



Georgia's  
**State Water Plan**

**Middle Ocmulgee Water Planning Council  
Council Meeting 9**

**December 13, 2010**

[www.georgiawaterplanning.org](http://www.georgiawaterplanning.org)

# *Draft Agenda*

- **Schedule Extension**
- **Recent Meeting Update**
- **Review Revised Sections 1-5**
- **Review Revised Section 6-8**
  - **Section 6-Management Practices**
  - **Revised Section 7 (Plan Implementation/ Recommendations to the States)**
  - **Section 8 (Benchmarks/Plan Update/ Amendment)**
- **WaterFirst**
- **Small Group Discussions**
- **Next Steps**
- **Local Elected Official and Public Comments**

# **Welcome and Introduction Special Guests**

# **Schedule Extension**

## **Schedule Extension**

- Regional Water Plan schedule and deadlines revised per November 24, 2010 memo from GA EPD Director F. Allen Barnes
- **Rationale:** Several Councils requested additional time to consider RA modeling results and to further refine their management practices

# Regional Water Plan Revised Schedule

Council Products/Activities	Original Schedule	Revised Schedule
Councils will select water management practices to adjust demand and resource capacity	Through January 2011	Through April 2011
Councils will submit an initial recommended regional water plan to EPD for consideration	Not later than January 31, 2011	Not later than April 31, 2011
EPD will provide public notice and a 45-day public comment period on the initial recommended regional water plans	February 7, 2011	May 9, 2010
Councils will review and revise their RWP based on public review and EPD comments; then submit a final recommended regional water plan to EPD for consideration	Not later than June 30, 2011	Not later than September 30, 2011

# **Recent Meeting Update**

# *Recent Meetings*

## **Since Council Meeting 8 (November 4)**

- November 18 – Technical Subcommittee Meeting
- December 7 – Instream Flow Ad Hoc Meeting
- December 8 – Joint Legislative Committee Meeting on Water Supply

# *Instream Flow Ad Hoc Meeting*

- Background – instream flow provisions in GA and other states (Nap Caldwell and Gail Cowie, EPD)
- Identifying resource values and instream flows to support them (Dr. Mary Freeman)
- Information Needs (what do we know, what do we need to know) (Dr. Mary Freeman)
- Options for councils' consideration (Dr. Mary Freeman and EPD)

## **Identifying values and instream flows to support them**

- Flow (minimum flow) dependent values – water supply, waste assimilation, power production, navigation, recreation, fisheries and biodiversity
- Flow variability dependent values – biodiversity and natural resources
  - Both high and low flows (wet and drought periods) are important for ecological resources
  - Seasonal variability and year to year variability are equally important

## **Information Needs (what do we know, what do we need to know)**

- Resource Assessment evaluated gaps against monthly 7Q10 based on unimpaired flow (low flow - drought condition evaluation)
- Good hydrological base for flow dependent values
- More conservative – show droughts more often than observed flows
- No information provided on *flow variation* or *non-drought* conditions for protecting biological or recreational values

## **Options for Council's Consideration**

- Studies on flow variation can be done
- Council can include language for additional data for study request (Section 7.4-Recommendations to the State)

## **Options for Assessing Flow Regime Alteration during Non-Drought Periods**

- Quantify degree of change by comparing UIF with demand and assess % change (flow regime alteration)
  - Assessment of % change and respective resource values – can be context/site specific (how the stream is used)
- Evaluate higher minimum flow for RA (compare to UIF 7Q10)
  - Site specific studies may be required

## **Additional Options for Assessing Flow Regime Alteration during Non-Drought Periods**

- Place and evaluate additional nodes for specific natural resources to be protected
  - Regional study scale is too general
  - Locations of nodes may not represent specific resources the Council would like to protect

## **Other Considerations**

- A tight quantitative relationship between aquatic life and flow regime/quantity may not exist
- Extreme climatic conditions may seriously alter aquatic life conditions
- Prioritization – look at high-value water resources in the region (working with WRD)
- Some existing permits have grandfathered conditions – annual 7Q10 or no min. flow requirement (permits granted prior to 1977)

