

# **Georgia Department of Natural Resources**

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July 20, 2010

## **MEMORANDUM**

**TO:** Council Members

**FROM:** David Ashley, Jacobs JIG

**SUBJECT:** CM#6 Meeting Summary  
Middle Ocmulgee Water Planning Council Meeting

**CC:** Kevin Farrell, GA EPD  
Charlotte Weber, Jacobs JIG Jacobs JIG  
Tai-Yi Su, Jacobs JIG Jacobs JIG

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

### **CM6 Meeting Summary**

**Meeting Date:** June 30, 2010  
**Location:** Georgia EMC Training Center

#### 1) Welcome and Introductions

Chairman Elmo Richardson introduced several special guests: Phil Foil, Director GEFA; Mike Dodd, City of Forsyth; Harold Reheis, former Director of EPD; and Brooks Bailey, Pulaski County Commissioner

#### 2) Chair and Co-Chair Re-election

A call was made for votes regarding the re-elections of chair and co-chair positions. Elmo and Ben were re-elected as chair and vice-chair. Motion was called, seconded and carried.

#### 3) Closing the Gap Guidance

Kevin Farrell called attention to the "gap guidance" issued by Director Barnes dated May 19, 2010. Kevin asked the Council if there were questions on the memo. There were no questions on this memo.

Elmo Richardson reported back on a recent meeting with Director Barnes. Elmo reported that Director Barnes was very open, supportive, and engaged in the process. Elmo discussed several concerns on behalf of the Middle Ocmulgee Council with resource assessments. He used the predicted future storage in Lake Jackson as an example to discuss concerns on the resource assessment models. The Director was supportive of resolving the Council's concerns based on best available data.

#### 4) Forecasts Update

Tai-Yi Su provided an update on the water demand and wastewater flow forecasts as input data to the resource assessment models. She started with an overview of the four forecast sectors: municipal, industrial, agricultural, and energy.

Tai-Yi discussed that the wastewater returns for the kaolin industry were revised based on better available data. The initial wastewater return factor of 1.89 was a published text book number for the stone/clay (kaolin) industry. Since the initial forecasts, the Georgia Mining Association has worked with several of the larger kaolin production facilities in Georgia and revised the wastewater return ratio to 1.29 based on three years of withdrawal and discharge data collected from these facilities. The kaolin industry uses a combination of collected stormwater with groundwater for processing, with groundwater being the primary water source. The water balance based on three years of data showed that the industry returns 29% more than what they withdraw, on average.

**Question:** Who was responsible for developing the power generation forecasts?

**Answer:** The power generation forecasts are currently being developed by EPD in consultation with Georgia's power industry representatives.

**Question:** Is there information on the planned returns from the power industry?

**Answer:** Both current withdrawal and return numbers were available for thermoelectric facilities in the Middle Ocmulgee region. Hydroelectric plants are not considered consumptive because they return 100% of the water withdrawn. Thermoelectric facilities do not return 100%; therefore information on the withdrawals and returns are reflected in the projections. EPD is currently developing the 2050 forecasts for power needs. These projections are complicated because the facilities in Georgia also provide power to neighboring states.

**Comment:** Council member Thomas Wicker (Georgia Power) reiterated the challenge in forecasting the future demand for energy. The demand is tied to population. He stated that on average a high percentage of water is returned.

**Answer:** Tai-Yi stated that current data show Plant Scherer withdraws approximately 59 mgd and returns 25 mgd on average. The return quantity varies from plant to plant.

**Question:** Does the clay and stone category include sand?

**Answer:** Yes. The sand aggregate association did not provide industry-specific data to EPD, but their usage is generally very low.

Tai-Yi presented the updated demands by County for 2010 and 2050.

**Question:** What usage is reflected in the industrial water demand for Twiggs County?

\*Questions were asked by council members unless otherwise noted.

**Answer:** It reflects the kaolin water use.

**Question:** Is Robins AFB included in the Houston County industrial water demand forecast?

**Answer:** No. The Robins AFB demand is accounted for in the municipal demand for Houston County. Industrial water demands only include the top water-using industries.

**Question:** Why does the Twiggs County water demand double by 2050?

**Answer:** The increase represents the forecasted water demand provided by the kaolin industry. The kaolin industry anticipates reaching their current permitted withdrawal limits by 2050.

**Comment:** Chairman Richardson encouraged the Council members to ask questions about the forecasts. It is important to think about the forecasts and if the numbers make sense.

**Comment:** The industrial forecasts are only for the 13 heavy water using industry categories. The other commercial and light industrial water users are included in the municipal demands. In general, facilities that are too small to require an individual water withdrawal permit will be included in the municipal demands.

**Comment:** A council member commented that water use is likely to shift from one sector to another over time. The forecasts should reflect the transition from one sector to another.

