Georgia Department of Natural Resources

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April 19, 2010

M E M O R A N D U M

TO: Council Members

FROM: David Ashley, JJG

SUBJECT: CM#5 Summary
Middle Ocmulgee Water Planning Council Meeting

CC: Kevin Farrell, EPD
Ted Hendrickx, EPD
Charlotte Weber, JJG
Tai-Yi Su, JJG

Georgia Comprehensive Statewide Water Management Plan
Regional Water Planning

CM#5 Meeting Summary

Meeting Date: March 22, 2010
Location: Forsyth, Georgia

1) Welcome and Introduction

Ben Copeland, co-chair of the Middle Ocmulgee Council welcomed the group. Chairman Elmo Richardson was unable to attend.

Steve Grambling, Executive Vice President and Chief Operating Officer of Gresco Utility Supply, provided a welcome and history of the company as an electric utility distributor.

David Ashley welcomed the group. He shared with the group that the Council Joint Meeting in Macon had good representation from the Middle Ocmulgee Council; there were a number of people there and they identified themselves. The Joint Meeting provided information on the status of the resource assessments. David asked if anyone wanted to provide comments on the meetings. Nobody chose to comment at this time.

David explained that Mr. Richardson was active in attending the Governor's Task Force. HB 1094/SB

370 is the Governor's bill that will incorporate water conservation and water auditing into law. It passed both houses in March and is awaiting signature by the Governor. It will institutionalize some conservation and water loss activities by the utilities in the state.

River Basin Protection Act status?

2) Public Involvement Plan (PIP)

Charlotte Weber provided an overview of the public involvement plan in hopes to receive approval on this draft of the PIP. Charlotte reminded the Council that the PIP can be amended or changed later if they request it.

Council member Jay Mathews provided an overview of the speakers bureau presentation for the Barnesville Rotary Club where David spoke. He added that the Rotary Club would appreciate an update in a year when there is more detailed information available.

Charlotte encouraged members to provide presentations at meetings for groups they are involved with. The Planning Contractor (PC) can provide presentations and the tools for any members interested in giving presentations at local meetings.

Ben Copeland requested a motion to approve the PIP. Thomas Wicker made the motion. Robert Dickey seconded. All approved, none opposed.

Charlotte asked if Council members are still interested in a post-meeting press release. A public release to the media following the meeting was requested by Larry McSwain. It appears that this is consensus from the group. EPD has created an information booklet for those interested in speaking to their groups. The brochures were distributed to share to local groups.

3) Municipal Water and Wastewater Forecasts

David mentioned that the Office of Planning and Budget (OPB) has completed the population forecasts. The "official" population projections are only through 2030, but projections through 2050 were provided by OPB to EPD for water planning purposes. A handout of the Middle Ocmulgee population forecast through 2050 was distributed. David requested that formal comments on the population forecasts be directed to OPB. Most of the comments received since the initial release of the population projections in June 2009 were addressed in this revised forecast.

The population of the Middle Ocmulgee Region is projected to almost double by 2050. The three largest counties; Bibb, Houston, and Newton are expected to receive most of this growth. The growth trend mirrors that for the State.

David introduced Tai-Yi Su to present the draft results of the municipal water and wastewater forecasts.

There are four different categories of water and wastewater forecasts: municipal, industrial, agricultural, and energy. The municipal water forecasts are for residential, commercial and light industrial water use. Demands from heavy water-using industries (including those served by municipalities) are forecasted separately because industrial growth does not always trend with population.

These forecasts are baseline water and wastewater forecasts which reflect only current management practices; future water management practices will be added by the Council at a later time. The municipal forecasts are based on per capita water demands multiplied by population, adding any region-specific

factors. Tai-Yi provided an overview of the methodology and the outreach PC had done to solicit input, including questionnaire sent out via e-mail and follow-up e-mail and phone call during the period of October and December 2009. For all of the utilities with permits in the region, approximately 58% responded to the requests for information made on behalf of the Council (29 entities responded with 15 entities providing recommendations that guided these forecasts).