## **Options for Council to Consider**

- MOC – Plan already includes a recommendation to the State on additional instream flow study
- Modify language so the recommendation is more specific – what kind of study request?
  - Jackson and Lumber City both considered “regulated” planning nodes
- Establish regional goals and priority water resources for further studies (working with WRD)
- Build in “Adaptive Management” with plan update process

# **Plan Review**

## **Sections 1-5 (General)**

- Coordination with local governments and interested stakeholders..... Especially for those entities that will be directly affected by the Plan
- Strengthening the linkages between the Council's vision and goals and other identified concerns and adverse impacts..... not just filling gaps

## **Sections 1-5 (Specific)**

- Page limits (all)
- Groundwater gap analysis (Section 5)
- Addition of watershed modeling results (Section 5)

## **Sections 6-8 General Comments**

- Coordination with local governments and state agencies, especially in regard to local and regional comprehensive plans, reflect consideration of existing plans
- Management practices need to address all water use sectors; identify linkage to resource assessments, gaps/issues and MPs.

## Section 6 Comments

- Quantify the amount of resource “savings” or additional capacity gained toward meeting the gap (in cfs, or MGD), and provide supporting information on why the gap will not be met
- Include recommendations for collection and use of data and information to improve specificity and support decision making in future round of planning
- Consider a clear prioritization of recommended management practices (and within MPs, clarify prioritization of actions)

## Section 7 Comments

- Provide more details regarding the responsible entities and schedules for implementation
- Clarify the prioritization of actions by EPD (and other parties)
- Provide details on the Council's consideration of feasibility and effectiveness of recommended MPs, taking into consideration technical, policy, and affordability issues, as well as financial and environmental cost implications
- Consider eligible water quality projects to receive Section 319 grant funds for the region (end of Jan deadline)

## Section 8 Comments

- Include usable benchmarks, both quantitative and/or qualitative as appropriate
- Look for water use or environmental outcomes as measures of progress
- Where appropriate, benchmarks could be grouped for categories of MPs, implementation parties, and/or geographic areas

## Section 6

### Addressing Water Needs and Regional Goals

- Prioritization of Management Practices (Sections 6.2)
  - **Priority** MPs (Table 6-1) –address gaps and existing regulations
  - **Additional** MPs (Table 6-2) – select based on needs identified in local level master planning
- Demand Reduction from gradual transition to High Efficiency Plumbing Fixtures (Section 6.2)

# Priority Management Practices

## Gap Addressed : No Regional Gap

Action(s) Needed	Issues to be Addressed
<b>WD1-Implement Tier 1 Water Conservation Practices and Other SB370 Requirements</b>	Overall demand reduction and management (municipal and industrial) in all areas of the region; Reduction or elimination of potential future gap in the Cretaceous Aquifer
<b>WD2-Evaluate /Encourage Tier 2 (Non-Farm) Water Conservation Practices</b>	Demand reduction and management, as required by <b>non-farm</b> permit conditions or future amended rules; Reduction or elimination of potential future gap in the Cretaceous Aquifer

# Priority Management Practices

<b>Action(s) Needed</b>	<b>Issues to be Addressed</b>
<b>WS 1-Develop /Update Local Water Master Plans</b>	Reduction of local water supply needs and better planning and management of water resources; (more urgency for counties in Table 5-2 with capacity shortfall)
<b>WS 2-Investigate Impacts of Interbasin Transfers, if proposed</b>	Potential impacts of (1) change in Metro District's discharge conditions in the Upper Ocmulgee basin, if proposed; (2) impacts of nutrient loadings;( 3) effects on local assimilative capacity
<b>WS 3-Develop Water Use Monitoring Program for Areas Relying on the Cretaceous Aquifer</b>	Prevention of future supply gaps in the Cretaceous Aquifer; verification of water withdrawals (in counties south of the Fall Line) for improved calibration of the Cretaceous Aquifer model

# Priority Management Practices

## Gap Addressed : Potential Assimilative Capacity Gaps

Action(s) Needed	Issues to be Addressed
<b>WQ 1-Develop/Update Local Wastewater Master Plans</b>	Management of point source discharges and future capacity needs (more urgency for counties in Table 5-3 with capacity shortfall); improve pollution controls to aid in closing assimilative capacity gaps in identified stream segments
<b>WQ 2-Adopt and Coordinate Statewide, Regional and Local Water Quality Monitoring Programs</b>	Tracking long-term point and non-point source pollutant loads to aid in managing future gaps for low DO at or below the Fall Line and potential nutrient issue in upper Ocmulgee watershed (north of Lake Jackson)

