

The logo features a light blue outline of the state of Georgia on the left. To its right, the text "Georgia's" is in a smaller blue font, and "State Water Plan" is in a larger, bold blue font. A horizontal blue brushstroke underline extends from the text across the page.

# Georgia's State Water Plan

## **Municipal Water and Wastewater Forecast Council Meeting 4 Pre-Meeting Information**

As provided in the regional planning guidance, forecasts of future water and wastewater demand are being developed for each water planning region for four major water use categories; municipal, industrial, agricultural, and energy (thermoelectric power). The sum of the forecast for each water use category yields the total demand projection for the water planning region. These forecasts are a vital input to the State Water Planning process, because they determine the future demands against which resources will be compared and management practices will be designed to meet.

The Coastal Georgia Regional Water Council has identified several persons to serve on an Ad Hoc group to provide input on the municipal water and wastewater forecasting methodologies. The group members for our Council are:

- Mike Melton
- Mark Smith
- Tony Sammons
- Bob Scanlon (City of Savannah)
- Bill Edwards (City of Hinesville)

The goal of this effort is to collect input from municipal water and wastewater experts to ensure that the preliminary forecasts reflect the best available relevant information and data. Interactions between representatives of the Planning Contractors, the Ad Hoc group, and EPD are also designed to build support and understanding for the forecasts being developed. This group has been tasked with providing input on region-specific water-use related factors (base year, transient populations, self supplied water users) and wastewater-related factors (return rate, septic tanks). On September 28<sup>th</sup> and October 2<sup>nd</sup> of this year, members of our Council's Ad Hoc group met with municipal water/wastewater Ad Hoc groups from other Councils to review data that have been gathered to date and discuss methodologies. Meeting summaries from the two Ad Hoc group meetings are attached to this document.

Two major elements of the municipal water and wastewater forecasts are: 1) projected population and 2) per capita water use. The Office of Planning & Budget has not completed the population projections, and completion is not anticipated in sufficient time to prepare preliminary municipal water and wastewater forecasts for the 4th round of Council meetings. Information on per capita water use will be discussed at Council Meeting 4.

In the weeks following Council Meeting 4, Ad Hoc group members representing our Council will have additional opportunities to review the status of forecasts and provide additional comments and suggestions. EPD will consider these comments and, working with the Council leadership, will continue developing forecasts for presentation at Council Meeting 5.

# **Georgia Comprehensive Statewide Water Management Plan Regional Water Planning**

## **Municipal Water and Wastewater Forecasting Meeting #1 Meeting Notes**

**Meeting Date:** September 28, 2009 10:00 AM  
**Location:** Columbus Water Works Service Center, Columbus  
1420 54<sup>th</sup> Street  
Columbus, GA 31907  
**Attendees:** See list

### **1) Introductions**

Nap Caldwell opened the meeting with introductions. Nap Caldwell introduced himself and Glen Behrend representing EPD. Planning Contractors working with EPD included Brian Skeens (CH2M Hill), David Ashley (JJG), Steve Simpson (B-V), Brian Keel (CDM), and Pam Burnett (AECOM). He thanked William Kent and the Columbus Water Works organization for providing the meeting facility.

Nap noted that the sign-in sheet will be used by EPD for sending meeting notes and information to the meeting attendees.

The focus of this meeting was to discuss the municipal water and wastewater demand forecasting methodology that will be used by the Regional Planning Councils. EPD wishes to obtain feedback from this group, as representatives from the municipal sector.

### **2) Water Planning Process**

Nap did a quick recap of the state water planning process with emphasis on the gap analysis (resource needs vs. resource capability) and management practices to meet future demands.

He began with an overview of the state water planning process, by describing the legislation that created 25-person regional water planning councils and set the process for developing regional Water Development and Conservation Plans. The plans will include strategies (current and long-term) for managing water resources in a sustainable way. The planning process involves estimating future demands in the region, evaluating current capability of water resources, and where demands exceed resource capabilities (known as a “gap”), selecting management to meet demands.

