

Memorandum

To: Altamaha Regional Water Planning Council

From: Rick Brown and Katherine Zitsch

Date: September 24, 2009

Subject: Council Meeting 3 Summary

This memorandum summarizes the meeting summary of the Altamaha Regional Water Planning Council Meeting 3 on September 24, 2009.

1) Welcome and Introductions/ Approve Agenda

The meeting began with a welcome from Chairman Brinson Lanier who also called the meeting to order. He then turned the meeting over to Vice Chairman Mike Polsky, who welcomed Dr. Mary Ellen Wilson, the Vice President for Academic Affairs at Middle Georgia College. She welcomed the Council to Cochran and to Middle Georgia College. Further, she provided an overview of activities at the College and several existing and new programs.

The Planning Contractor (PC) provided an overview of the agenda. Chairman Lanier requested approval of the agenda. A motion was made to approve the agenda by Ed Jeffords and then seconded by Lindsay Thomas. The agenda was approved with no dissention.

Chairman Lanier then reminded Council members that they received the meeting summary from Council Meeting 2. He asked if there were any comments on the meeting summary and then requested approval of the summary. A motion was made to approve the agenda by Jim Strickland and then seconded by Lindsay Thomas. The meeting summary was approved with no dissention. Chairman Lanier then turned the meeting over to the PC.

The PC presented a proposed date for the next meeting (November 19th) and suggested Little Ocmulgee State Park, Southeastern Technical College or another location that the Council may suggest. This will be revisited at the end of the meeting to see if it can be finalized. Additionally, the PC pointed out that they are looking for input into which resource assessment specialists from EPD the Council would like to see at their next meeting.

The PC then recapped what was accomplished as part of Council Meeting 2 (CM2), provided an overview of comments received from the Altamaha Council on CM2, provided an overview of where the Council is within the planning process, and pointed out that the Planning Guidance to be distributed at the end of the meeting includes an outline of Key Council Responsibilities. Finally, the PC provided an overview of CM3 objectives. These included:

- Identify Region-specific water resource goals to assist in future evaluation of water resource management practices.
- Review population and employment data and discuss their use in water needs forecasts.
- Review proposed final Agricultural water needs forecasts and discuss Industrial water demands.
- Discuss management practice concepts and planning resources.
- Resource Assessment Information – Increase our understanding of Altamaha groundwater and management.

2) Altamaha Regional Water Plan – Goals and Objectives

The PC then began a discussion on the Visioning and Goals process. The State Water Plan vision was presented to the Council and it was pointed out that this was also provided in the homework handout. The schedule for the visioning process is to finalize a council vision in CM3 or in the upcoming timeframe before CM4.

Two Council members had provided vision statements that could be used for the Altamaha Council:

"The goal of the Altamaha Regional Water Planning Council is to make recommendations to the Georgia State Water Plan so that the Altamaha basin's water resources are managed responsibly and in a sustainable manner to support the basin's economy, to protect natural systems and to enhance the quality of life and public health for our citizens."

"Altamaha Water Council manages surface and ground water in a sustainable manner to protect public health and enhance the quality of life for Council Area citizens in an economical manner and in compliance with the State Water Plan."

Discussion ensued regarding the vision, but a final vision was not determined at this point during the meeting. Comments to be potentially incorporated into the vision included:

- Recognition of the council and our region. It should recognize that we are part of the planning and define our management responsibility.
- Altamaha should be managed responsibly for future generations.
- Emphasize that at a minimum we do want to “do no harm.” We do not want to see short term sacrifices to attract development that would not be in the best interest of the Altamaha region.
- Protect and enhance the water resources for current and future generations.
- Balance so that we do allow for economic development. We need to be careful how strongly we add the concept of protect.
- Need to add the balance of using water resources with responsible management to promote sustainability.

Other discussion included the following:

- If we want to see healthy rivers we need to make sure we do not set into motion those actions that would jeopardize the health of these resources.
- If we manage, we both enhance and protect the resource.
- If we want economic development we have to be careful to not diminish the resource to the point where it compromises the long term value.
- It feels like we are trying to develop a vision when we do not know all the facts. We need to know the details of what is available in the aquifers before we can develop a vision.
- Unless we are being told there will be no EPD, then we do not have to worry that EPD will be here to help us oversee these resources that provides a nice check and balance. We will not always have good stewardship and EPD will help use protect the resource.
- The vision and water plan is a living document.
- We need to be careful on protecting property.
- We need to recognize that we need to have an Altamaha Plan that is ultimately going to be part of a State Plan.

Chairman Lanier suggested that a committee be formed to work with PC on the vision during a break and recommend a vision for approval later in the meeting. Ed Jeffords, Jim Free, and Jim Strickland volunteered for the committee.

3) Role of Water Planning Council

This section began with a message from Governor Perdue to all Regional Water Planning Councils via DVD. The PC then introduced Dr. Carol Couch, Director of the Georgia Environmental Protection Division.

Dr. Couch noted that the vision statement from the State Water Plan was worked through an involved process. She noted that each council member had been appointed by the Governor, Lieutenant Governor, or Speaker and is involved in a process approved by State's General Assembly. None of these put in a process that does not have at its heart establishing regional and state plans that are based solidly on the Council's input. This will change the way EPD makes decisions because – (1) decisions on permitting must be in compliance with the plans and (2) communities participating in low interest loans in the State of Georgia must be in compliance with the provisions and guidance of regional plans. Dr. Couch mentioned she is taking personal responsibility for making sure the Councils get what they need to conduct their business. She is listening to the chair on what the council needs, what is working, what is not.

Dr. Couch also provided insights into the Lake Lanier decision. Governor Perdue filed an appeal of the decision on Tuesday. She noted that efficient, appropriate use of Lake Lanier reduces consumptive demand and protects downstream interests. It does not create more reservoirs for water supply; it is the best use of the resource.

