surface waters via bedrock fractures that encounter the surface water. Stream base flows decrease as groundwater levels in the crystalline rock aquifer drop, as would happen during a drought when recharge is decreased or with pumping from the crystalline rock aquifer. Therefore, sustainable yield of the crystalline rock aquifer will be quantified as a percentage of stream base flow.

Dr. Kennedy then discussed the benchmarks for sustainable yield established for Georgia. They include:

- Drawdown of ground water levels between pumping wells in the pumped aquifer do not exceed 30 feet as to not affect nearby wells.
- Do not decrease stream flow below 60 percent of the mean annual discharge during April to September and 40 percent during October to March
- Over time the reduction in aquifer storage becomes asymptotic to a new base level
- Do not lower groundwater levels below the top of a confined aquifer.
- Do not exceed the ability of the aquifer to recover to baseline groundwater levels between periods or higher pumping during drought.

Preliminary results show that in some aquifers the sustainable yield is higher than the withdrawal. Dr. Kennedy said he has received results from EPD’s Groundwater Resource Assessment contractor and is currently analyzing the results. He expects to present all results in the joint meetings in January 2010.

Question: How does the Cretaceous aquifer look?

Answer: We are still analyzing the results. It’s highly variable.

Question: The Cretaceous goes under Floridan, how is it affected by Floridan's drawdown?

Answer: There may be drawdown below the recharge zone of the Floridan aquifer.

Question: Do you use nodes?

Answer: Nodes are used for surface water assessment; maps will be given for the groundwater assessment.

Question: Do floods affect yields of wells?

Answer: No, they may affect availability for recharge, but not the available yield.

6) Public Involvement Plan

The revised draft public involvement plan (PIP) was sent for the council's review prior to the meeting based on the comments received from Council Meeting #3. Charlotte Weber went over the changes requested for the Middle Ocmulgee's draft PIP.

Guiding Principles

Only one additional principle was added: the council takes a proactive approach to public involvement and outreach.

Key Stakeholders

Ms. Weber reviewed the added stakeholders list recommended from the last meeting. No other stakeholders were discussed.

- Developers
- Water utilities because they may not be part of the local governments.
- Design professionals – landscape architect, and engineers, etc.
- Soil and water conservation districts [Note from Planning Contractor: These are considered partnering agencies.]
- Land owners adjacent to or encompassing major tributaries, streams, lakes or other water sources
- Non-governmental Agencies [Note from Planning Contractor: List of non-government agencies will be corrected in the draft PIP.]
- Listed partnering agencies

Procedural Criteria

One council member had concerns that the public is scheduled to speak at the end of the meeting and may not be the best for good ideas that the public may have.

Question: Shouldn't the public be allowed input earlier?

Answer: Chairman Richardson responded by noting that during today's session (and past sessions), the public had asked questions and provided input and it seemed to have worked okay so far. [Note from Planning Contractor: The public can provide input at times approved by the Chairman during meetings. The public was allowed to provide comments prior to lunch and immediately following the first discussion of PIP at Council Meeting 3.]

Meeting Announcements

Council had recommended sending press releases out to media after the meeting. Ms. Weber suggested forming a Public Involvement Committee to implement this. Completing press releases was not part of the Planning Contractor's scope of work. The Chairman asked for volunteers and did not get any response. However, it was agreed that the meeting summaries would be condensed into an executive summary and the Planning Contractor would send that executive summary to the current list of media contacts after approval by the Chair and/or Vice Chair. The council members were asked to send Ms. Weber any additional contacts for local media that they wished to be included in this.

Additional Outreach Opportunities

In response to the council and the public's comments from Council Meeting #3, a series of additional outreach techniques were discussed including a blog, comment form, press kits, and a social networking site. Ms. Weber discussed the possibility of a Public Involvement Sub-Committee to help implement these ideas. Mr. Ted Hendrickx from the EPD gave an update on the public commenting tool EPD is developing. He said that a website commenting tool is being developed and is scheduled to come online in January 2010. The comment form will be available on the website but will initially be developed for input for the resource assessments. This tool will be used again for comments for the draft plans. This will give the public (and council members) an opportunity to comment directly to the EPD on concerns and issues. It is not clear at this point whether this tool will be available in between the commenting period for Resource Assessments and for the draft plans.

One council member expressed that many council members are business people and do not have time to work on additional public involvement tasks. The Council had no volunteers for a sub-committee and it was determined that the majority of the additional outreach opportunities from Council Meeting #3 be removed from the PIP except the website comment form and the press release/executive summary.

Non-Government/Partnering Agency Involvement

The final recommended change to the PIP was the clarification of non-government and partnering agency involvement which was a category added to the PIP. The discussion highlights included:

- The key is in disseminating information and gathering input
- Proper communication channels should be established between the Council and the NGOs and Partnering Agencies
- Members of NGOs and Partnering agencies provided an opportunity to comment at the end of meetings
- Members of local governments may provide written comments
- Members may provide a link to the Middle Ocmulgee Water Planning Council Website on their websites.