Forecasted water and wastewater demands are being developed for 4 modules: agricultural, industrial, thermoelectric, and municipal. These four modules will comprise the total for the region. Today’s meeting focused on municipal demands. The meeting attendees have specific knowledge and insights that EPD would like to incorporate in the forecasts.

Nap asked the committee to listen to a brief presentation about the municipal water and wastewater forecasting methodology, and provide feedback about the methodology and any specific local information that may be missing or needed.

### **3) Municipal Forecasting Methodology and Discussion**

Brian Skeens (CH2MHill) gave a 15 minute presentation about the municipal forecasting methodology. The presentation slides are attached for reference. This information has been presented to the planning councils.

Following Brian's presentation, Nap opened the floor for comments and questions.

1. The 1990 census may not be confidently relied upon for septic tank information because of the poor quality of the available information. For example, some communities have lost population and septic tanks may no longer be in use, much less any added. *(this is the type of specific local information that we are seeking)*
2. Given the importance of this planning and the long-term outlook addresses, the process seems rushed with not enough time to gather input. *(the work is driven by the legislated deadline of January 2011, and all interim steps back up from there. In addition to the opportunity to provide comments prior to the forecasts being produced, this group will be provided an opportunity to view the results prior to the Councils. There will also be a public comment process where the forecasts will be available on the website for review. )*
3. What will be the level of disaggregation of the forecasts? *(by County, and rolled up to the planning region. Forecasts of demands on particular aquifers and watersheds will also be provided.)*
4. Concerned that the projections will become the basis for allocations, and the process is rushing too quickly to be deliberate and thoughtful. *(the plans will be used to guide permitting but are not the basis for allocations)*
5. Are demands being compared to unimpeded flow of streams? *(depending upon the gaps and management strategies, councils can consider stream controls as a management strategy)*
6. Does "sustainable" mean that there is consideration for mussels and sturgeon? *(yes)*
7. Did the Metropolitan North Georgia Water Planning District use a similar forecasting methodology? *(yes)*
8. Concerned that the proliferation of stormwater retention/farm ponds could change the hydrology of surface and groundwater systems, and may not be captured in the resource models. *(good point, and will pass this along to the resource modeling team)*
9. Developing communities will likely experience an increase in per capita use rates. For developing areas like Carroll County, per capita use may increase as public water is provided vs. self supplied by wells. *(please pass along any data or reports that support this observation)*
10. In opposition to the comment above, another participant believes that per capita use has peaked, and the conservation will reduce use in the future. Rates and accurate metering will help to inform and reduce water use. *(again, let's look for reports that could support this observation)*
11. Water use in prisons due to indoor conservation may not decline as it is an element of prison safety/security. *(another excellent local specific that we need to know about)*

12. Utilities want to sell as much water as they can to cover sunken capital costs, and feel the tension to keep rates as low as possible. *(agreed, and understood)*
13. There is lost economic opportunity by constructing facility capacity, then restricting the ability to sell the water. But that doesn't mean that efficiency isn't needed in places. *(agree)*
14. Current information provided to EPD for other purposes (e.g. Carroll County 404 permit application data) should be used for the forecasting. *(please provide anything you think will help improve the forecasts)*
15. Need to assume that water and wastewater use parameters will change over time, with changes in conservation, costs, rates, and growth. *(good point)*
16. How was per capita use (by county) derived – what data was used? *(USGS data was used for county-level existing per capita use)*
17. What was decided about the comments received regarding the OPB/Vinson Institute population forecasts? *(More than 400 comments were received and projections are being revised. These will become the official state projections for all state agency purposes.)*
18. What is meant by “light” and “heavy” industry? *(“light” is used for industries that are not major water users. “Heavy” industrial uses are addressed separately)*
19. Inflow and infiltration rates will vary greatly by local conditions, especially soil type. For example, Jesup area soils are very sandy and I/I could be close to 40%. *(good point. Please provide input for areas that are vastly different from 20%)*
20. Rather than referring to the website for information, it would be helpful to have the information requested on the Metro Water District provided to this committee. *(okay, provide in email as an attachment)*
21. When will the Metro Water District planning cycle align with the State water planning cycle? *(the Metro plans were just updated, and will align with the next 5 year update in 2013)*
22. Will the state plans include potential legislation for conversion from septic to sewers? *(absolutely not)*
23. How is the information about self-supplied and septic use considered in the forecasting? *(this information is used in determining how much is needed from public systems, and how much is returned directly to streams as treated wastewater)*
24. How will the local governments weigh in on the decisions about future allocations and management? If allocations are to be used efficiently, the local governments must be able to pay for the infrastructure. *(Tom Gehl of the Georgia Municipal Association has expressed this concern to Dr. Couch, and they will meet to discuss in the near future)*
25. Why are County-level allocations used rather than service delivery areas? How do allocations fit into comprehensive plans? *(County level projections are the beginning, not the end. They will be distributed by basins/aquifers)*
26. Did self-supplied large institutions get included in the population and demand forecasts? *(yes)*
27. There is a large agricultural center-pivot system at a prison in Reidsville...how would