The per capita water use rate was developed using both water use reported by USGS and reported withdrawals from EPD's 2005 permit database. The inconsistencies between the EPD database and USGS report were very nominal.

In addition to the per capita water use rate from public water supply, the forecasts include the self-supplied per capita water use rate. The self-supply per capita water use rate was assumed to be 75 gallons per capita per day (gpcd), unless a county provided a different number that was more reflective of their community. Most of the public supply in the Middle Ocmulgee region comes from surface water, although several counties rely on groundwater for their supply.

Question: How do you account for the per capita differences between the rural and urban areas? Is it commercial uses?
Answer: Some of the difference is commercial and industrial use. For example, some industrial water usage may be captured in the per capita rate if the users do not use more than the 100,000 gallons per day (gpd) to require a water withdrawal permit; if the utilities' accounting system does not have separate categories to track large users, the usage also is captured in the per capita rate. The quality of data provided by the utilities also affects the calculation; for example, Bibb County's initial per capita rate was calculated at 196 gpcd, but after discussions with Macon Water Authority's staff, this rate was lowered to 177 gpcd after accounting for water wholesale to other communities. If this information is not provided to the PC, it is captured in the per capita rate.

Question: How does this per capita use track with other regions?
Answer: Nationally, a per capita water use rate of approximately 100 to 150 gpcd is considered typical for municipal (residential and commercial) per capita water use. However, it is important to understand the basis when comparing per capita usage (it may be the gross per capita, residential per capita, and sometimes single-family per capita.). For example, the per capita numbers presented here are "gross" per capita and are typically higher than what was reported to EPD by utilities during the 2007 and 2008 droughts. The numbers reported to EPD were only residential usage and did not include non-revenue water (NRW), wholesale or large industrial use. Some of per capita numbers in the region are slightly higher than the Metro Water District's (total per capita of 151 gpcd). The Metro North Georgia Water Planning District has more commercial usage, less industrial usage, and has implemented an aggressive water conservation program over the last decade.

Tai-Yi also cautioned that these per capita water use rates are for the base year (2005) and cannot be used to obtain the 2050 demand by multiplying it by the 2050 population. A formula was developed for calculating a time-series future per capita rate for the 40-year planning period that will include the natural water savings resulted from replacement of older fixtures with more efficient fixtures and low flow fixtures in new construction, based on the current State plumbing code. The reduction in the per capita rate over the 40-year planning period ranges from 2 gpcd for to 8 gpcd

Question: A large part of the Council's function is planning for conservation. With so many variations in local reporting of water usage, how will the Council be able to measure the benefits of conservation throughout the region?

Answer: This is a challenge. The new legislation that is awaiting the Governor's signature will require water audits from the local water providers. These audits will likely be reviewed by EPD and will form the baseline information for tracking future progress. In terms of the Regional Water Plan, the Council may consider certain "baseline" conservation measures such as leak detection, audits and plumbing efficiencies included in this bill.

Question: If you wanted to narrow this information to residential customers, how many utilities have the data to support looking just at residential customer per capita?
Answer: This capability depends on the billing system, the availability of trained staff knowledgeable on the billing system, and the rate structure. Many do not have the capability to separate the commercial or small industrial customers from the other customers. A council member commented that if the rate structure does not have different rates tied to customer categories, this information may not be input into the billing system.

Question: Can you explain the factors that account for the difference between the initial and the revised forecasts? For example, there is a big difference between the per capita rates for Pulaski County.
Answer: Believe that it has to do with the population. We worked with the planner from the Hawkinsville-Pulaski Archway Partnership (Mary Beth Bass) to revise the initial per capita rate. [*Note from PC: the per capita adjustments were based on population adjustment and additionally industrial water use quantities were subtracted from City of Hawkinsville's public water supply.]*

David Ashley emphasized that these numbers are in draft form and that comments from the utilities will be requested and welcomed. The Council members may want to encourage their utilities to provide comments. The USGS numbers were pretty good, especially for counties where there were only a small number of water providers without wholesale water customers (either selling or buying). In some instances, the changes in initial and revised forecasts reflect that wholesale or large industrial water use being removed from the public water supply quantity. In other instances, better information on the population served by the municipality changed the per capita information. For example, Butts County WSA provided better information on its population served, and that changed their per capita usage.