# Priority Management Practices

## Gap Addressed : Potential Assimilative Capacity Gaps

Action(s) Needed	Issues to be Addressed
<b>WQ 3-Upgrade Existing Wastewater Treatment Facilities</b>	Potential water quality (assimilative capacity) gaps in the southern portion of the region; local wastewater capacity needs
<b>WQ 4-Construct Advanced Wastewater Treatment Facilities</b>	Potential water quality (assimilative capacity) gap; local wastewater capacity needs
<b>WQ 5-Promote Coordinated Environmental Planning</b>	Integrated planning and management of water resources

# Priority Management Practices

## Gap Addressed : Potential Assimilative Capacity Gaps and Non-Point Source Pollution Reduction

Action(s) Needed	Issues to be Addressed
<b>WQ 6-Reduce Runoff from Impervious Surfaces</b>	Reduction of non-point source pollution
<b>WQ 7-Develop Programs to Protect Sensitive Land</b>	Protection of environmentally sensitive lands and non-point source pollution reduction
<b>ED 1-Develop Regional Educational Program and Materials for Localized Implementation</b>	Improved public awareness of water issues, water efficiency, and water quality gaps

# *Additional Demand Management Practices*

<b>Action(s) Needed</b>	<b>Issues to be Addressed</b>
<b>WD 3-Promote Full-Cost System Accounting</b>	Better planning and management  Meeting water/ wastewater systems' long-term needs for maintenance, repair, rehabilitation, as well as new or replacement assets
<b>WD 4-Evaluate/ Encourage Tier 3 Water Conservation Practices</b>	Additional Demand Management to extend life of existing water supply source and to delay capital expenditure for new supply sources  (More urgent for counties in Table 5-2 with projected capacity shortfall and withdrawal permittees from the Cretaceous Aquifer)

# Additional Supply Management Practices

Action(s) Needed	Issues to be Addressed
<b>WS 4-Existing Surface Water Reservoir Storage</b>	Local water supply needs in areas north of the Fall Line; and as indicated in Table 5-2 (as an option for counties with projected capacity shortfalls)
<b>WS 5-Evaluate New Surface Water Storage Reservoirs</b>	Local water supply needs in areas north of the Fall Line; and as indicated in Table 5-2 (as an option for counties with projected capacity shortfalls)
<b>WS 6-Investigate New Groundwater Sources</b>	Local water supply needs in areas south of the Fall Line; and as indicated in Table 5-2 (as an option for counties with projected capacity shortfall)

# *Additional Supply Management Practices*

<b>Action(s) Needed</b>	<b>Issues to be Addressed</b>
<b>WS 7-Evaluate System Interconnections for Water Supply</b>	Local water supply needs and overall system reliability improvements
<b>WS 8-Expand Existing Water Treatment Plant</b>	Local water supply needs
<b>WS 9-Construct Water Treatment Plant (New)</b>	Local water supply needs
<b>WS 10-Promote and Evaluate Beneficial Reuse</b>	Local water supply needs; decrease demand for Cretaceous Aquifer and for surface water sources

# *Additional Water Quality Management Practices*

<b>Action(s) Needed</b>	<b>Issues to be Addressed</b>
<b>WQ 8-Decrease Use of Land Application Systems (LAS) in Urban Areas</b>	Reduction of consumptive loss and improved pollution control
<b>WQ 9-Decrease Use of On-Site Sewage Management Systems (OSSMS)/Septic in Urban Areas</b>	Reduction of consumptive loss and improved pollution control
<b>WQ 10-Evaluate Constructed Treatment Wetlands (Beneficial Reuse)</b>	Improved discharge quality and enhanced pollution control
<b>WQ 11-Develop Wastewater Collection System Asset Management Programs</b>	Better planning and management of rate payer resources