this facility's water needs be forecasted? *(the agricultural component is included in the agricultural forecasts. The prison population would be addressed in the institutional demands)*

28. Should we stick with a non-drought year such as 2005 to get a more "normal" baseline? *(please provide and specific information you have, and your suggestion for how the baseline may be adjusted)*
29. Will customers in other states, such as Alabama, be included in the projected needs? *(they have not been included)*
30. Has a statewide average been derived for per capita use? *(not yet, the intention is to provide regional forecasts)*
31. How will transient populations (students, migrant workers, work force from another jurisdiction or state) be factored into the projected needs? *(please provide specific comments about this for your geographic area)*
32. Early versions of water use data provided by USGS had some errors, such as missing the water used through system interconnections. *(we are aware of the early errors, and are making adjustments. Please provide specific local input.)*
33. The City of Zebulon/Pike County has a high per capita figure. It may be related to commuters from surrounding areas who enter the City for work/school. *(The USGS report was consulted and it was found that the City of Griffin/Spalding County accounts for 4.34 MGD of the Pike County usage.)*
34. How will use by private/unpermitted non-drinking water shallow wells be accounted for? *(they are not accounted for at this time, but specific local information could be used to make adjustments)*
35. Most county Community Health Departments have good data for septic tank installations for at least the last 5 years. *(good point, thank you. We will review this data.)*
36. Please provide a list of information that you would like this committee to provide, and the date you need to receive it. *(we will send this along as follow-up to this meeting)*
37. When will the projected demands be compared to the available water resources? *(spring of 2010)*
38. Does receipt of the forecasts numbers indicate an "approval" of the forecasts for EPD? *(no)*

#### **4) Meeting Conclusion**

Nap concluded by thanking the committee for their participation on short notice, and will send meeting notes, and collect comments through October 9<sup>th</sup>. A teleconference and/or meeting will be held with this committee after results are available.

The meeting adjourned at noon.

# **Georgia Comprehensive Statewide Water Management Plan Regional Water Planning**

## **Municipal Water and Wastewater Forecasting Meeting #2**

**Meeting Date:** October 2, 2009  
**Location:** Phinizy Swamp Nature Center, Augusta  
1858 Lock and Dam Road  
Augusta, GA 30906  
**Attendees:** See list

### **1) Introductions**

Nap Caldwell opened the meeting with introductions. Nap Caldwell introduced himself and Glen Behrend representing EPD. Planning Contractors working with EPD included Brian Skeens (CH2M Hill), Robert Osborne (Black & Veatch), Bill Martello (JJG), Katherine Zitsch (CDM) and Stephanie Gardner (AECOM). He thanked Susan Nicholson and the Phinizy Swamp Nature Center for providing the meeting facility.

Nap noted that the sign-in sheet will be used by EPD for sending meeting notes and information to the meeting attendees.