**Answer:** The forecasts do reflect the shift in demands for each water sector over the planning horizon. The industrial demands are generally associated with the employment projections which should capture these trends. Industrial forecasts are difficult by nature, because one new major water using industry can change the projections very dramatically. The forecasts currently assume that the blend of industries will remain the same throughout the planning horizon. If the Council does not agree with the forecasts, please provide comments. As a reminder, these forecasts will be adjusted every 5 years.

**Comment:** A council member predicts that water demands will increase where water supply is the greatest in Georgia. Because the region does not share boundaries with other states, John is concerned that the Middle Ocmulgee will grow faster than other regions and faster than anticipated in the forecasts.

**Answer:** The availability of infrastructure will also be critical as well as the availability of water resources. The concerns can be translated into water management practices.

**Question:** Are the industrial forecasts based only on individual permits or are municipally-supplied industrial demands included?

**Answer:** The municipally-supplied industrial demands were accounted for in the industrial demands.

**Comment:** There have been discussions regarding providing non-potable water to electrical companies. Any conversion to non-potable water should be incorporated into the forecasts.

**Question:** What is the deadline for providing input?

**Answer:** EPD hopes to complete the energy forecasts in August, so input should be provided to EPD now. Input also should be provided as soon as possible for the other forecasts because the

\*Questions were asked by council members unless otherwise noted.

initial resource assessments have already begun.

**Discussion:** There was additional discussion regarding the water use by the kaolin industry. Several Council members feel that the kaolin industry is declining and they will not require the water usage identified in the forecasts. However, the Council concluded that the water may be needed by other water users within the time period.

**Comment:** Chairman Richardson reminded the group that it is important for the Council to be comfortable with the forecasts. Based on his meeting with Director Barnes, the Council should support the Regional Water Plan.

**Comment:** Kevin Farrell reminded the Council that the forecasts were developed with input from the leading industry experts and the Council may want to trust these experts.

**Comment:** A Council member suggested that the Council request a paragraph on justification from the kaolin industry to support the Council's understanding of the forecast.

**Comment:** Tai-Yi reminded the Council that the employment forecasts identified an increase in kaolin employment. The forecasts may be part of the justification for the increase in demand.

**Question:** Will the plan include an overall demand forecast? If there is one overall demand number, it will provide the region with flexibility to meet the future changing water needs.

**Answer:** Yes. Everything will be aggregated into the two planning nodes for the Middle Ocmulgee Region for surface water and ground water uses will be summed up on the aquifer-level.

**Question:** A Council member asked that the kaolin industry provide the Council with information on water evaporation and how it is factored into water demands.

**Answer:** The kaolin industry did take process evaporation into the overall water balance. The Council can consider inviting the kaolin industry representatives to attend the next Council meeting.

Tai-Yi provided an overview of the agricultural demands and asked if there were any questions. The irrigation demand forecast was updated in late April. Snap shots of current usage for non-crop production (including water uses for livestock, nurseries and golf courses) have been provided by EPD, but no forecasts for these categories will be performed in this round of regional planning because of lack of good data. Tai-Yi mentioned that the non-crop demand is a small percentage of total agricultural demand and an assumption was made to assume that non-crop water use will stay constant throughout the planning period.

**Comment:** A comment was made that golf courses and nurseries will be dynamic growth areas in the future.

**Comment:** A Council member stated that golf courses represent a small portion of water use in the region. With the economy, many golf courses are closing and few new ones are being opened.

**Comment:** If the golf course has a withdrawal permit (self-supplied golf courses), Tai-Yi should have it on the permit database provided by EPD. The municipally-supplied golf courses are

\*Questions were asked by council members unless otherwise noted.

included in the municipal forecasts.

**Discussion:** There was discussion regarding the process for forecasting the golf course and other non-crop water demand.

**Comment:** David Ashley explained that there are several methods for forecasting future agriculture demands for non-crop uses. The demands shown currently hold the current use constant into the future. Other options include projecting the growth rate to follow either the population or follow the crop trend. The Council can either decide today or bring this back to the technical subcommittee.

**Comment:** A recommendation was made on re-evaluating the non-crop agricultural forecasts to show future growth in recreation, specifically for golf courses.

**Comment:** Chairman Richardson commented that doubling the future golf course forecasts will not change the total demands substantially because it is such a small component of the demands.

Tai-Yi provided an update on the municipal wastewater forecast.

**Question:** There was a discussion regarding the conversion of septic systems to centralized sewer. It is a very expensive option. David Ashley asked sub-committee member Mike Hopkins of Newton County Water and Sewerage Authority to speak about Newton's plan to handle future wastewater.