# *Additional Water Quality Management Practices*

<b>Action(s) Needed</b>	<b>Issues to be Addressed</b>
<b>WQ 11-Develop Wastewater Collection System Asset Management Programs</b>	Better planning and management of rate payer resources
<b>WQ 12-Encourage Total Maximum Daily Load (TMDL) Implementation</b>	Reduction of water quality (assimilative capacity) gap and impaired water improvements
<b>WQ 13-Develop/ Implement Watershed Assessment/ Protection Plan Measures</b>	Proper management of discharges; reduction of non-point source pollution; protection of water supply sources
<b>WQ 14-Develop Commercial/ Industrial Pollution Prevention Programs</b>	Reduction of non-point source pollution

# *Additional Water Quality Management Practices*

<b>Action(s) Needed</b>	<b>Issues to be Addressed</b>
<b>WQ 15-Develop and Implement Stormwater Public Education and Outreach</b>	Reduction of non-point source pollution
<b>WQ 16-Adopt Stormwater Management Standards for New Development for Rural Areas</b>	Reduction of non-point source pollution
<b>WQ 17-Develop/Update Local Stormwater Master Plan</b>	Reduction of non-point source pollution; reduction of potential assimilative capacity gaps
<b>WQ 18-Include and implement septage disposal options</b>	Proper treatment and disposal of pumped septage

# *Additional Water Quality Management Practices*

<b>Action(s) Needed</b>	<b>Issues to be Addressed</b>
<b>WQ 19-Establish a Stormwater Utility (or other funding mechanism)</b>	Reduction of non-point source pollution
<b>WQ 20-Evaluate Water Quality Trading</b>	Improved assimilative capacity
<b>WQ 21-Implement Watershed Improvement Projects</b>	Reduction of non-point source pollution; restoration of substantially impacted watersheds

# Estimated Demand Reduction (HEPF)

**Table 6-3: Estimated Demand Reduction (AAD-MGD) from High Efficiency Plumbing Fixtures**

County	2010	2020	2030	2040	2050
<b>Municipal Water Demand</b>					
Initial Forecast <sup>1</sup>	79.1	94.0	112.3	131.3	150.8
Estimated Savings <sup>2</sup>	0.00	0.5	1.4	2.9	4.9
Revised Forecast <sup>2</sup>	79.1	93.5	110.9	128.4	145.9
<b>Municipal Wastewater Generation</b>					
Initial Forecast <sup>1</sup>	74.2	88.2	105.5	123.8	142.9
Estimated Savings <sup>2</sup>	0.0	0.4	1.3	2.7	4.6
Revised Forecast <sup>2</sup>	74.2	87.8	104.2	121.1	138.3

**Notes:**

1. Based on existing plumbing fixtures using 1.6 gallons per flush (gpf).
2. Based on replacement of existing plumbing with 1.28 gpf, as required by Water Stewardship Act (SB 370).

# Section 7

## Implementing Water Management Practices

- **7.1 Implementation Schedule and Roles of Responsible Parties**
- **7.2 Fiscal Implications (under development)**
- **7.3 Alignment with Other Plans (under development)**
- **7.4 Recommendations to the State**

# *Implementation*

## **Schedule**

- Suggested initial, short-term, and long-term actions for priority practices

## **Responsible/Affected Parties**

- Local governments/utilities are primary responsible parties, with help from EPD, DCA, Regional Commissions and other partnering agencies
- Other water users (private citizens, farmers, industries – including power generation)

# *Implementation*

## **Fiscal Implications**

- Provided range of unit costs based on possible implementation unit

## **Alignment with Other Plans**

- No known conflicts between MOC and other proposed plans
- Different planning horizons/cycles for various plans – projects identified may make progress toward closing, but not completely address potential gaps

# *Recommendations to the State*

## **Public Education and Outreach**

Develop an outreach program to feature the Middle Ocmulgee Region's abundant water resources to promote future economic growth.

Develop regional education materials for use and customization by local entities.

## **Policy**

Continue to study and evaluate current instream flow policy. Encourage state funding for minimum instream flow and unimpaired flow research.

Evaluate future nutrient policy based on analysis of additional monitoring and data for nitrogen levels in Lake Jackson and its watersheds and the impacts of elevated nutrient loadings.