Dr. Couch thanked the Council for their hard work. Their work is supported and she looks for suggestions on how to better support the Council. The results of the process will influence state decision making. It will provide guidance for Dr. Couch and future EPD directors to make decisions on a permit-by-permit basis for business or industry or county governments. There is a tight intersection between aspirations of growth, quality of life, and the environment. The Council should look at near term and 50-year aspirations for this area and ask "what do we want?", "what do we have?" and "what do we need?" The Council should look at where the region is and where it needs to be. There was a wall hit in Savannah due to no more assimilative capacity. There was another wall in the Etowah basin because of too much phosphorus loaded into streams, so Lake Allatoona is being degraded. Dr. Couch mentioned that this is not a theoretical exercise. The Altamaha Council needs to have vision and foresight to make sure this region does not hit a similar wall. When a wall is hit, there is immediate economic impact. She noted that not doing the work we are doing today is more detrimental than not planning.

In relation to the Lake Lanier decision, Lindsay Thomas touched on the possibility of Congressional legislation. He pointed out that if we come to that point, one of the greatest assets Georgia will have is a statewide comprehensive plan to manage our resources. If we do our job, we will start talking about more water and cleaner water and things will be better.

4) Population & Employment Projections and Method for W & WW Forecasts

The Planning Contractor provided a Power Point presentation which covered population and employment projects and methods for water and wastewater forecasts. The PC mentioned that the Council should choose one of two scenarios for making projections and adjust forecasts:

- 1) On the population side, we will be provided with the “most likely” population scenario for population growth. According to the Planning Guidance the Council does have the ability to select other population scenarios. The PC cautioned against producing multiple population scenarios. In the long term it would be preferable to have consistency between planning regions in developing the population projections. Unique differences can then be captured on the water use side of future water needs projections.
- 2) For more consistency, the other option is to adopt the most likely population scenario and then adjust water use based on reasonable assumptions. In this way, population is standardized, but we can account for prisons and transient population in the water demands.

The PC recommended option 2, but noted that it is ultimately the choice of the council. If there is a high transient population that is not included in the population projections, the council could capture them into the water use. This is a good method as long as the ratio of base population to transient population remains generally the same, but the council will need to consider changes in ratio when projecting water demands. These are areas where we the PC can work with the Council to make sure we capture that correctly.

A discussion ensued amongst the council regarding self supplied water usage versus water usage from a municipal source. It was noted that the projections shown in the prostration used the same consumption for self supplied water as that used for municipal. One council member suggested that it might be higher because there is no metering and no cost factor other than electricity. Another council member noted that it might be lower because the per capita in a municipality's projection includes restaurants and businesses in the city supply number. So, rural water usage would be lower because it only accounts for the residential well. Another council member noted that water use is typically lower in rural areas because most people are cognizant that they are on a septic system and need to take care of the

septic system. There is also a culture of less use in rural areas (other than horse troughs, etc.). The PC noted that the problem is that there is not a lot of data on this issue at present. We may need to re-evaluate the self-supplied number moving forward if there are good data available. It is important that when we look at the data sets, we make sure we look at those factors.

One Council member noted that he was recently at a City Council meeting where they were adjusting water rates. There was a USDA loan officer there. It was noted that most of the grants and loans for water and sewer improvements are through the USDA. The Council member asked whether the USDA gets any information to input into these loans such as water use and future water use. The PC noted that rural development is one of the groups that provided loans for those programs. The PC believes they may ask providers to provide background to water use. The Council member further noted that the USDA statement was that you must adjust these rates because we expect you to make your payments.

EPD noted that council members can look at the referenced USGS report online if they want to look at it. The PC will email Council members a link to the report. The online version has one page per county with specific information.

A council member asked a question whether there are any water conservation plans or things we will look at in future that will affect water projections, such as the use of gray water. The PC noted that the 1992 Energy Policy Act requires that as buildings get remodeled, there will be natural conservation with fixture upgrades, etc. The question more deals with opportunities to think about conservation or demand management. In fact, water conservation as a management practice is something that the Governor and EPD have mentioned. Guidance that EPD recently issued on water conservation is a major step in having people move towards replacing high use water fixtures as well as other water saving methods.

The PC reminded the council Reminder that we need volunteers to help as a subcommittee to deal with population and employment data and to help provide water demand projections for the CM4 discussion. Chairman Lanier noted that this would be accomplished through a series of meetings in a hurry (2-3 in the next few weeks). We would like on this committee at least some county commissioners, alderman, council members – specifically people familiar with some of the issues of county water use and wastewater disposal. Volunteers included Gerald DeWitt, Ed Jeffords, John Roller, Jim Free, and Brinson Lanier.

The PC mentioned that there may be some outside staff that know about water issues and would also be helpful. John Roller volunteered someone from outside the Council and Mike Polsky volunteered his City Clerk.

The PC noted that he is confident that the committee's input will help provide good data.

5) Management Practices

The PC provided additional information on management practices. Management practices are defined as any program or activity that is undertaken to meet the forecasted regional water and wastewater needs without exceeding either water availability (both surface and ground water) or assimilative (water quality) capacity. It was noted that management practices should address regional needs, including stormwater, water supply, and wastewater. Examples were provided, including those in the Coastal Stormwater Supplement (CSS) from EPD. The schedule for the development of management practices was provided with highlighted points that initial discussion, selection, and refinement would be performed during Council Meeting 5 and Council Meeting 6, and selection would be finalized by December 2010.

6) Vision Statement (revisited)

The Planning Consultant worked with the vision statement subcommittee to draft a vision statement for approval by the Council. The Council took up the development of the vision statement and the Council reviewed the draft developed by the subcommittee:

The vision of the Altamaha Regional Water Planning Council is to wisely manage, develop, and protect the region's water resources for current and future generations by ensuring that the Altamaha basin's water resources are sustainably managed to enhance quality of life and public health, protect natural systems, and support the basin's economy.