7) Management Practices

David Ashley presented an overview of management practices. He stated that following gap analysis and the initial joint meetings to discuss the results of resource assessments, the initial selection of management practices is expected to begin at Council Meeting 5. The management practices would address needs from the three overlapping areas: water supply, wastewater and storm water. He discussed

examples of management practices in these areas and the definition of “gap” from quantity and quality perspectives. The Council’s vision will establish specific goals for the region’s water in 2050 and guide the selection of management practices. The regional plan will include conceptual level analysis and implementation considerations. Project level detailed analysis will be purview of the implementation parties after the regional plans are adopted. Detailed facility level planning is beyond the scope of regional plans. Mr. Ashley asked the Council to help identify existing local plans (comprehensive and water and wastewater master plans) or proposed projects that should be considered for the Middle Ocmulgee planning region.

The next steps of management practices include:

- Resource Assessment Models – Available January 2010
- Gap Analysis – January to March 2010
- Initial discussion, selection, and refinement of Management Practices – **Council Meetings 5, 6, and 7**
- Finalize selection by **December 2010**

Mr. Ashley then discussed an example from Athens-Clarke County using both economical and non-economical criteria to rank options for long-term wastewater treatment and disposal.

In response to the earlier question on examples of real water supply shortage and flow deficiency, Mr. Ashley mentioned that in the early 1980’s the City of Athens had a withdrawal permit of 19 to 20 million gallons per day (mgd), but had to cut down to less than 15 mgd to get through drought. In the 1950’s, Griffin built a reservoir as a result of a drought.

8) Joint Meeting Planning

David Ashley gave a brief presentation on planning for joint meetings. The objectives of the joint meetings are 1) to provide the council members with a working knowledge of the resource assessments, both the process and the results, and 2) to facilitate understanding of the resource assessments and allow planning to move forward with Gap Analysis and Management Practices Selection. The two upcoming meetings that may be of most interest to the Middle Ocmulgee Council are scheduled for:

- Friday, January 22, 2010, in Macon for Altamaha, Ocmulgee & Oconee River Basins and Eastern Coastal Plain Cretaceous, Piedmont Aquifers, and
- Friday, January 15, 2010, in Americus for Flint & Ochlockonee River Basins and Dougherty Plain, Claiborne Aquifers

Mr. Ashley reiterated Chairman Richardson’s invitation for all members to attend the joint meeting as it would be a good opportunity to gather additional information and to learn about the results of the resource assessment. A sign-up sheet was passed out to the members (see attached).

9) Preparation of Draft Plan/Table of Contents

Ted Hendrickx of EPD spoke briefly to the council regarding the layout and principal elements of the Regional Water Development and Conservation Plan (Regional Plan) and its table of contents (TOC) and asked the council to provide input on what they would like to see in the draft plan. He stated that the Regional Plan is to be completed in 2011 will serve to guide funding decision by GEFA and permitting decision by EPD. The planning contractors will be preparing an interim product at the end of this year that will include background sections of this draft plan for review by the council and EPD. EPD will provide a draft TOC in a few weeks for the council's comment and feedback. Ted discussed potentially forming a small sub-committee to work on review of draft plan TOC between now and January 2010.

10) Local Elected Officials Comments

There were no comments by local elected officials.

11) Public Comment

There were no public comments.

12) Meeting Wrap-up

Mrs. Weber distributed the calendars for March 2010 to the Council to aid in scheduling the next meeting. EPD's goal is to have the next meeting between March 15 and 26. She also asked members to nominate host site for next meeting and provide contact site and name on the calendar. The host site needs to be large enough to accommodate close to 50 people. She distributed the evaluation forms for Council Meeting #4.

Ms. Su announced that the last two pages of the Municipal and Industrial Water Demand Forecast Update handout include a questionnaire on wholesale and large industrial water customers and a regional input form from EPD for water providers. The council members can pass along the forms to their local water departments if they have not already provided feedback to EPD or to the planning contractors. She mentioned that JJG plans to follow up with providers who have not provided feedback. Chairman Richardson also asked council members to provide him with feedbacks or information.

Additional Council Questions/Comments

Question: Council member Van Whaler is no longer with Butts County, will he stay on?

Answer: Yes, Butts County has asked him to remain their representative on this council.

Question: What happens when people don't come to meetings?

Answer: We have contacted those individuals prior to each meeting. [Note from Planning Contractor: We keep an attendance record for all meetings. We plan to send a 24-hour reminder in addition to the meeting notices. The Chairman is informed of the attendance and has agreed to contact members who have missed more than two meetings. There are only two members who have missed two or more meetings from this council.]

Comment: It doesn't feel like we're accomplishing anything.

Chairman Richardson expressed his frustration as well, but encouraged the members to stay with the process. He stated that he had personally directed the Planning Contractor to contact all major water providers so we can get more feedback and better data for the plan.