**Response** (Mike Hopkins, Newton County Water and Sewerage Authority): Some areas are not cost effective to convert from decentralized to centralized sewer. Newton County has moved from development on septic systems to development on centralized sewer by creating five dense development nodes around Covington, the County seat. Newton County is considering tools such as transfer of development rights (TDR) in combination with the new zoning categories.

**Comment:** A Council member asked if Newton is trying to encourage new development to be served by centralized sewer or if they are converting existing, individual septic systems to sewer.

**Response** (Mike Hopkins): The long-term goal for Newton is 80% centralized sewer to 20% septic system. There are some failing septic that Newton County would like to connect to centralized sewer, but the conversion is very expensive.

**Question:** Chairman Richardson questioned Monroe County wastewater forecast of 0.28 mgd. The City of Forsyth's permit is approximately 2.5 mgd.

**Comment:** Tai-Yi said there may be some data gaps between 2005 and 2010. The forecasts are based on 2005 usage. It is possible a missing permit *[from an older database]* led to this incorrect forecast. Planning Contractor will investigate.

**Comment:** A Council member mentioned that GEFA might have this data.

**Comment:** EPD provided all the data the planning contractor needed, but will investigate the multiple database provided.

### 5) Minimum Instream Flows

Ted Will, from the Department of Natural Resources, Wildlife Resources Division, Fort Valley office, provided a presentation on ecological or instream flows. After several slides discussing the benefits of a natural flow regime to aquatic communities, he mentioned the three minimum instream flow options currently included in DNR's interim instream flow policy, as follows: 1)

Monthly 7Q10; 2) Site specific studies; and 3) the mean annual flow option (i.e., 30% mean annual flow (or inflow) below a withdrawal, or 30%/60%/40% mean annual flow below a water supply reservoir (percent depends on season)).

**Question:** If there are three options in lieu of 7Q10, which is the most protective?

**Answer:** Ted answered that monthly 7Q10 is more protective than annual 7Q10, and the annual 7Q10 was an engineering standard based on assimilative capacity and does not consider flow and aquatic habitat relationships like the site specific studies or mean annual flow option; however, the monthly 7Q10 does provide some flow variability throughout the year where the annual 7Q10 did not. The mean annual flow option is also a statistical standard, but this has been demonstrated across the southeast to provide good habitat conditions. The flows are associated with habitat and sustainability over a long period of time.

**Comment:** Former EPD Director Harold Reheis provided a brief history of the development of minimum instream flow policy while he was at EPD. He explained that the policy was made to provide a balance between providing protection to the aquatic environment and avoiding financial burden for the municipal providers. Higher instream flow requirements can increase the cost for constructing reservoirs. A larger reservoir could be required to provide the same yield if a higher minimum flow release is required.

**Question:** Kevin Farrell was asked if the Council could consider another minimum instream flow standard as part of the regional planning process since monthly 7Q10 is an engineering standard and not a biological standard.

**Answer:** Kevin Farrell responded that a permit applicant can choose from any of these options if low flows are an issue.

**Question:** How many applicants typically pick another option?

**Answer:** Kevin Farrell responded that very few pick other options because of the cost associated with these other methods. Kevin reminded the Council that higher instream flow requirement may require bigger reservoirs to achieve the same yield and this could increase the capital cost significantly.

**Comment:** A comment was made that the Council has a unique opportunity to look at a different minimum instream flow requirements to protect aquatic habitats. It is important to understand and consider other alternatives.

**Comment:** Kevin confirmed that the Council could recommend a different instream flow standard.

**Question:** A subcommittee member asked about the current quality of the fisheries in the Ocmulgee Region.

**Answer:** Ted responded that the sport fisheries in the Ocmulgee region overall are very good.

**Comment:** A comment was made that information on the assessment of fisheries from Ted should be considered in the review by the expert panel (Scientific and Engineering Advisory Panel - SEAP) and any decision-making by the Council. Tony shared a concern that the monthly 7Q10 will decrease over time as impervious surfaces increase, resulting in low flows lasting longer. He is concerned about the decrease in 7Q10 flows over time and the challenges to water suppliers in the region.

**Answer:** Ted concurred that the decrease in monthly 7Q10 over time could be likely.

\*Questions were asked by council members unless otherwise noted.

**Question:** If during the FERC relicensing it was possible for DNR to look at flows beyond 7Q10.

**Answer:** Ted commented that the flow of 400cfs (or inflow) is based on a study (associated with the most recent FERC relicensing) with Georgia Power downstream of Loyd Shoals Dam. He noted that he does not know how far downstream of the dam would be appropriate to apply the 400 cfs minimum, but it's probably not much further than the study boundary itself (about 6 miles).