John Roller made a motion to adopt the vision statement, and it was seconded by Jim Strickland. The Council voted to adopt the vision statement with no dissention. The Council requested that the draft vision statement be distributed to Council and agreed to work via e-mail correspondence on the development of additional goals based on pre-meeting materials and Council feedback.

7) Resource Assessments

The PC provided an overview of the aquifer stratigraphy and discussed the basis and location of groundwater modeling activities. The PC emphasized that other modeling activities are also taking place associated with the Savannah and Brunswick areas. The PC also presented information on the Coastal Permitting Plan. The following questions were asked by the Council and answered:

- Does the Brunswick aquifer overlay the Floridan system? *Yes, in the eastern portion of the state as shown on the figure, there is a surficial aquifer, then the Brunswick, then the Floridan aquifer system.*

- When will there be more information on how much the aquifer can produce? *The results of the groundwater modeling effort will be provided in January.*
- Was the water level response to the Durango shutdown just local? *What was shown on the figure was specific to individual well responses. Water levels rose in Savannah, however, so the response was not just localized to the immediate vicinity of the Durango pumping wells.*

The Council requested that the State Geologist come and discuss the aquifer systems in more detail at CM4. They requested information on the depth and thickness of the Floridan and other aquifers in the area. They further requested more information on well depths.

A council member asked if we have anyone that is doing some of the strategic planning on reservoirs, especially "out of the box" thinking. Dr. Couch responded that there is a report of potential regional aquifers that was completed by GEFA. The effort focused on understanding cost effective and environmentally sound means of identifying reservoir gaps and was in part a response to the recent drought. In terms of our out of the box thinking, the Altamaha Council is the group we would like to see move forward with some creative ideas. There is still more work to understand where we need the storage in relationship to costs, gaps, and environmental considerations.

A Council member noted that in a meeting he attended, some political leaders have identified water resources as a key priority and that there may be a need to shift dollars from other programs towards water resources. Dr. Couch responded by confirming that state leaders do have to consider the competing needs of all the state programs and the Council input would be valuable in helping them prioritize financial resources.

The PC noted that if Dr. Jim Kennedy was going to attend CM4, it would be helpful to provide him with a list of topics to cover. The following items were noted in addition to those listed above:

- Describe recharge zones for the Altamaha regions aquifers.
- Describe the Sound Science study.
- Please describe some of the methodologies of determining aquifer characteristics (recharge areas, etc.). Were tracer studies completed?
- Do we have historic information on the aquifers in terms of how they have changed over time and in response to new uses? What are some of the significant trends in ground water and springs and seeps?
- We need a better aquifer map that shows shared aquifer resources and the relevant councils.

Additional written questions for Dr. Kennedy were provided after the meeting and are included in **Attachment A**.

8) Preparation for Joint Meetings

The PC provided an overview of the need to coordinate with other Councils with shared resources. The PC noted that a key means to do that is to establish communication channels, discuss needs, and begin to understand management perspectives. The PC reviewed the logic of establishing the Joint Meeting groupings and presented the concepts for joint meeting schedules in January.

9) Welcome from the City of Cochran

Vice Chairman Mike Polsky introduced Cochran staff Matt Turnick and Bryan Lee. The staff welcomed the Council to Cochran and provided a brief overview of the City system. The City of Cochran has a 2 MGD groundwater withdrawal permit limit, and 1.3 MGD has historically been the maximum used. The City has a mixed distribution system in terms of size and material construction. There are 1800-1900 customers, with three - 200,000 and one - 100,000 gallon storage tanks. The city has not experienced any well surges and the water level has stayed about the same, with four minutes for recovery even in drought. At this time, there is room to grow under the current permit limits. The system has an estimated three to five percent unaccounted for water, showing that there are very few leaks.

10) Planning Guidance

The PC provided an overview of planning guidance available to the Council and a copy was handed out to the Council members. The planning guidance is also available at http://www.gawaterplanning.org/documents/20090731_Regional_Planning_Guidance_000.pdf. The guidance provides good background information and examples of how different sections of the regional plan might work. The Council is to provide a recommended plan and submit a draft to EPD by January 31, 2011. The Council should make revisions based on EPD and public comments and finalize the recommended plan by June 30, 2011. EPD responsibilities include: providing guidance and a template to ensure completeness and consistency; providing public notice and a 45-day comment period; reviewing the recommended plan for consistency with the State Water Plan, and with regional water planning rules and guidance; adopting the recommended plan if it is consistent with the State Water Plan, and with regional water planning rules and guidance; and using the final adopted plan to guide agency decisions.

The PC also provided an overview of the Scientific and Engineering Advisory Panel, which is a panel of nationally and internationally recognized experts in the fields of science and engineering that will provide expertise in the statewide water planning process. Panel

members include: David Allan-University of Michigan, Bruce Beck-University of Georgia, Mary Freeman-U.S. Geological Survey, Aris Georgakakos-Georgia Institute of Technology, Wendy D. Graham-University of Florida, Jim Greenfield-U.S. Environmental Protection Agency, Region 4, Todd Rasmussen-University of Georgia, Kenneth H. Reckhow-Duke University, Brian Richter-The Nature Conservancy, Seth Rose-Georgia State University, and Amy Rosemond-University of Georgia.

11) Public Involvement Plan

The PC provided an overview of the process for the Council to adopt a public involvement plan. A template will be provided and the Council needs to work together to establish a plan in the upcoming months. The Council can fill in the template or add to the template. The PC recommended establishing a subcommittee to complete a draft version for Council review. The next step will be to look at the template at the back of the planning guidance. The Council can keep it or change as much as they want. One thing to consider is how to handle the press – do we need to make more proactive announcements other than legal organ publication of meeting notices? Chairman Lanier asked for volunteers and Michael Williams, Len Hauss, and Sue Sammons volunteered to serve on this subcommittee.