Question: Is there a draft water plan already written? The Metro Plan? Can we review the Metro Plan to see what we like and don't like about it?

Answer: There is a plan for the Metro North Georgia Water Planning District, but there is not a plan for the planning regions. This is what the regional council is being asked to work on. EPD is working on a template/style guide. The Metro Plan is public information and is available on its website - <http://www.northgeorgiawater.com/> The council members can review to see if they like the layout and content.

Question: All of this effort was under the direction of Dr. Couch. Now that we are under a new director, are we under the same direction?

Answer: Yes, we are still on the path. Director Barnes fully supports the work of the regional water councils and the implementation of State Water Plan. His memo to the council is available on- <http://www.georgiawaterplanning.org/documents/DirectorBarnesMemotoRegionalWaterPlanningCouncils11.9.09.pdf>

Question: What's going on with Task Force, is our council not acting fast enough?

Answer: We are not on same schedule as the Task Force. The Task Force's focus is to fill the water supply gap created by the Judge's ruling if the ruling holds. It will have impacts on the regional water councils indirectly. Some of Gwinnett County's wastewater discharge ends up in the Middle Ocmulgee Basin and we don't know what the impact is yet.

Meeting adjourned at 2:45 PM.

13) Summary of Action Items

- PC to update PIP to reflect results of the meeting
- PC to prepare an executive summary of Middle Ocmulgee Council Meeting to media
- PC to send media list to council members and revise based on feedbacks

Attachments

- **Joint Meeting Sign-up Results**

Meeting Attendees

Council Members in attendance

Russ Adams
Tony Bass
John Bembry
Jason Briley
Blair Cleveland
Ben Copeland Jr.
Keith Dalton
Jerry Davis
Robert Dickey
Richard Haddock
Jim Ham
Bobby Hamby
Charlie Harris

Paul Leath
Larry McSwain
Hal Newberry
Harvey Norris
Eva Persons
Barry Peters
Robert Ray
Elmo Richardson
Tony Rojas
Terry Scarborough
William Whitten
Thomas Whicker

Council Members not in attendance

Jay Matthews
William Lazenby

Van Whaler

Staff in attendance

Kevin Farrell (EPD)
Ted Hendrickx (EPD)
David Ashley (JJG)

Tai-Yi Su (JJG)
Charlotte Weber (JJG)
Clay Zielinski (JJG)

Guest Speakers in attendance

Tanya Blalock (Georgia Power)
Dr. Jim Kennedy (EPD)
Dr. Wei Zeng (EPD)

Partnering Agencies and General Public

*Adriane Wood (Department of Community Affairs - DCA)
*Keegan Malone (Georgia Soil and Water Conservation Commission)
*Ted Will (GA Department of Natural Resources)
Skip Langley (Regional Representative for Senator Johnny Isakson)
Bill Stembridge (Regional Representative for Senator Saxby Chambliss)
Mark Wyzalek (Macon Water Authority)
Cliff Bowden (Georgia Farm Bureau)
Kenneth Sheets (Bibb County)
Bob Hargrove
Guy Pihers (Clayton County Water Authority)
Don McGough (Georgia Farm Bureau)
Brad Bohannon (Georgia EMC)

Mike Hopkins (Newton County Water and Sewer Authority)

Scott Thackson (Georgia Forestry Commission)

Bill Foley

*Indicates attendee represented a partnering agency

Middle Ocmulgee Regional Water Council Joint Meetings Sign-Up Sheet

Please check the box(es) for each meeting that you plan to attend:

Date:		January 15, 2010	January 22, 2010
Location:		Americus	Macon Augusta
River Basins:		Flint & Ochlockonee	Altamah & Ocmulgee
Aquifers:		Dougherty Plain & Claiborne	Eastern Coastal Plain Cretaceous, Piedmont & Upper Floridan
1.	Russel Adams		✓
2.	Tony Bass		✓
3.	John Bembry	✓	✓
4.	Blair Cleveland		✓
5.	Ben Copeland Jr	✓	✓
6.	Keith Dalton		
7.	Jerry D. Davis		✓
8.	Robert L Dickey	✓	
9.	Richard Haddock		✓
10.	Jim Ham	✓	✓
11.	Bobby Hamby		✓
12.	Charles F. Harris		
13.	William Lazenby		
14.	Paul Leath	✓	✓
15.	Jay Matthews		
16.	Lawrence McSwain		✓
17.	Hal Newberry		✓
18.	Harvey Norris		✓
19.	Eva Persons		✓
20.	Barry Peters	✓	✓
21.	Robert Ray		
22.	Elmo Richardson	✓	✓
23.	Tony Rojas		✓
24.	Terry M. Scarborough		
25.	Van Whaler		
26.	William Whitten		✓
27.	Thomas Wicker		✓
28.	David Knight		
29.	Ross Tolleson		
30.	Jason Briley		