**Comment:** A Council member added that the flow out of Lake Jackson generally is 300 to 400 cfs in the river. During drought the flow was generally 300 – 320 cfs. Macon Water Authority needs at least 300 – 320 cfs to operate for water supply. The FERC license allows discharges as low as 200 cfs. Macon Water Authority has a great working relationship with Georgia Power. Macon's reservoir was sufficient to meet their needs during drought, but if the releases dropped to the FERC license minimum levels it could be a challenge.

**Comment:** Les Ager (citizen) commented that 7Q10 was intended to define the worst case scenario in the stream naturally and to develop water quality standards. The standard was developed to define operations during drought and it is a misguided principle to use this standard to define worst case withdrawals and apply it to planning. An instream flow analysis was completed by DNR and the associated report identifies the deficiencies of 7Q10 to protect natural resources. He encouraged the Council to seek SEAP review. Ecologists and biologists nation-wide have stated that the 7Q10 standard does not protect aquatic systems. The other two alternatives for instream flow calculations do protect streams. The current policy is an "interim instream flow standard" and the interim title was applied because the white paper recognized that the standard was deficient. He recommends that the SEAP be consulted and urge the state to obtain funding for minimum instream flow studies and develop a better standard. While studies are ongoing, he recommended that the State use a more conservative approach such as that in the 1995 WRD report. Local governments choose monthly 7Q10 because it provides the highest yield and not because of cost. The biotic resources in the region are important.

**Comment:** Chairman Richardson stated that the question of minimum instream flow would be taken to the technical subcommittee and/or SEAP as recommended and thanked Ted for his presentation.

#### 6) Surface Water Availability Resource Assessment Updates

David Ashley explained that the initial future assessments (evaluating the 2050 demand conditions) are still being refined by EPD. There were some questions on about the return flows estimates for 2050, especially returns from the Metro North Georgia Water Planning Districts. In addition, the model is being revised based on new wastewater return ratio for the clay/stone industry. Jacobs JIG is working closely with EPD and the other contractors to revise the models.

**Question:** Chairman Richardson is concerned that the region only has one node (Lake Jackson) and that the Lumber City node is downstream of the region. These are two gages in the region with tremendous information.

**Answer:** The Macon gage information was not considered a planning node because it would separate the Macon's withdrawal and discharge into two separate planning nodes. EPD tried to keep withdrawals and discharges in the same node for consumptive use calculations.

**Question:** Chairman Richardson asked why the Hawkinsville gage was not considered, as it does not split withdrawals and discharges in the region.

**Answer:** David responded that he will ask EPD.

Planning contractor is working with EPD and the modeling contractors to get final resolution and numbers for planning purposes.

David also provided a summary of the groundwater resource assessment. There is no change in this assessment and there is no existing gap.

#### 7) Surface Water Quality Resource Assessment Updates

Tai-Yi provided an update on the surface water quality resource assessment from the DOSAG model, as follows. There are two parts of the initial future assessments:

1. Comparison of permitted flow versus forecasted flow (by county): If forecasted 2050 wastewater flow is greater than what has been permitted, wastewater infrastructure is needed to address future treatment needs. The results showed that for projected municipal flows (including industrial flows that are treated at municipal facilities), Butts, Houston, Jasper, Jones, and Newton Counties will likely require additional treatment capacities to meet 2050 needs. To handle the projected (self-supplied) industrial wastewater flow in 2050, there may be a need for additional treatment capacity in Bibb County for industries that were assumed to have their own treatment facilities. However, this need may also be addressed by available municipal capacities. A few other counties (Newton, Butts and Peach) were shown to have relatively small industrial wastewater treatment needs by 2050.

2. Assimilative Capacity Assessment - DOSAG model results showing the predicted remaining DO levels based on full permitted discharge conditions (at permitted flow and loadings). The results showed that the majority of streams modeled have available assimilative capacity. Further evaluation on potential causes will be needed for streams showing "red" – exceeding their respective assimilative capacities.

**Question:** A Council member asked Tai-Yi to confirm that these results only reflect dissolved oxygen (DO) levels in the region.

**Answer:** Yes, the results reflect the "remaining" DO level if discharges were at full permitted level for flow and organic loadings.

**Question:** The scale for DO levels (<0 to 1 mg/L) seemed like it provided a very narrow window; what is the basis for the scale?

**Answer:** The scale was created based on DO standards used by EPD. The DO standards for "very good" would have started with 6 or more mg/L in the stream and the model predicted > 1mg/L DO available for assimilative capacity after the assumed discharge.

**Comment:** Kevin Farrell added that the scale indicates how much DO remain if all of the



existing treatment facilities discharge at their full permit limits. While this is unlikely, it is most protective. The scale reflects the DO remaining in the stream under these future conditions.

**Question:** Is the scale related to the geography within the State?

**Answer:** Tai-Yi stated that the DO scale was uniform across the State, but agreed that there are some streams that do have naturally low DO levels. One of the stated objectives of the State-wide Water Management Plan is to review the DO standards.