12) Forecasting Agricultural Water Demand

Cliff Lewis with Georgia EPD introduced Dr. Jim Hook from the University of Georgia. Dr. Hook has been working in Georgia for 31 years on irrigation and water related issues. He mentioned that forecasting agricultural water demand will provide a forecast to sustain viable agriculture. He presented the process for forecasting agricultural water demand:

- Determine “baseline” irrigated acreage.
- Identify withdrawal sources (groundwater, surface water, and water treatment plants).
- Project major crop acres through 2050 (gaze into crystal ball).
- Calculate crop water needs for wet, normal, and dry years.
- Then Project agricultural water withdrawals from 2011-2050.

The amount of water needed will vary from year to year, and is dependent on rainfall. Dr. Hook looked at the history on how much each crop needed per year and matched this to rainfall.

The primary data sources that were used were mapping through aerial photos. USDA made available coverage on the entire state of Georgia with high level imagery. A lot of irrigation

has been going in recently – some of this is newer irrigation systems to replace older systems – but much of new systems increase the irrigated area.

The following data sources were used for crop projections: USDA Census of Agricultural & Annual Crop Reports; USDA 10-year projections (cotton, corn, soy, pecan); Food & Agricultural Policy Institute (peanut); 2007 UGA farm gate reports (specialty crops).

The first step was to create a regional model for the southeast. Farmer's in the southeast have different sets of crops to choose from than the remainder of the country. They developed a model that evaluates decisions on crop selection based on prices. A specific model was also developed for Georgia. The models diverge as we move further out (2040/2050). As with most modeling, it is more accurate in the near term than further out. It was noted that the Council should keep in mind that the process of projecting future agricultural water use is dependent on updates as time goes on – “what changes have driven farmers decisions on what to plant?” Keep in mind that Irrigation systems for farmers are big investments. In installing a system, they are making commitments for long periods of time. Center pivots will last 30 years or so, some longer. Dr. Hook started with a baseline and then made projections on agricultural growth.

Dr. Hook noted that there was a tremendous spike in agricultural irrigation from the 1970s to the 1980s. It became a competitive advantage to have an irrigation system. Individual crop selections vary from year to year, but the overall agricultural irrigation increase has continued at a steady pace. Dr. Hook is projecting a 0.5 percent per year in increase in irrigated acres (20 percent in 40 years).

Data sources for crop water use included the following:

- National Weather Service
- National Climate Data Center
- Georgia Automated Weather Network (UGA)
- NRCS soil maps
- Coop extension service 2008 irrigation survey

It was noted that projections do not account for global warming. The projections use data from the last 57 years and assume similar conditions moving forward. The projections also do not include non-agricultural uses such as livestock watering, vegetable washing, etc.

Dr. Hook noted that the website shows a statewide summary as well as information by council and by county. He provided an overview of the website and what information is

available. In 2011, the Altamaha region is projected to be 8 percent of Georgia's total groundwater and surface water use for agricultural irrigation. He noted that the Altamaha region was diverse with peanuts, cotton, corn, soybeans, blueberries, pecans, and a large proportion of vegetables. He then opened the conversation to questions from the Council. The following questions were asked and Dr. Hook responded.

- One council member pointed out that the crop type acreages did not include onions. *Dr. Hook responded that onions are included in vegetables. There is not information that allows them to break out to individual vegetable level. So, they look at vegetables in the aggregate. They also look at fresh market vegetables versus processed vegetables and the type of irrigation (drip versus center pivot). Additionally, there is a new method of irrigation which involves burying a tube – this is particularly used with cotton and deep rooted crops. These factors affect the water usage associated with the crop.*
- One council member requested a recap of the projections of Increased acreages of crops per year. *Dr. Hook mentioned that it is 0.5 percent per year, with a 20 percent increase by 2040. He further noted that early years show a drop per year and then it starts picking up after that.*
- A council member asked Dr. Hook whether he still sees that trend with agricultural as it is today. *Dr. Hook responded that given the long term economy he does, but if a major change were made in the farm bill, all bets would be off. He commented that when cotton began being covered under the farm bill, suddenly cotton jumped up in irrigated acres.*
- A council member asked if the projections include any animal agriculture such as livestock or dairy. *Dr. Hook stated they are not included and these types of agriculture need to be addressed separately. Cliff Lewis mentioned that this issue has been brought up in other councils. The forecast is based on irrigated crops – livestock and poultry did not fit into this and the state plan calls for best data that are readily available. EPD decided to use data that covers 95 percent of irrigated land in Georgia. When we go to the county level, there may be discrepancies in water usage or gaps. What EPD is asking for is to work with the expertise and background each council has to make sure people have the best data. He asked that the council think about these things and make sure they bring these discussions to the table.*

Cliff Lewis closed the discussion by mentioning that he is available anytime at the council's service to answer questions and discuss anything they need moving forward.

13) Local Elected Official Comments

Mike Polsky stated that it is hard for a County Commissioner to not be concerned about agriculture. He is trying to keep an open mind because industry is important, and the Durango graphic is telling. Wilcox County is a heavy agricultural county. Farmers and farm

operations are important to us. All of the farmers that Mr. Polsky knows have gone to conservation measures. Unfortunately, it is hard to cut too much water when irrigating. We want to provide agriculture the resources they need to produce in our area.

14) Public Comments

Neill Herring, representing the GA Water Coalition, provided the following statement during the public comment period. He also provided a handout to Council members that is attached to this meeting summary as "**Attachment B.**"

"I want to talk about a couple of things. One is the matter before the Council in regard to public participation.

I would like to recommend that the Council members' nametags and nameplates give both first and last names for the benefit of the general public in attendance. It is hard to go back to the appointment press release to names, when tags and nameplates would make it unnecessary. I don't really understand the use of first names only. I think the level of informality is actually a bit demeaning, implying more of a social function than a responsible democratic exercise in policy development. I believe this suggestion comports with material in the Guiding Principles in the Guidance Document dealing with respectfulness of treatment.

I think that a directory of the members and staff for the Councils would be a useful publication for the interested public, with photos so that people can identify the members, their offices and occupation, and their hometowns.