Question: Was a similar assessment to this one done prior to the plumbing code changes? Did the plumbing code change make a difference?
Answer: The plumbing code changes took effect in 1994. In other regions there is data showing that the plumbing code change makes a difference. In some of the rural areas of the region, the data is not available to support this type of analysis.

Municipal Wastewater Flow Forecasts
Tai-Yi gave a quick overview of forecast methodology and emphasized the definition of municipal (including only residential, commercial and light industrial wastewater) and industrial wastewater generation (for large water-using industries).

The quantity of municipal wastewater generation is based on an estimated indoor water use percentage for each county. The average indoor water usage was based on an EPD report (Georgia Water Use and Conservation Profiles, 2008) that includes a water use profile for eight communities in Georgia. The eight communities had good billing data and accounting systems that facilitated the analysis of use by category. This report was developed to support the Water Conservation Implementation Plan (WCIP). The communities in the Middle Ocmulgee Region were compared to the eight communities in this report to find a "similar" water use pattern. The comparison looked at population, age of housing, and land use.

Question: The EPD study includes data for Bibb County. The report's indoor water use is only for single-family residential. How was this indoor water use percentage applied to multi-family dwellings and commercial properties?
Answer: We are using it as the overall wastewater return rate for the County. In general, the per capita water use is lower for multi-family dwellings. If any of the communities in the region have a significant change toward more urban land use, the overall outdoor water use percentage may drop in association with the urbanization. PC would like your feedback on this assumption for each county.

For these initial draft forecasts, the assumption is that the percent indoor/outdoor use stays constant over the planning period. This may change for some of the counties over the planning horizon based on input from Council members and the utilities.

Comment: If the state continues with the watering restrictions, the outdoor water use may be lower.
Answer: The baseline water demand forecasts assume the continuation of current practices (in this case, current conservation efforts and outdoor watering restrictions). Additional water conservation efforts can be added to the baseline water forecasts as future management practices.

Question: Are the indoor water use percentages and the Infiltration and Inflow (I/I) percentages supposed to add to 100%?
Answer: No. These are different percentages applied in the formula and not additive.

Question: How was the I/I calculated for the region?
Answer: The 20% I/I is typical assumptions for a well-maintained system. Newer systems may have a lower level of I/I but over the 40-year planning horizon even the newer systems will age and may have increasing levels of I/I. The I/I values did not drop below 20% for planning purposes.

Comment: Weather patterns will impact the I/I. Is it accounted for?
Answer: Yes. The value we use is an average I/I for wastewater generation on an annual average daily basis. Maximum monthly factors are included in the resource assessment models to take seasonal variations into account.

Question: A large percentage of the population in this region is served by septic systems. Does the 20% I/I factor need to be lowered to account for the fact that this wastewater does not have I/I as it doesn't enter the collection system?
Answer: Yes. The I/I should only be applied to the portion of the wastewater that enters the municipal wastewater collection system and not applied to the septic system portion.

Comment: Looking at the wastewater demands, there is concern that the 2010 demands for Bibb County are lower than the sum of the two Macon Water Authority plants.
Answer: The municipal wastewater forecasts only included the residential and commercial wastewater generation. They do not include the wastewater discharges from large industries and that is potentially the difference in quantity.

Question: Have these wastewater flow projections been comparable to the State's DMR reports? Has a cross check been done by comparing the base year wastewater quantities to what was in the surface water quality resource assessment models?
Answer: It has been done for the water demand forecasts, but not yet for the wastewater forecasts. This comparison is easier to make on the water demand. The USGS water use data has been cross-checked with EPD's reported withdrawals. However, the municipal wastewater generation quantity estimates are based on indoor water use and do not start with the DMR reports. It does not make a direct comparison if

the municipal facility also receives wastewater from major industrial customers. We hope to conduct a cross-check, but it is trickier. For example, an industry might have its own water withdrawal permit but discharges into a public wastewater treatment facility. These numbers will be refined based on council feedback.