Tai-Yi explained that the models are conservative because discharges are often lower than the permit limits that are modeled. Tai-Yi summarized the approaches to address predicted gaps. For infrastructure gaps, Step 1 is to start with planned or proposed projects from the proposed wasteload applications on file at EPD. If a wasteload has been approved and a design development report submitted to EPD for review, these projects are considered Tier 1 planned projects. Tier 2 planned projects may have a wasteload application on file but no further actions. Step 2 is to ask local governments and utilities for planned projects being considered by them. If all of these planned projects cannot fill the gap, we will work with the Council on additional “conceptual” projects to fill the gap (Step 3). It is expected that most of the planned projects on file would address future wastewater treatment needs.

For the streams showing assimilative capacity being exceeded at permitted levels, the first step is to evaluate potential causes identified by EPD. If the streams have documented low DO levels it may already have a TMDL being prepared. In that case, the TMDL process will be followed. The Council can encourage local governments in following the TMDL implementation plan (which is voluntary). In addition, the Council may evaluate whether they need to request for additional modeling runs with revised assumptions (for example, effluent conditions closer to current treatment levels).

Tai-Yi provided an overview of 303(d) listed streams in the region.

**Question:** A question was asked if streams were ever removed from the 303(d) list, if so, how long that process may take.

**Answer:** Kevin Farrell answered that there were not many instances where this has happened, but there were a few.

**Comment:** Kim Shorter added that Clayton County Water Authority developed an EPD-approved sampling and quality assurance plans and did get several streams removed from the list. In general it takes 2 years of data showing that the stream meets state standards to get a stream removed from the 303(d) list.

**Comment:** Kevin Farrell said that based on the 303(d) list, the Council may want to consider actions for the region to address listed parameters; such as better education on septic systems to address fecal coliform issues, etc.

**Comment:** A Council member commented that the current fecal coliform standard sometimes resulted in pristine streams being listed.

**Comment:** Kevin Farrell responded that there is an ongoing debate about this particular standard. Another stated purpose of the State-wide Water Management Plan is to evaluate the fecal coliform standard.

**Comment:** A Council member commented on the correlation between quantity and quality.

\*Questions were asked by council members unless otherwise noted.

David summarized that of the total miles of listed streams, the parameter of biggest concern is fecal coliform in the Middle Ocmulgee region.

**Question:** In looking at the DO modeling results, very few stream segments are considered impaired. But looking at the 303(d) list there are a substantial number of impaired stream segments. How will the Council address these challenges? This is something that the Council will need to discuss in greater detail.

**Answer:** Tai-Yi responded that DO issues are easier to address because they are often associated with a specific discharge, or point source pollution. The streams on the 303(d) list are primarily impaired due to nonpoint sources, which are much more difficult to address. The next several meetings will discuss management practices, and there are a number that address nonpoint source pollution. Local funding for these programs may be a big consideration.

**Comment:** Mark Wyzalek (Macon Water Authority) commented that he had concerns about removing streams from the 303(d) list. He had specific concerns about the Tobesofkee Creek TMDL for DO and some of the modeling data used to support that TMDL.

**Comment:** Ted Hendrickx (EPD) added that the DOSAG model results (initial future assessment) were different than that shown previously. In previous versions, the “red” color indicated streams that were at or above their assimilative capacity. The new pink color reflects those streams that are “at” their assimilative capacity. Streams that are “at” their assimilative capacity may not require any action. Also, a more detailed review of the models shows that some of the streams in red may not actually be exceeding assimilative capacity; rather, they may have an assumption that needs to be reassessed.

David concluded that the Middle Ocmulgee Council will probably have more water quality than water quantity issues to address.

*The meeting was adjourned for lunch.*

#### Additional Reports by Georgia Forestry Commission

Frank Green of the Georgia Forestry Commission discussed the best management practices that the forestry sector is implementing in coordination with EPD to protect water quality. He handed out surveys from 2009 to demonstrate that the forestry industry is actively implementing BMPs. The surveys show a high level of compliance with required best practices.

**Question:** What is the process of enforcement for problems?

**Answer:** Frank responded that the Forestry Commission first tries to work with the landowner to correct the issue. If the landowner doesn't resolve the problem, then the Forestry Commission turns the case over to EPD for enforcement action.

**Question:** A Council member mentioned a specific forest road that is not being properly maintained.

**Answer:** Frank responded that there were challenges with public dirt roads particularly county-maintained roads - as well as private forest roads.

### 8) Management Practices Update and Committee Comments

David gave an overview of the water management practices and their selection.

**Question:** A Council member asked about the status of the report required in SB370 that was due at the end of June. Kevin Farrell believes that this is a joint report by Department of Community Affairs (DCA) and EPD and that it is completed.