In looking on the website yesterday I saw that industrial water use projections were not yet available. Items to be discussed at Regional Council Meeting should be made available to the public so that they can review the material prior to the meetings.

I would also think that it would be helpful to learn when updated information is going to be available, or not available. The population and employment projections that were discussed at the previous Altamaha meeting were said to subject to updating, but the website is vague as to when that information will be available.

As something of an aside, I note that the Office of Planning and Budget is given considerable responsibility in the development of much of this information, yet I can recall no reference to that agency in the State Water Plan ratified by the General Assembly. I would appreciate being given a reference as to how that responsibility has devolved upon that agency.

The second subject matter I want to address is the decision of Judge Magnuson in regard to Lake Lanier and the effect of that decision on State Water Planning. I have seen Dr. Couch's two page summary of the developments from the decision, but note there is no mention there of a direct effect on state water planning.

It is important to understand that Water Planning in GA is divided into two parts: 1) Planning for the Metro N GA Water Planning District, which is required by a statute, and 2) other plans developed for, and to some extent by various regions, such as this one, for the Altamaha, which are not required, or even authorized by law. The regional plans outside the Metro District are public policy exercises endorsed by a resolution of the General Assembly, without force or law, or even administrative rule.

Putting the entire state on the same legal footing for water planning is a project that must await another Administration and legislature, however, it is important for the purposes of this Altamaha Council to understand what is happening upstream from it, in the Metro District, and what is happening to the Metro District's plan.

The Judge has essentially said, in so many words, that the current Metro District plan, approved by EPD in May of 2009, is null and void. That plan relies on the very allocation of water from Lake Lanier that the Judge has said is not authorized by federal law. Presumably that would also mean that a revised Metro Water Supply Plan would be include in the contingency planning cited by Director Couch in her memo of August 25, 2009.

Plainly, this planning will affect both the Oconee and even more, the Ocmulgee, upstream from the Altamaha. I would like to offer one illustration from the present Metro Plan, its Waste Water Plan, to show what I am talking about. Right now, under the Metro District plan, about 90 million gallons of water per day is taken from the Chattahoochee and then used, treated, and discharged into the Ocmulgee.

This is the largest among a complex set of existing interbasin transfers that characterized a great deal of the water management in the Metro District today, and which is projected to grow in the future. There has been at least one query as to the nature and extent of these transfers in this Council. I believe that you deserve a full accounting of these engineering works, and that presumably you will get one. In the mean time, I made some copies of a pair of diagrams of those in the Metro District from their Plan for your consideration.

This interbasin transfer is among the subjects that Alabama and Florida may be expected to want to negotiate when it comes time to do that, as an agreement is sought to allow Georgia to continue to rely on Lake Lanier as the principle water supply source for the Metro District.

If the 90 million gallons affected by this transfer could be returned to the Chattahoochee, instead of being discharge into the Ocmulgee, then perhaps such a change in the daily flow of the Chattahoochee out of the Metro District would be welcomed by Alabama and Florida as a step toward resolving some of their problems with the way the Army Corps administers the Apalachicola-Chattahoochee-Flint River system. Such a change, which would involve a good deal of engineering, and could not be done quickly, would have the effect of diminishing the present flow in the Ocmulgee River, which will affect the flow in the Altamaha.

While there are smaller daily interbasin transfers with the Metro District, including some to the Oconee, the Chattahoochee-Ocmulgee is the largest net shift. However, additional changes in flow may occur. For example, the EPD has recently approved water withdrawal permits from the Oconee for a plant in Washington County, that could result in a significant reduction in that stream's flow, since much of the withdrawn water could be consumed in power production by evaporative cooling.

It is my understanding that the reason Laurens County is not in the Altamaha Regional Planning group is largely because the prospect of this power plant and its withdrawals prompted Laurens officials to seek membership in the Oconee Region in hopes of minimizing the harm from the power plant withdrawals.

Of course both of these engineered flows alterations, the Metro District shift from the Chattahoochee to the Ocmulgee and the Oconee power plant permit, are not occurring in the boundaries of the Altamaha Region, but they directly affect the Altamaha River's flow, and will be components in the ultimate plan devised for the Altamaha's management.

In the discussions of the operation of the Regional Councils it has been mentioned that there will be meetings of some sort, of some people, among members of various Regional Councils, presumably those upstream and downstream from the affected region, and perhaps with those regions that share groundwater that has hydrological connections across region boundaries. These meeting are presumably to resolve differences that emerge among the Regional Plans.

I would comment, that except for the shared groundwater resource consultations, these inter-regional consultations are effectively an admission of error in the boundaries drawn for the Planning Regions. Planning should be done by regions that naturally exist between the ridges separating each river's drainage from those of its neighbors, that is on the basis of the river basin. The basins, and the plans for the basins, should extend from the headwaters of each river system to its outlet in the ocean, or at the state line, whichever comes first.

The Metro District, spanning the upper reaches, and headwaters, of five different basins, is an effective barrier to such basin planning for those five complete basins, but a reluctance to alter its statutory basis apparently drove the decision to create the current Regions exclusive of it. The motivation for cutting up the basins outside the Metro District into multiple Regions, with politically drawn boundaries, cutting additional lines across river basins is less clear.

I think along with the GA Water Coalition that successful statewide water planning in Georgia will eventually be performed along basin lines. The scientific information on water supplies for the regional plans is being developed along those lines; it is hard to imagine how such natural information could be otherwise organized. Division of the plans flowing, literally, from this scientific information, into politically bounded segments makes very little sense.

I have heard comments from among you members of this Region that the exclusion of such near and influential neighbors as Glynn, McIntosh and Long Counties from the Altamaha Region has

additionally impaired even population and economic planning, which is not as directly ordered or organized by natural boundaries.

I think that the current politically drawn boundaries are in fact barriers to good planning and should be set aside. I also recognize that this is not a decision that can be taken by any of these Regional bodies, which have no authority to do anything of the sort.

I do think that these bodies may take official note of the fact that basin planning for the water resources of the state may very well prove to be more successful than resource planning among scissored-up collections of counties for resources that counties along river basins all share.