The base year (2005) septic system percentage was estimated based on the number of septic systems reported in 1990 census data and the number of new septic installations between 2000 and 2007. In 2000, the census stopped collecting data on the number of septic systems. EPD collected information on the number of septic systems installed between 2000 and 2007 by county for use in forecasts. Therefore, the percent of septic systems in 2005 (base year) is an interpretation of these two sets of data. Council members are urged to provide better local data, as available. Many local health departments track numbers of septic systems, but not all.

Question: The only county with a change in septic systems over the planning horizon is Newton County. Why?
Answer: Newton County provided information on a planned wastewater treatment plant expansion that will decrease the future population served by septic systems. It is important for Council members to provide county-specific information like this if it is available.

Question: As Houston County urbanizes, it is likely that the percentage of population on septic systems will decline. How do you account for this?
Answer: Agreed that it is likely to change. Feedback from the Council and the counties is needed to identify future percentage wastewater treated by septic systems. Instead of assigning an arbitrary number to these preliminary draft forecasts, we (the PC) hope to work with the Council and counties to obtain future estimates agreed by the counties.

Comment from Co-Chair Mr. Copeland: Council Chair Elmo Richardson recognizes that these numbers are still draft and will identify a subcommittee to review these forecasts and provide comments and recommendations to the group. Please continue to ask questions and make comments, but the goal is to use a subcommittee to refine these numbers.

Tai-Yi continued to discuss wastewater discharge estimates. The flows treated in centralized wastewater treatment systems are either discharged into streams (point sources) or are applied in land application sites. For the region, most of the treated wastewater is discharged to rivers and streams. Tai-Yi mentioned that because the base of the forecasts was EPD's 2005 permit data base, it is important to capture the systems that went on-line between 2005 and now. EPD has recently provided information on systems that went into operation after 2005. It is also important to know if there are any planned land application systems or treatment plants in the future, so this information can be captured in the forecasts. If there is a gap in water quantity, returning more wastewater to the river may be a management practice that can be considered by the Council to address that gap.

Based on the work of the subcommittee, the revised forecasts are planned for the next Council meeting. The subcommittee will likely use conference calls to discuss data needs and adjustments.

David stressed that for the initial baseline forecasts, EPD asked all planning contractors to assume the same (as current) distribution for service areas and the same ratio of centralized/septic systems. The Council will need to assist in determining the future percentages for individual counties.

Comment: Director Barnes met with Elmo Richardson and Ben Copeland recently. Director Barnes is aware that EPD is presenting the best available information knowing that the Council members will work with EPD to polish these numbers so that they are even better.

4) Industrial Water and Wastewater Forecasts

Because of the sensitivity in the information regarding industrial facility locations, industrial forecasts were provided on a regional basis and not by county. EPD's permit database provided information on the source of withdrawals and discharges. Additional information was requested from the water suppliers to provide quantities for large industrial water use within their service areas so the forecasts can be separated from the municipal forecasts.

Industrial forecasts were done for 13 major water-using industrial categories. In the Middle Ocmulgee Region, the mining, including "stone and clay" (Kaolin), and "pulp and paper" industries are the two biggest water users. The industrial water demand forecast is based on 2005 water use and the employment growth trends forecasted by OPB. If industry specific information was provided to show that water use was more closely related to production versus employment forecasts, adjustments were made as appropriate. The mining industry representatives are still discussing forecasts with EPD.

If an industry is predicted to have declining employment, the water use for this category will be held constant throughout the planning period. We assume that the existing capacity will be used to attract new industries.

The water demands were separated into surface water and groundwater sources. The planning assumption is that industries will continue to use the same supply source through 2050, groundwater or surface water. Guidance is requested if the split between water sources will change in the future.