**Question:** Adriane Wood (DCA) asked if SB370 required local staff to enforce implementation of the State plumbing code revisions. There are many counties that don't have staff or building officials to enforce these requirements. Almost all counties adopt the state plumbing code by ordinance, but not all are counties perform inspections.

**Comment:** Chairman Richardson commented that this is required in the law.

Charlotte Weber provided an overview of the results of the water management practice survey (see Attachment). Questions on water management practices identified by the survey were discussed. Discussion covered all survey questions where more than 50% of the 22 survey respondents requested that additional discussions take place.

There were several questions regarding reuse conservation measures. Tai-Yi added that because of saltwater intrusion on the coast, anyone requesting a new permit or increased withdrawal must conduct a reuse study to determine if another viable source is available. This is not a problem in the Middle Ocmulgee.

There was discussion regarding tiered water rates. Chairman Richardson added that there are some debt service issues that need to be factored into water rates. The base charge is often designed to cover the needs of the utility in terms of fixed costs and the variable costs should cover only a small component of the water utility's operating costs. If water conservation rates are not done correctly, it can destabilize a revenue stream and threaten the health of a utility.

Mark Wyzalek added that if water conservation is successful it can reduce the overall revenues and result in rate increases. Macon Water Authority considers rate increases carefully, as they have some customers in their service area who are below the poverty line and increases in rates significantly impact these customers.

### 9) Water Conservation Guidance

David gave an overview of possible water conservation measures and discussed the definitions of the four tiers of measures in the guidance provided by EPD.

### 10) Management Practices Survey and Discussion

The Council broke out into three groups to discuss water conservation management practices.

#### **Municipal Conservation Discussion**

The municipal conservation group commended the Department of Community Affairs Water First recognition program and the International Water Association/American Water Works Association Water Audit tool as being great measures. Several members thought that water

\*Questions were asked by council members unless otherwise noted.

conservation should not be mandated if there wasn't a gap. Everyone thought that education and conservation rates were good strategies. Looking at the Tier 3 measures, the group thought that meter calibration/testing based on industry standards, automatic meter reading, valve maintenance and GIS systems were good measures to encourage. These practices may need to be tailored based on system size or population, as well as looking at whether the source of water is surface water or groundwater.

#### *Participants*

David Ashley, Jacobs JIG

Charlotte Weber, Jacobs JIG

Elmo Richardson, Chairman

Council Members: Russ Adams, Mike Hopkins, Mark Wyzalek

Partnering Agency Members and Guests: Greg Popham

#### **Agriculture/Landscape/Golf Course Conservation Discussion**

The agriculture group felt that conservation tillage, variable rate irrigation and irrigation shut-off controls were good ideas. Most of the industry is already employing these techniques. Irrigation audits and education (both for public and for landscape professionals) were also important to this group. The UGA Cooperative Extension Service provides valuable service related to education and the group was concerned that budget cuts may decrease the level of education available. A summary of the group discussion follows.

#### *Practices Already in Use by Water Users*

1. Conservation tillage, furrow diking, and low volume irrigation (instead of high pressure irrigation system, less evaporation) have all been commonly used.
2. End gun shut-off (irrigation shut-off controls) should be required.
3. Variable rate irrigation is a good idea.
4. Moisture detectors/sensors should be used on irrigation systems. These are available in irrigation supply stores.
5. Xeriscaping – use of low water requirement plants should be encouraged.
6. Uniformity of irrigation systems: do not overwater in some areas
7. Drip irrigation – much more efficient and will be more common in the future (a matter of economics as long as price is competitive), can be used in small irregular fields better than center pivot systems.

#### *Practice to be added to the Tier 3 list*

1. Statewide landscape professional education and certification program.
2. Rain sensors on irrigation system.
3. Including conditions/requirement to irrigation permits.
4. Funding and personnel for water conservation educator/education program.

The group discussed the pros and cons of Tier 3 practices – basic practices that are not address in existing and upcoming rules.

#### *Water Use and Conservation Practice Data Collection*

- There are still a lot of irrigation systems that do not have meters. Better state agency coordination on Ag water use water metering is needed.

#### *Irrigation Audits*

- Georgia Soil and Water Conservation Commission (GSWCC) already conducts it at the request of customers. The audit can generally include checking leaks and going through a check list for system to monitor water use efficiency.
- We cannot force people to adopt.
- Implementation responsibility is on water users; if audits or system replacement cause economic burden, we cannot force people.
- The goal is to provide tools for farmers.

#### *Golf Course Water Use*

- BMP plan may be similar to water conservation plan (already required if a gold course has a withdrawal permit).
- Most don't have a need to measure water use.