The basins offer organic units for organization and collection of information, and that natural connection has tended to replicate itself historically, in legal, and transportation and other economic infrastructure organization in the state.

I am simply arguing that we live in basins, we work in basins, our legal rights to share the water resources follow basins, and finally, we should plan in basins. Thank you."

Patti Landford noted that she is "a fisheries biologist with the Georgia Department of Natural Resources and is happy to be here today to represent fisheries resources of this area and the State of Georgia. The work I do is in streams that are wadable. This extends to all fishing opportunities in the State of Georgia. Over \$1 billion is spent in Georgia on fishery activities. Public fishing areas and other opportunities are a great use of resources in this region. If there is anything we can do as an agency to supply you with information, please let us know. Waycross is in the council area and a couple of district offices are also in this council area. We will try to have someone at each of these meetings, but please contact us if you need anything in the meantime."

The following statement was sent by Will Donaldson, a Council Member, and was asked to be presented to the Council. It was presented during the public comment period. The questions were sent to Will by Chandra Brown of the Canoochee River Keepers Organization. She wrote: "Here's the figures from EPD on Plant Washington's water issues:

- 12-16 million gallons/day of water from either the Oconee or groundwater wells
- discharge wastewater to the Oconee River
- stormwater discharges from the plant itself and potentially ash storage ponds to Williamson Swamp Creek (tributary of the Ogeechee)
- 122 lbs of mercury emitted into the air each year

So the questions I have are:

- Has EPD used these water usage figures in the modeling/projections?

- *Do they anticipate the thermal discharge (heated water from the plant) to effect the Oconee? Is this increase in hot water coming into the river taken into account in the projections for water quality?*
- *There's an estimated 75% evaporative loss of the water they will be using. How do the projections take that into account for water flows in the Oconee? (In other words, when they're pulling from the Oconee only 25% of the water will be returned).*
- *When they pull from the ground there will be a 100% loss to the groundwater. How do you project for this change and still ensure there's enough groundwater for farmers to use?*
- *Do the water quality projections for the Canoochee and Ochoopee take into account the additional mercury pollution from the air emissions?*

I'm sure you'll come up with bigger and better questions than these. "

There were no other public comments.

15) Wrap-up and Next Meeting

A council member noted that he was not aware that interbasin transfers were taking place and that the council should have more information on this. It was additionally suggested that if the PC gets public comment in advance, they could distribute to the Council. This will be further discussed as part of the public involvement plan.

Ed Jeffords suggested that he would welcome the next meeting to be at Altamaha Technical College in Jesup, GA. The next meeting date was set for November 19th. It was further noted that CM5 should be held at Little Ocmulgee State Park.

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Altamaha Regional Water Council

Council Members Attendance List

Altamaha Council Member		9/17/2009
1	Gary Bell	X
2	Randy Branch	
3	Guy Rex Bullock	X
4	James Mark Burns	X
5	Gerald A. DeWitt	X
6	Will Donaldson Jr.	
7	Cleve Edenfield	X
8	Jim Free	X
9	Randy Giddens	X
10	Len Hauss	X
11	Edward S. Jeffords	X
12	Phillip Jennings	
13	L. Brinson Lanier	X
14	Dan McCranie	X
15	Steve Meeks	X
16	Greg Morris	
17	Buddy Pittman	X
18	Michael A. Polsky	X
19	John E. Roller	X
20	Sue B. Sammons	X
21	Doug Sharp	X
22	Paul A. Stravriotis	X
23	Jim E. Strickland	X
24	Dent L. Temples	X
25	Lindsay Thomas	X
26	William G. Tomberli	X
27	Michael Williams	X
28	Tommie Williams	
29	Russ Yeomans	

Totals 23

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Public Attendance List

Public Attendee		09/17/2009	Representing
1	Deatre Denian	X	GA DCA
2	Don Giles	X	GA Farm Bureau
3	Ted Hendrickx	X	GA EPD
4	Neill Herring	X	GA Water Coalition
5	Patti Landford	X	GADNR - WRD Fisheries
6	Alison McGee	X	The Nature Conservancy
7	Rahn Milligan	X	GSWCC
8	Rafael C. Nail	X	Heart of Georgia Altamaha River

Totals

8

Attachment A

The following questions were provided in written format after the meeting. They are potential questions for Dr. Jim Kennedy to answer at CM4.

Please describe the following:

1. Floridan Aquifer recharge zone(s).
2. Estimated average daily recharge rate (flow).
3. Natural Floridan Aquifer discharge zones.
4. Percentage of discharge that is man-made.
5. Inner-connectivity of the various aquifers in the Altamaha Region.
6. Inner-connectivity with surface water.
7. Transmissivity of the UFA (within Altamaha Region).
8. Purification capacity of the UFA.
9. Surficial and Brunswick Aquifer purification capacities.
10. Identify zones of aquifer quality decline and probable causes and fixes.
11. Nature and locations of current monitoring.
12. Compare UFA water quantity and quality to Altamaha River.