The focus of this meeting was to discuss the municipal water and wastewater demand forecasting methodology that will be used by the Regional Planning Councils. EPD wishes to obtain feedback from this group, as representatives from the municipal sector.

### **2) Water Planning Process**

Nap did a quick recap of the state water planning process with emphasis on the gap analysis (resource needs vs. resource capability) and management practices to meet future demands.

He began with an overview of the state water planning process, by describing the legislation that created 25-person regional water planning councils and set the process for developing regional Water Development and Conservation Plans. The plans will include strategies (current and long-term) for managing water resources in a sustainable way. The planning process involves estimating future demands in the region, evaluating current capability of water resources, and where demands exceed resource capabilities (known as a “gap”), selecting management to close the gap.

Forecasted water and wastewater demands are being developed for 4 modules: agricultural, industrial, thermoelectric, and municipal. These four modules will comprise the total for the region. Today’s meeting focused on municipal demands. The meeting attendees have specific knowledge and insights that EPD would like to incorporate in the forecasts.

Nap asked the committee to listen to a brief presentation about the municipal water and wastewater forecasting methodology, and provide feedback about the methodology and any specific local information that may be missing or needed. The work is driven by the target date of January 31, 2011 for submission of draft regional water plans to EPD, and all interim steps back up from there. In addition to the opportunity to provide comments prior to the draft

forecasts being produced, this group will be provided an opportunity to view the draft results prior to the Councils meeting in mid-November, 2009. There will also be a public comment process where the forecasts will be available on the website for review.

### **3) Municipal Forecasting Methodology and Discussion**

Brian Skeens (CH2MHill) gave a 15 minute presentation about the municipal forecasting methodology. The presentation slides are attached for reference. This information has been presented to the planning councils.

Following Brian's presentation, Nap opened the floor for comments and questions; questions were entertained by Brian and Nap.

1. The Governor's new water task force meets for the first time next week. How many here have been invited to participate? How does this fit in with the state water plan or will these be competing plans? *(EPD had no knowledge of the task force, but comments from the floor indicated that there is likely already a chair and co-chair for the new task force. It was believed Council chairs were invited and the new water task force seems to be a contingency planning exercise intended to develop water supply options that could be implemented if things go bad in the litigation process and negotiations)*
2. Should the base year be a 5- or 10-year average, using the driest year to show the true gap in a gap analysis? *(we want to develop demand forecasts based upon an average year of water demand, but can look at 2005 water use and see how much variation in the 5-year range, can use larger number if appropriate. Water demand in drought years can sometimes be suppressed by virtue of implementation of water use restrictions, and can therefore present a skewed picture of 'real' demand.)*
3. Concern that will have skewed results going forward if rolling into one per capita number (commercial and industrial into residential). Perhaps look at residential per capita number separately from commercial/industrial? Or use data from per capita reports? *(valid point, not feasible at this point for separate per capita numbers based on data available. Data in per capita reports have been collected for a few years, may be drought skewed. Please forward per capita reports or other data; these can be used to compare for reasonableness/in the right range)*
4. Why are we afraid to use a drought skewed year? May be hurting ourselves in those drought years by not planning for it. Shouldn't we plan for the worst case and use the best data available? *(usually worst case is correct, although we have seen different kinds of drought, i.e. the outdoor water use ban resulting in water use numbers being lower rather than higher, and in some instances per capita numbers lower)*
5. Concern with the 2005 population numbers and data provided on handout (Bryan, Chatham, Clarke, Columbia, Glynn, Jackson, Madison, Montgomery, Stephens). *(will use data from withdrawal records. USGS data derived from EPD files and reports, can look at EPD files and compare)*
6. Where does USGS get the numbers shown in today's handout (capture those served in unincorporated areas or retail service to outside counties)? *(USGS numbers come from several sources including EPD, surveys of large municipal systems, U.S. Census data. Can/will review numbers and adjust as needed)*