Following the discussion, the group agreed to recommend the following Tier 3 practices for inclusion in the regional plan:

#### *Agriculture*

- Collect data and information on cropping and water conservation practices on farms
- Conduct irrigation audits
- Recommend rain sensors on irrigation systems

#### *Landscape*

- Education/Certification program for professionals
- Educate program for customers

#### *Golf Course*

- Develop and implement Best Management Practices
- Keep water use logs and maintain water use database

The group discussed how applicable these practices are and decided that geography is not a big issue. These recommendations can be region-wide.

#### *Participants*

Ted Hendrickx, EPD

Tai-Yi Su, Jacobs JIG

Council Members: Ben Copeland, Charlie Harris, Bill Lazenby, William Whitten, Jerry Davis  
Partnering Agency Members and Guests: Karol Kelly, Keegan Malone, Don McGough, Frank Green

\*Questions were asked by council members unless otherwise noted.

### **Industrial Conservation Discussion**

The industrial group felt that incentives were important to engage the business community in water conservation. The group discussed rebates, tax credits, recognition and extension of permit timeframes as possible incentives to offer.

Atlanta Gas Light (AGL) shared an example of the benefits of industrial water audits. Following the Governor's 10% water reduction mandate, AGL performed an internal audit of their water use. They identified several opportunities to save water and money.

#### *Participants*

Kevin Farrell, EPD

Kim Shorter, AECOM

Council Members: Thomas Wicker, Larry McSwain, Paul Leath

Partnering Agency Members and Guests: George Martin (Georgia Power)

#### 11) WDCP Development

Tai-Yi provided an overview of the process for developing the Regional Water Plan and discussed the draft schedule for completion. The Council advised that 2 weeks time was appropriate for review of draft sections.

#### 12) Local Elected Official and Public Comments

Frank Green handed out information that summarized forestry BMP implementation.

There were no public comments.

#### 13) Wrap Up/ Next Meeting

The next meeting is tentatively planned for the first week of October.

#### 14) Action Items

1. Planning Contractor (PC) to get with Council member John Bembry on Pulaski County flows
2. PC to get with Council member Thomas Wicker on potential plans for regional energy production and make sure input is provided to EPD and its energy water use contractor
3. Revisit Monroe County wastewater flows (PC to review Forsyth permits/flows and clarify)
4. Non-crop agricultural demand future demand (livestock, golf course and nursery demand) trends – Subcommittee to determine options and recommend to full Council
5. Kaolin Industry – discuss with Chair - 1) invite a guest speaker for CM7, 2) provide a paragraph to explain the projected demand and declining trends

6. Follow up on request for SEAP input on biological factors affecting instream flow policy
7. Follow up with WRD to get list of the most biologically important streams in the region  
*[Note from planning contractor: we have this information in map form.]*

### **Meeting Attendees**

#### *Council Members in attendance*

Russ Adams	William Lazenby
John Bembry	Paul Leath
Blair Cleveland	Jay Matthews
Ben Copeland Jr.	Larry McSwain
Keith Dalton	Hal Newberry
Jerry Davis	Barry Peters
Robert Dickey	Elmo Richardson
Richard Haddock	Tony Rojas
Jim Ham	William Whitten
Bobby Hamby	Thomas Wicker
Charlie Harris	

#### *Council Members not in attendance*

Tony Bass  
Jason Briley  
Harvey Norris  
Eva Persons  
Robert Ray  
Terry Scarborough  
Van Whaler

Staff in attendance

Kevin Farrell (EPD)  
Ted Hendrickx (EPD)  
David Ashley (Jacobs JIG)  
Tai-Yi Su (Jacobs JIG)  
Charlotte Weber (Jacobs JIG)  
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)  
\*Ted Will (GA DNR – Wildlife Resources)  
\*Phil Foil (Georgia Environmental Finance Authority - GEFA)  
Frank Green (Georgia Forestry Commission - GFC)  
Bill Stembridge (Regional Representative for Senator Saxby Chambliss)  
Skip Langley (Regional Representative for Senator Johnny Isakson)  
Mark Wyzalek (Macon Water Authority)  
Kenneth Sheets (Bibb County)  
Don McGough (Georgia Farm Bureau)  
Mike Hopkins (Newton County Water and Sewerage Authority)  
Greg Popham (City of Forsyth)  
Mary Beth Bass (Hawkinsville-Pulaski Archway Partnership)  
Harold Reheis (Joe Tanner & Associates)  
Les Ager (retired fisheries supervisor GA DNR)  
Lee Slade (Hawkinsville-Pulaski County Chamber of Commerce)  
Mike Dodd (City of Forsyth Council member)  
Bill Foley (Oglethorpe Power Corporation)  
Brooks Bailey (Pulaski County Commissioner)  
George Martin (Georgia Power)  
Cliff Bowden (Georgia Farm Bureau)  
Guy Pihera (Clayton County Water Authority)  
Scott Cole (Hall Smith Booth & Slover, PC)