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Attachment B

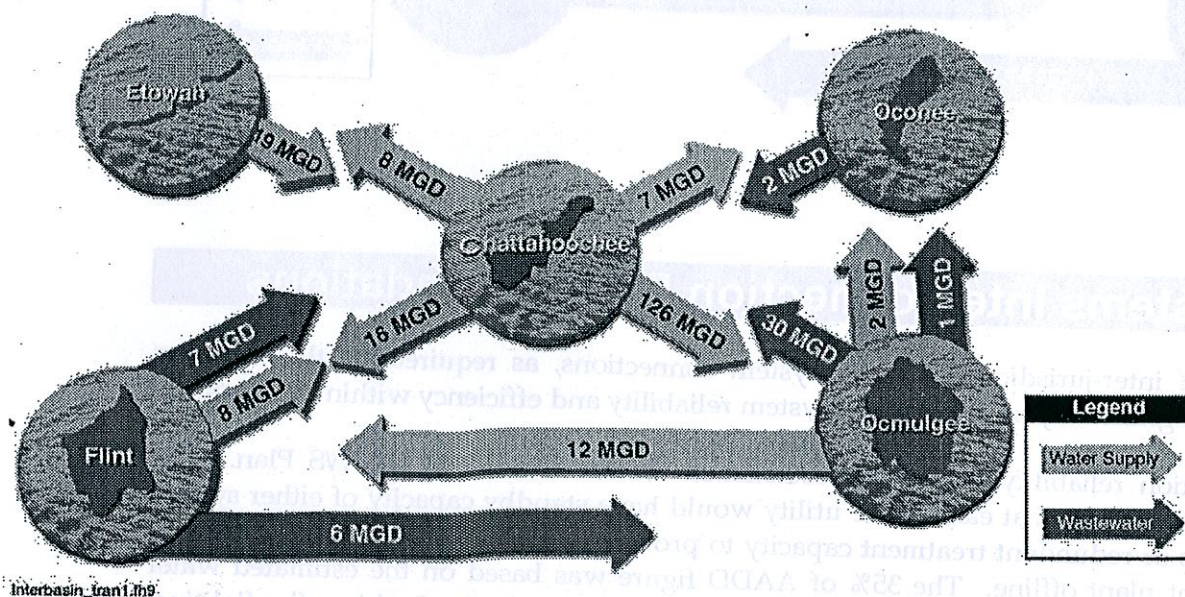
Handout Provided by Neill Herring during Public Comment Period

water. Inter-jurisdictional connections exist to sell water to neighboring jurisdictions, either on an ongoing basis or for emergencies.

Wastewater is most often discharged in the basin where it is generated via gravity flow. This may result in a net transfer of water. In some communities, wastewater is pumped to another basin for treatment and/or discharge, which can result in an offset that reduces the net amount transferred.

The District does not import water from outside its boundaries. There are a few inter-jurisdictional agreements between District members and neighboring jurisdictions outside the District to share water resources, but these are relatively minor and do not involve interbasin transfers.

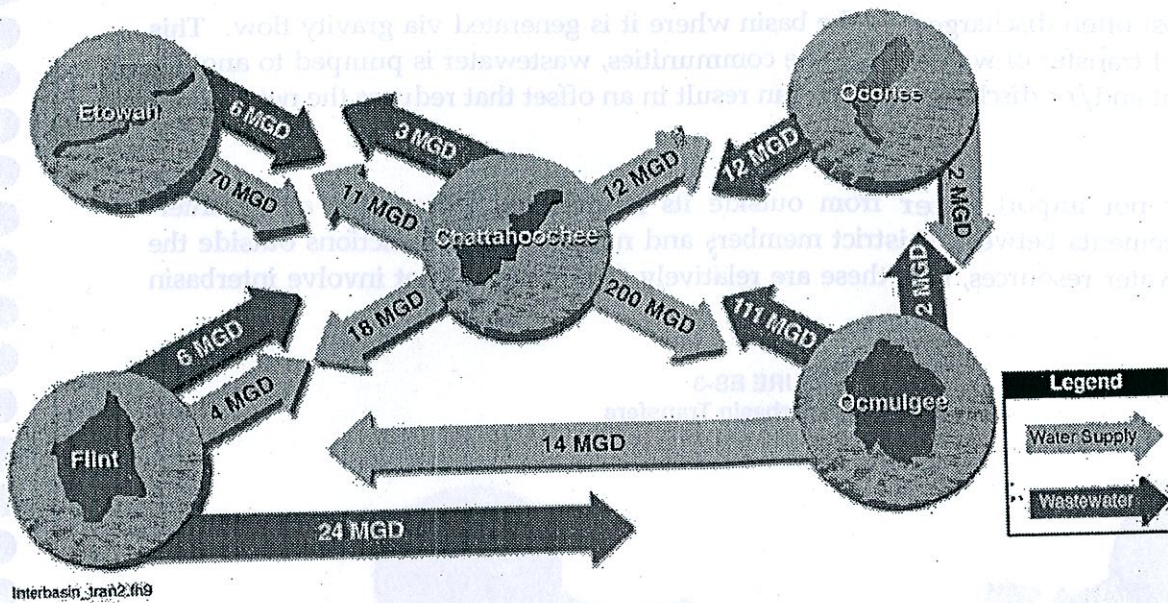
FIGURE ES-3
Existing Interbasin Transfers



Water Demand Projections

Population within the District is projected to increase from 4 million in 2000, to nearly 8 million by 2030. The timing and physical location of water resources needs will mirror population and employment growth. This growth is expected to be slightly more rapid in the first half of the planning period and slower as the area matures. Demands will have different dimensions in the rural, suburban, and urban areas. The perimeter counties of Bartow, Forsyth, and Paulding face the largest rates of growth, but population in these counties in 2030 will still be significantly less than today's well-developed counties of Cobb, DeKalb, Fulton, and Gwinnett.