7. Concern that per capita numbers do not include military members (those deployed are not counted in Bryan or Chatham counties for instance, but counted somewhere else). When they return, will have a demand for water the counties will need to provide. Similar situation in Glynn with federal law enforcement training facility (approximately 60,000 students/year student population). *(will look into issues, please contact planning contractors or submit comments to EPD)*
8. How do we bridge the gap between the state plan and our own individual community plans? *(the regional process will refine demand numbers with updated numbers, there will be opportunities to fix differences as the regional water planning process is intended to be iterative. These plans are designed to understand how we can best manage our resources, and are not designed to manage and plan for individual community systems.)*
9. Are you using the 2010 census? *(no, not available at this time, will incorporate in the next planning iteration starting 2013, building on a better base over time)*
10. Why use bad numbers? *(we don't want to use bad numbers, will have to go back and make corrections if there are known bad assumptions/info)*
11. May be able to determine transient population (i.e. knowing number of hotel rooms, occupancy rates, etc.) instead of using embedded number. *(most transient water use is already captured in 2005 numbers, is it reasonable to separate this transient water use if it's already captured in the per capita numbers? Maybe not for base year, but when applying projections/factors, can use data available to validate. Unless there is a known change in the transient population expected in the future, we will keep them included in the current numbers.)*
12. Seems like 2005 may be an unusual year. Divisions have deployed every year since 2001 and per capita seems artificially low. Perhaps adjust numbers or look over 10 years of data and pick peak year for each system. *(there is a difference in planning for infrastructure where you look at peak, and what we are doing – determining over a typical year/dry year the amount of water needed and resources available. We plan to look at individual counties and special conditions, aware of the military bases, transient populations, etc.)*
13. Keeping transient populations separate so entities can keep track? *(yes, all adjustments will be documented to understand why adjustments were made)*
14. What adjustments have already been made to the per capita use numbers? *(those on the handout highlighted in a lighter gray have already been adjusted)*
15. What is public water supply? The public water supply number for Chatham County seems low. Does this include self-supplied and public-supplied industrial? *(Rather than municipal and all industrial lumped together, industrial water and wastewater projections for largest industrial water users in the state were removed from the municipal total and separately projected. Then, the municipal per capita use rates are determined.)*
16. Reports provided to EPD include usage to those big industries and population associated. Depending on how they were counted (i.e. one connection vs. 1,000 employees) affects the way they are on the monthly reports, skewing USGS numbers. *(understood)*
17. How are we capturing job use/labor markets in large employment areas crossing county

lines (i.e. I-85, SR-316 corridor)? *(If municipally supplied and in top 12 of all industrial users, we pull out and move to industrial forecasting. If not in top 12, demand will be already built into per capita. If there are changes in transient population (commuting employees) we can make adjustments.)*

18. How do you factor in economic development? *(we plan to have input from representatives from the big 12 industrial users and from the Governor's office of economic development to determine any other large industrial users not yet taken into account; we will also try to identify other emerging industrial users. Those industrial users not part of the "big 12" are included in the per capita water use. Water use growth rates are assumed to be proportional to population growth rates. Can revise if necessary in next planning cycle)*
19. Concern regarding industrial mixed with residential water use numbers – can be cast in stone over time or used for permit purposes. *(point of process is to make forecasts correct based on information/data from you. The State Water Plan adopted by the Legislature and Governor does not authorize EPD to use info/data from the regional water plans to make individual water and wastewater permitting decisions.)*
20. Why not use planning info for permitting purposes? *(EPD is charged with managing the state's water resources, not managing the demands of individual water users. We need to know the sustainable capacities of the resources and your demands, the individuals/regions will then figure out how to bring the two in balance, and what role demand management will play in that balancing.)*
21. When will we receive forms/guidelines for input? Will we be able to add items as appropriate? *(forms can be sent to you later today or Monday morning. Forms are in excel spreadsheet, you can add input, add attachments or can send comments in any form by Friday, October 9<sup>th</sup>. Once a draft has been produced based on your input, we will check in again with you before it goes to the Councils)*
22. Is there concern/drive to contact other counties not represented (for example, the Coosa North Georgia Council has 6 representatives for 19 counties)? Or is it our responsibility to reach out to them? *(yes, we need you to help us by reaching out to counties especially if numbers seem off. Planning contractors are also reaching out to those counties. We have asked Council chairs to identify members and non-members that have knowledge of historical/local information. There will be a list of water planning point of contacts available and all counties and cities will have an opportunity to interact after the first draft)*
23. Are we taking into consideration potential conversion of privately owned systems to municipal? *(the existing mix between self- supplied and municipally- supplied in the base year will be carried to the future based on a selected scenario for the future. We can look at scenarios and make adjustments if needed, as well as make changes in the next planning period)*
24. At what point does consumptive use get factored? *(similar question brought up on Monday regarding indoor/outdoor use and septic. In determining demands placed on multiple sources, need to consider how much water is coming out/going back and where it is going back. This will come through in the process of comparing water withdrawals and returns with capabilities, not in this forecasting module, but later in the planning process)*