Industrial Wastewater Forecasts

EPD provided a ratio of estimated wastewater return by industry for use in wastewater forecasting. This ratio was based on researched industry average return rates. Typically, the Kaolin industry captures stormwater and blends it with raw water for their process; consequently they return considerably more treated wastewater than they withdraw. The stone and clay (Kaolin) industries and paper industries also have the largest future wastewater flow projections.

Question: Using the existing split between surface water and groundwater sources to forecast future water demands doesn't take into consideration the quality of the source and distribution system. Industries will locate where there is water available and a distribution system to serve their needs. Routinely industries talk to Macon Water Authority because there is capacity and a distribution system. Need to make sure the forecasts account for industries coming to Bibb County.
Answer: The industrial forecasts are based on industrial employment trends. If one industry comes into the area, it may change these forecasts quickly. The Council can consider reserving additional capacity for industry that may come in the future.

Comment: Growth will occur where water is readily available and not where water is unavailable.
Comment: Agriculture will be similar.
Comment (PC): The sub-committee that Mr. Richardson is establishing may look at the quantity of water reserved for future industrial growth. The Council also can help identify future location for industrial water demand.

Question: Does anyone have a background in the Kaolin industry to know whether the doubling of water use is reasonable?

Answer: The information is based on a meeting with four Kaolin and mining industry representatives. They provided projections through 2040 based on current permits and knowledge of the member activities. They accepted the water forecasts but wanted to study the wastewater forecasts further. The industry representatives are working on a more reflective wastewater percentage. The wastewater forecasts were based on industry standards, which can vary quite a bit.

Question: Is the Kaolin industry already permitted for double their existing water use?
Answer: Yes. The projected demand is close to their current total permitted quantity from all permit holders.

Input from the Council is needed on the baseline projections in terms of where the industrial demands should be located within the region. Without information from the Council, the increase in water and wastewater demands will be assigned based on the location of existing industries. Information on any new industries coming to your county will be helpful.

Comment: Industries will be looking for water. The Middle Ocmulgee has a good supply of groundwater. Industries will be looking for water and the Middle Ocmulgee should plan for new industries.
Comment: A water distribution system sufficient to provide fire protection is also very important for supplying industrial users.
Comment (PC): There are a number of assumptions in the demand forecasts that will be reviewed with the sub-committee.

Question: This information does not show any use for coal-fired power generating plants, but there are several in the region.
Answer: The energy water demand is forecasted separately and will be presented next.

Question: If the Kaolin mines pump water to get it out of the way to get to the clay, is that considered water use or just a transfer of water?
Answer: It is considered water use.

4) Agricultural and Energy Forecast Updates

Irrigation demands are complete through 2050. The forecasts include results for dry, medium, and wet years. Dr. Hook's data by county is available on the NESPAL website. EPD is still working with the livestock and green industry to complete their water demands. These industries use quite a bit of water cumulatively, but are not big enough to require an individual permit. UGA and EPD are working with these industry representatives to develop a snapshot of current water use. Similarly, EPD is working with the golf course association on their water usage.

The demands for livestock water use are a snapshot of the 2005 usage. Future livestock water use will not be available for this round of planning. EPD hopes to collect better information by the next round of planning for livestock water use. The green industry is working on forecasts through 2050.

Question: The Natural Resources Conservation Services (NRCS) is working to keep livestock out of the stream for water quality reasons; but then water use increases as they require wells or withdrawals to water the livestock.
Answer: There are both water quantity and quality implications that are important.

Energy

Water forecasts for energy production are complicated. EPD is working with the energy commission on future energy projections. The demands through 2017 are complete, but forecasting demands from 2017 to 2050 is a tougher challenge. The water needs depend on the future blend of energy sources; hydropower versus coal versus nuclear. Water needs also depend on the cooling method used.

Comment: Georgia Power is involved in this process along with MEAG and others.

Comment from PC: The presentation by Tonya Blalock, from Georgia Power last time was very helpful.

Question: Oglethorpe Power is considering a new plant in the region, what is their anticipated water use?
Answer: Approximately 5 to 8 mgd.

Question: Will this water use be groundwater or surface water?
Answer: Surface water.