FIGURE ES-7
Planned Interbasin Transfers for 2030



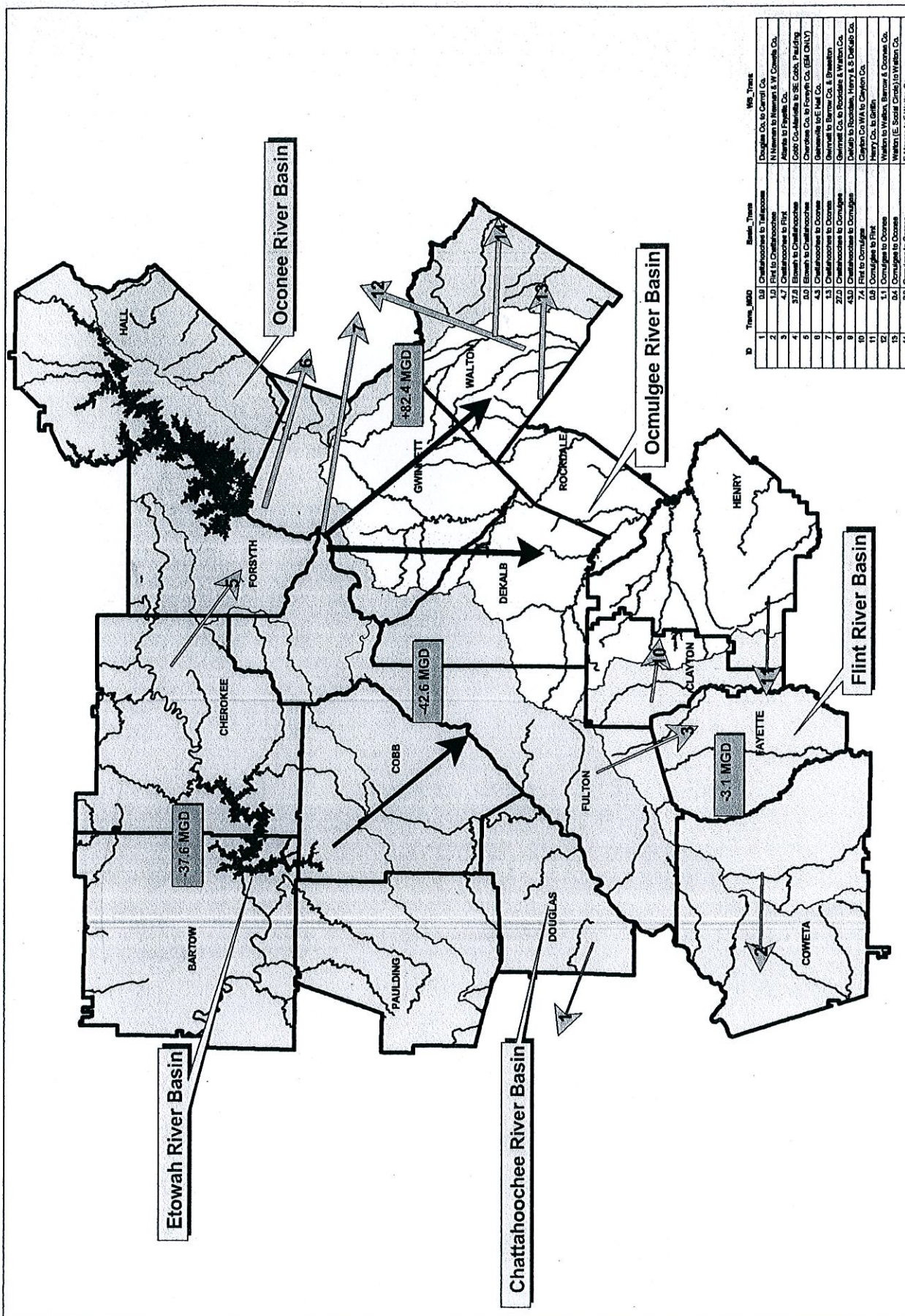
Water Systems Interconnection Recommendations

Advancement of inter-jurisdictional water system connections, as required by the Planning Standards, will significantly improve water system reliability and efficiency within the District.

An interconnection reliability target was established for the District in the WS Plan. The recommended target was that each water utility would have standby capacity of either system interconnections or redundant treatment capacity to provide at least 35% of its AADD with its largest treatment plant offline. The 35% of AADD figure was based on the estimated water required to meet essential water needs, including eating, drinking, toilet flushing, fire fighting, hospital use, and a portion of the system's unaccounted-for-water. The majority of water systems within the District will need additional connections with adjacent systems to achieve the District-wide interconnection reliability target by 2030. Water systems with only one water treatment plant will have a higher need to connect with other systems for improved reliability.

Local jurisdictions should use the recommended District-wide interconnection reliability target to develop or update their emergency water sharing plans. The needs for additional interconnection, whether for reliability and/or wholesale needs, should be incorporated in their long-term water distribution system improvement plans. The critical implementation actions for advancing water system interconnections between jurisdictions include:

- Set interconnection reliability targets;
- Establish sample water sharing agreements; and
- Develop or update local emergency water plans.



ID	Trans. MGD	Basin, Trans.	MG, Trans.
1	0.8	Chattahoochee to Marietta	Douglas Co. to Carroll Co.
2	1.0	Etowah to Chattahoochee	Marion to Newton & M. Connel Co.
3	4.7	Chattahoochee to Flint	Atlanta to Fayette Co.
4	37.6	Etowah to Chattahoochee	Cobb Co. Marietta to SE Cobb, Paulding
5	0.0	Etowah to Chattahoochee	Cherokee Co. to Forsyth Co. (EAT ONLY)
6	42.6	Chattahoochee to Ocmulgee	Gwinnett to E. Hall Co.
7	1.3	Chattahoochee to Oconee	Gwinnett to Barrow Co. & Breckin
8	27.2	Chattahoochee to Ocmulgee	Gwinnett Co. to Rockdale & Walton Co.
9	43.2	Chattahoochee to Ocmulgee	Dekalb Co. W.A. to Clayton Co.
10	7.4	Flint to Ocmulgee	Henry Co. to Gwinnett
11	0.8	Chattahoochee to Flint	Walton to Walton, Barrow & Oconee Co.
12	1.1	Chattahoochee to Oconee	Walton (E. Social Circle) to Walton Co.
13	0.4	Ocmulgee to Oconee	E. Marietta to E. Walton Co.
14	2.0	Ocmulgee to Oconee	



Metropolitan North Georgia Water Planning District Finished Water Interbasin Transfers



LEGEND

Interbasin Flows

- 0-20 MGD
- 20-40 MGD
- 40-60 MGD

City Boundaries

County Boundaries

Major Streams

Major Lakes

Basins

- Chattahoochee River Basin
- Etowah River Basin
- Flint River Basin
- Ocmulgee River Basin
- Oconee River Basin



Figure 1