*\*Indicates attendee represented a partnering agency*



## **Attachment**

### **Water Conservation Management Practices Survey Results**

**Middle Ocmulgee Regional Water Planning Council  
June 30, 2010**

Middle Ocmulgee Council Management Practices

**1. The SWP lists several conservation practices appropriate for municipal water providers to use when demonstrating the implementation of conservation (SWP, Section 8, implementation action 2(a)iii(1)). Some or all of these practices may be included in the WDCP. Please check your level of understanding for the following.**

	Understand fully	Needs further discussion	Response Count
1. Conduct regular water system audits and adopt a water loss control program.	<b>63.6% (14)</b>	36.4% (8)	22
2. Implement conservation-oriented rate structures.	<b>81.8% (18)</b>	18.2% (4)	22
3. Adopt a water loss control program.	<b>54.5% (12)</b>	45.5% (10)	22
4. Meter all water uses.	<b>72.7% (16)</b>	27.3% (6)	22
5. Adopt a meter calibration, repair and replacement program.	<b>81.8% (18)</b>	18.2% (4)	22
6. Adopt a program to collect information on water use by the largest customers.	<b>59.1% (13)</b>	40.9% (9)	22
7. Enforce current outdoor water use schedule.	<b>90.9% (20)</b>	9.1% (2)	22
8. Meter water reuse and report reuse on a regular basis.	40.9% (9)	<b>59.1% (13)</b>	22
9. Conduct reuse feasibility studies.	31.8% (7)	<b>68.2% (15)</b>	22
10. Consider the use of gray water.	<b>54.5% (12)</b>	45.5% (10)	22
11. Consider programs to replace or retrofit inefficient plumbing fixtures.	<b>86.4% (19)</b>	13.6% (3)	22
12. Update water conservation plans on a regular basis.	<b>77.3% (17)</b>	22.7% (5)	22
		Comments	1

answered question 22

skipped question 0


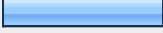

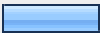
**2. The SWP lists several conservation practices appropriate for permitted industrial water users to use when demonstrating the implementation of conservation (SWP, Section 8, implementation action2(a)iii(2)). Some or all of these practices may be included in the WDCP. Please check your level of understanding for the following.**

	Understand fully	Needs further discussion	Response Count
1. Conduct facility-specific audits every three years or when processes change.	63.6% (14)	36.4% (8)	22
2. Measure all water withdrawals.	63.6% (14)	36.4% (8)	22
3. Measure or estimate water reuse and report reuse.	50.0% (11)	50.0% (11)	22
4. Adopt maintenance and repair programs for pipelines, intakes and discharge structures.	95.5% (21)	9.1% (2)	22
5. Install rain or moisture sensor shut-off devices for irrigation systems.	90.9% (20)	9.1% (2)	22
6. Irrigate landscapes in compliance with outdoor water use schedule.	86.4% (19)	13.6% (3)	22
7. Conduct reuse feasibility studies.	45.5% (10)	54.5% (12)	22
8. Consider the use of gray water.	63.6% (14)	36.4% (8)	22
9. Update water conservation plans on a regular basis.	85.7% (18)	14.3% (3)	21
		Comments	0
		answered question	22
		skipped question	0

**3. Non-farm water withdrawal permittees and drinking water providers are required to report information on the implementation of conservation practices (SWP, Section 8, implementation action 2(c)i-v)). Please check your level of understanding for the following.**

	Understand fully	Needs further discussion	Response Count
1. Provide data and information regarding implementation of water conservation plans and progress towards goals.	<b>63.6% (14)</b>	36.4% (8)	22
2. Include measurable outcomes in terms of reduced or maintained water production or usage.	<b>50.0% (11)</b>	<b>50.0% (11)</b>	22
3. Evaluation of the impact conservation efforts may have on consumptive use of water for the region.	36.4% (8)	<b>63.6% (14)</b>	22
4. Schedule for implementing water conservation practices or achieving goals.	<b>59.1% (13)</b>	40.9% (9)	22
		Comment	0
		<b>answered question</b>	<b>22</b>
		<b>skipped question</b>	<b>0</b>

**4. Please rate the topic you are most interested in for the CM#6 workgroups.**

	Response Percent	Response Count
Municipal Water Providers 	42.9%	9
Industrial and Commercial Water Users 	23.8%	5
Agricultural Water Users/Landscape Water Users/Golf Courses 	42.9%	9
Energy Users 	14.3%	3
<i>answered question</i>		21
<i>skipped question</i>		1

**5. If you are an expert in any of the fields listed for Tier Three: Please note it here including your name and a brief description of your experience.**

	Response Count
	2
<i>answered question</i>	2
<i>skipped question</i>	20