Comment: Thomas Wicker reminded the group that from Tonya's presentation, 93% of what Georgia Power withdraws is returned. The other 7% is evaporated (consumptive loss from cooling tower).

Comment from EPD: The next step is to receive feedback from the Council. Generally, there are a few initiatives to continue gathering information from the local governments in the region. EPD is also working with the Regional Commissions to look at Comprehensive Plans and actions that might be useful to the Regional Water Plans. EPD is also working with the Carl Vinson Institute on improving the two-way flow of information with local governments and elected officials.

Comment from PC: The population information to support the forecasts arrived very late, so it was quite an effort to pull information together for this meeting. These forecasts are offered as a draft and a starting point for working with the Council to adjust and finalize.

Comment: There was a request that the Council members get copied on correspondence to the utilities and local governments so that Council members can encourage prompt and complete responses.

5) Overview of Resource Assessments

David provided a brief overview of the information presented at the joint meetings on the resource assessments related to the Middle Ocmulgee Region.

Question: Macon is a basic node. What does that mean?
Answer: The basic nodes reflect areas where long-term flow records are available. The Surface Water Availability assessments are based on sub-basin or planning units above planning nodes. Unimpaired flows were developed for the Lake Jackson and Lumber City planning nodes.

Question: What were the flows downstream of Lake Jackson used in the model?
Answer: The model assumes that Lake Jackson minimum discharges are 200 cfs based on Georgia Power's existing operations. *[Correction: The FERC license minimum flow requirement is for 400 cfs or inflow, whichever is less.]*

Question: During the drought, they released 300+ cfs. Did the model plan for Georgia Power to only make the minimum release all of the time?

Answer: The model is based on the history of operations over the period of record. The FERC license only requires the 200 cfs discharge. *[Correction: The FERC license minimum flow requirement is for 400 cfs or inflow, whichever is less. In period of drought, the minimum flow release has been below 400 cfs.]*

Comment: This will mean a big difference to the basin. The model should also show what happens if Georgia Power only makes the minimum release of 200 cfs over the period of record. *[Correction: The FERC license minimum flow requirement is for 400 cfs or inflow, whichever is less. In period of drought, the minimum flow release has been below 400 cfs.]*

Question: Currently, there are not additional flows available in the river. Additional withdrawals will require new reservoirs. What is the buffer in the model?
Answer: Without the future resource assessments, the future surplus and buffer are unknown. The baseline resource models look at unimpaired flow plus existing withdrawals and discharges. These are strictly existing conditions. Over the next several months, the Council will help refine the future demand forecast and select water management practices. This information will be the basis for the future resource assessments.

Question: The baseline resource assessments reflect current conditions and not forecasted future?
Answer: Correct. The baseline assessments reflect 2007 data.

Question: Monroe County has two fault lines running though the county. Isn't it safe to assume that there is groundwater available at the earthquake fault lines?
Answer: That sounds reasonable, but the resource assessments don't provide that information.

Comment: There is part of the Ocmulgee where you can see the fault line.

Answer: Crystalline rock aquifer and the fractures are very complex and difficult to understand. There are companies that look at geological signatures to find high yielding wells. Until they do the investigations, it is difficult to know.

Comment: Previously, the Department of Energy considered a nuclear disposal site in Zebulon. Eva talked to well drillers and found information on the depth and the production of local wells. This information encouraged the Department of Energy to look elsewhere because there was too much groundwater flow.

Question: Are there any general comments that can be made looking at the forecasts and permit values?
Answer: There are no generalized comments yet. The only note is that the groundwater forecasts are presented in annual average use and Dr. Hook's results show that there is very little water use in the winter months and lots of use in the summer months. The (agricultural) permits are issued at nameplate capacities and not in annual average. There could be large differences between the permitted values and the actual usage.

Question: What causes the low oxygen levels in blackwater streams; gradient, or discharges or something else?
Answer: Blackwater streams in the coastal plain have naturally low dissolved oxygen that is associated with their gradient and other conditions.

Question: Are the Councils supposed to recommend actions to increase the oxygen levels?