25. How do you plan to give the numbers to the Council? *(the handout contains preliminary numbers, adjustments may be made, based on your input. Will show forecasts of county-wide water and wastewater projections, where those waters are coming from and where they are being returned to – big picture river basin planning. For municipal, numbers given by County, does not include industrial which is forecasted on a regional basis)*
26. Are you handling CSO communities separately? If so, how does that process work? *(yes, the planning contractor working with your Council will be contacting you directly to understand how wastewater flows need to be calculated)*
27. The projections include some industrial water use – what if one of our biggest customers (about 1/3 of our revenue) withdraws from groundwater and uses our water? We need to know who these people are and account for them. *(they should be involved with the industrial group input. We also may need to make appropriate adjustments to the municipal forecasts.)*
28. How do we put the needs/desires in the demands so we don't under project for those counties not represented? Should it be what do we really want to have available to us to provide for future development? *(we depend on population projections from OPB and the Governor's office to reflect the kind of economic growth we expect to see. If there are issues, Councils can begin discussions and may consider a safety factor on the municipal side to address)*
29. Will the plans developed by the planning councils ultimately be approved by EPD, and do the planning councils have the flexibility to make adjustments? *(EPD will approve the regional water plans. These forecasts and safety factors need to be credible not only to get through EPD, but because the planning will be implemented locally, drawing upon the resources (finances) of the people who live in the region)*
30. Seems like it would be worthwhile to work another meeting to validate information before it is presented to the Councils. *(we do plan to meet with you multiple times after the draft is presented. We may or may not be able to plan another meeting before the Councils due to time constraints. Information will not be etched in stone, there will be at least a 2 month period after the Council meeting before anything is considered final. Information at council meeting 4 will be presented as preliminary draft)*
31. Does EPD have any concern if the representatives from these meetings hold additional meetings amongst their own Council or request info from their planning contractors? *(we don't intend to manage the interactions between the people here, looking to build level of comfort with the methodology as experts get more info)*
32. Will we get a copy of the draft prior to when it is presented to the Councils? When will that be? *(yes, we will send you a copy of the draft for review. The first Council meeting is scheduled for November 10<sup>th</sup>. We will need to send a package to the council members to review in advance of this meeting. We plan to provide preliminary results to this Municipal Ad Hoc group in late October)*
33. Are you planning on rolling all cities together into the County? Montgomery County shows 88 gpcd per capita water consumption. The City of Mount Vernon consists of about 40% of the population in the county, with the remaining 60% in the other 5 cities. Ours is 160 gal per capita per day, which means the other 5 cities are 24 gal per day – concern for lumping all cities in the county. *(good point, will have to look at specifics.)*

*Don't let the form restrict how you comment)*

#### **4) Meeting Conclusion**

Nap concluded by thanking the committee for their participation, and will send meeting notes, and collect comments through October 9<sup>th</sup>. A teleconference and/or meeting will be held with this committee after the next round of regional planning council meetings.

The meeting adjourned at noon.