Answer: EPD is reassessing the dissolved oxygen levels in Blackwater streams. EPA has insisted that the standards should not be changed. EPD is working on the justification with EPA to address these naturally low dissolved oxygen levels.

Question: If a section of creek is naturally low in DO, would you change something to address the low level?
Answer: Not unless it is lower than the natural low.

Question: The models were calibrated based on field results, but were the results field verified.
Answer: There was calibration but not verification.

Question: Blackwater streams have naturally low DO as a result of natural organic matter that decays and suppresses DO levels. Calculations for permits must consider the assimilative capacity. In Alligator Creek, because it is blackwater, the discharge permits have been calculated based on normal streams and not on blackwater. So these streams are not necessarily polluted.
Answer: Correct. These streams are not necessarily polluted.

Question: Dr. Liz Booth showed in some blackwater streams that the wastewater discharges improved water quality.
Answer: That can happen.

Question: The water quality loading is presented in pounds/acre/year. Just because the loadings are higher in wet years, does that mean that water quality is worse?
Answer: There will be more total phosphorus. While the concentration would be lower, the poundage is higher. There will potentially be more impacts to the lake (more algae blooms) even though the instream concentration is lower.

Question: How will the resource assessments be released for public comment?
Answer: They will be posted on the website. There will be a comment collection tool on the website for comments.

6) Management Practices

David gave an overview of management practices selection process. The process of management practice selection is iterative. At the next several meetings, there will be fewer presentations of results and increased discussions led by the Council and its subcommittees.

Question: If the permitted demands are shown on an annual average daily basis, they don't reflect the peaks.
Answer: The resource assessment models do take into consideration the peaks that happen during various times of the year.

Question: Is pollutant trading being done in Georgia now?
Answer: There are specific instances where that is happening

Comment from EPD: The models are getting better, so permits can now be based on the entire watershed. Permits in the future will be based on these models.

Question: Looking at the population projection for water demands - for example, Houston County - they are showing a high percentage of septic use. Houston County does not have a wastewater treatment plant

to accept the pumped septage from the County. If the whole County will be developed on septic, they need a plan for treating this waste. Maybe they need to develop decentralized treatment systems.
Answer: This is a challenge in rapidly developing areas. As the density increases it forces sanitary sewer. Some counties in the region are not quite dense enough for sanitary sewer.

Question: Some of these counties will not install sewer because it is unaffordable. Decentralized systems might make it possible to extend the centralized system later.
Answer: That is a good example of management practices that might be considered by the Council.

Question: You can't do water planning without doing some growth planning. In communities that are less developed are there benefits in the models for conservation easements and mitigation bank areas? These communities should get credit for keeping water quality high.
Answer: The future land use models and future resource assessments will show that water quality doesn't decline in areas with protected areas; whereas water quality will decline in urbanizing areas.

Comment (Adriane Wood, DCA): There is a strong connection between land use and water quality. Some counties understand the trade off and are installing dry sewers in their subdivisions. The planning effort exists, even if the sewer is not installed later.

Comment: Newton County has a committee working together on a 2050 vision. The plan is in place to put people into compact community nodes with decentralized systems and then return treated wastewater to the stream.

Comment (DCA): Newton is serious with their planning.

Comment: Local governments often fail to cover the true costs of development including water, stormwater, and wastewater infrastructure. Maybe we need to identify the stakeholders and have this discussion with the local officials (especially those that haven't been in office for awhile). It may help educate them and raise the level of the dialogue.

Comment: There are some septic haulers that pump the sewage and then dump the waste in the stream in the middle of the night.

Comment: This sounds like an action item for the Council to raise awareness on these water issues. This is a perfect topic for the Jones County Plan group.

Question: What is the timeline for developing management practices? Is there a drop dead date?
Answer: The selection of management practices will begin as soon as the group can get organized. The drop dead date is the end of the year for completion of the draft water development and conservation plan, but it may take multiple iterations with the Council (subcommittee) and the resource assessment modeling to get a set of management practices that can be approved by EPD. The Council needs to start compiling the list of management practices soon.

Question: Isn't the legislature already passing legislation that includes some of the water management practices the Council should be considering?
Answer: The legislation does set some nominal standards related to water savings, but there is still more work to be done by the Council.

Question: Can the Council consider or recommend a management practice that requires that rates cover the full costs of service, including depreciation, etc.?
Answer: Yes.

Comment: The resource assessments and draft forecasts show that there are a small number of gaps; therefore there will be time to discuss the issues brought up today.

Comment: Water quality may be the driver for this Council. Therefore, septic systems and return flows may be a bigger focus of the group.

Comment: Because the draft plan is due by the end of the year, a number of iterations with data and more input will be needed from the council than quarterly meetings. That was the foundation of the sub-committee idea.

7) Next Steps and Council Sub-committees

The Council members support the concept of pulling together subcommittees to research and move this discussion forward.

Question: What topics will the subcommittee consider?
Answer: First, the subcommittee will review the forecasts and ensure that the comments get through the Council to EPD to get the forecasts revised. A second mission of the subcommittee may focus on developing the Council's comments on resource synopsis to EPD.

Comment: The planning contractors will present a list of potential water management practices; the council and/or subcommittee will need to streamline the longer list to a smaller number of practices that are more manageable and appropriate for the region.

Comment: There needs to be a good mix of Council members on each subcommittee so that the group is comfortable with the recommendations to the group.

Co-Chair Copeland asked for volunteers for the subcommittee. Members who agreed to serve on the subcommittee include: Russell Adams, Tony Bass, John Bembry, Tony Rojas, and Thomas Wicker. Subsequent to the meeting, Chairman Richardson requested that Mike Hopkins and Marianne Golmitz also join the subcommittee, and both have graciously agreed to serve.

8) Elected Official and Public Comments

There were no public comments.

9) Wrap Up/ Next Meeting

Evaluations and calendars for Meeting #6 were passed out.

Meeting adjourned at 2:25 PM.

10) Summary of Action Items

- PC to prepare press release for media.

- PC to follow up with Chair on subcommittee formation and actions

Meeting Attendees

Council Members in attendance

Russ Adams
Tony Bass
John Bembry
Jason Briley
Ben Copeland Jr.
Jerry Davis
Robert Dickey
Richard Haddock
Bobby Hamby
Charlie Harris
Paul Leath
Jay Matthews
Larry McSwain
Hal Newberry
Harvey Norris
Eva Persons
Barry Peters
Robert Ray
Tony Rojas
William Whitten
Thomas Wicker

Council Members not in attendance

Blair Cleveland
Keith Dalton
Jim Ham
William Lazenby
Elmo Richardson
Terry Scarborough
Van Whaler

Staff in attendance

Kevin Farrell (EPD)
Ted Hendrickx (EPD)
David Ashley (Jacobs JJG)
Tai-Yi Su (Jacobs JJG)
Charlotte Weber (Jacobs JJG)
Kim Shorter (AECOM)

Partnering Agencies and General Public
*Adriane Wood (Department of Community Affairs - DCA)
*Keegan Malone (Georgia Soil and Water Conservation Commission)
*Jimmy Evans (Georgia DNR Wildlife Resources)
*Kristi Harpst (Middle Georgia Regional Commission)
*Karol Kelly (UGA Cooperative Extension – Bibb County)
Bill Stembridge (Regional Representative for Senator Saxby Chambliss)
Mark Wyzalek (Macon Water Authority)
Kenneth Sheets (Bibb County)
Don McGough (Georgia Farm Bureau)
Mike Hopkins (Newton County Water and Sewer Authority)
Marianne Golmitz (City of Warner Robins)
Greg Popham (City of Forsyth)
Joel Sholtes (Brown and Caldwell)
Tye Howard (Mayor, City of Forsyth)
Hollie Hilliard (Oglethorpe Power)
Mary Beth Bass (Hawkinsville-Pulaski Archway Partnership)
Marcie Seleb (Butts County WSA)

**Indicates attendee represented a partnering agency*