# *Recommendations to the State*

## **Additional Data (Surface Water)**

- Add planning nodes for the Surface Water Availability Model for the Ocmulgee-Oconee-Altamaha Basin. Potential locations can include a planning node below Macon area discharges (priority) or near Hawkinsville.
  - Synthetic/ simulated streamflow using the long-term data from the Macon stage and other downstream short-term record gages can be considered if long-term monitoring data is not available.
- Evaluate minimum instream flow and unimpaired flow assumptions in the Surface Water Availability Resource Assessment. Evaluate and better integrate “critical conditions” in Surface Water Availability and Surface Water Quality Resource Assessment models for the future Regional Water Plan Update.

# *Recommendations to the State*

## **Additional Data (Groundwater)**

Develop water use monitoring program for all areas relying on the Cretaceous Aquifer, including: (1) monitoring of withdrawal and discharge data from the Kaolin industry (across multiple water planning regions) on a regular basis, and further refinement of water balance and wastewater return ratios; and (2) monitoring of agricultural withdrawal, in addition to reported municipal and industrial withdrawals.

Conduct further studies to verify modeled sustainable yield.

## **Additional Data (Water Quality)**

Conduct additional monitoring on segments of streams predicted to exceed DO assimilative capacity in the future Resource Assessment (full permit limits assumption) and evaluate possible causes before determining actions to correct the potential impairment.

***Section 8: Monitoring and  
Reporting Progress***

# *Section 8: Monitoring and Reporting Progress*

8.1 Benchmarks

8.2 Plan Updates

8.3 Plan Amendments

# Measurement Tools and Time Period - Discussions

- Measurement Tools
  - Surveys
  - Water Use Factors
  - Administered by EPD with help from partnering agencies (Regional Commissions, DCA, GA Soil and Water Conservation Commission, etc.) and/or Future Council Organization
- Time Period (Frequency)
  - Annual
  - Biennial (example-305b/303d list)
  - Prior to 5-year update
  - Grouped by management practices



# Benchmarks For All Demand Management Practices

Benchmarks	Measurement Tools	Time Period
<b>Implementation of Recommended Tiered Non-Farm (municipal and industrial, including energy generation) Conservation Practices</b>	Survey based on annual water conservation progress report, with help from Regional Commissions and DCA	Annual
<b>Implementation of Recommended Tiered Agricultural (including landscape and golf course) Conservation Practices</b>	Survey, with help from GASWCC, Regional Commissions, and County Extension Service	Every 5 years*

# Benchmarks For All Demand Management Practices

Benchmarks	Measurement Tools	Time Period
<b>Maintenance or Reduction of Residential Per Capita Water Use</b>	Calculation of residential per capita demand (gpcd) for municipal water withdrawal permittees via annual water conservation progress report	Annual
<b>Maintenance or Reduction of Industrial Water Use Intensity</b>	Calculation of water use intensity for industrial water withdrawal permittees via annual water conservation progress report; examples include: 1) gallons consumed per square foot of production space; 2) gallons of water consumed per kilowatt produced for energy generation facilities; or 3) other appropriate water consumption per production unit	Annual

# Benchmarks For *Supply* Management Practices

Action(s)	Benchmarks	Measurement Tools	Time Period
<b>WS 1-Develop /Update Local Water Master Plan</b>	Number of local master plans initiated or completed	Survey	Every 5 years*
<b>WS 2-Investigate Impacts of Interbasin Transfers, if proposed</b>	Initiation or completion of regional interbasin study	Completion of study	Every 5 years*

# Benchmarks For *Supply Management Practices*

Action(s)	Benchmarks	Measurement Tools	Time Period
<b>WS 3-Develop Water Use Monitoring Program for Areas Relying on the Cretaceous Aquifer</b>	1) Initial: Establishment of water use monitoring network/ database across Cretaceous Aquifer (including multiple water planning regions)	1a) Number/location of monitoring sites for agricultural use plus municipal and industrial permittee reported withdrawals  1b) Resource Assessment model re-calibration (if necessary) based on newly available data	Every 5 years*
	2) Estimated available yield in the modeled layers of Cretaceous Aquifer	2a) Number and quantities of newly permitted withdrawals from the Cretaceous Aquifer  2b) Comparison of reported withdrawal quantities to modeled sustainable yield (on an annual average basis)	Annual (after the establishment of the monitoring database)

# Benchmarks For Water Quality Management Practices

Action(s)	Benchmarks	Measurement Tools	Time Period
<b>WQ 1- Develop/Update Local Wastewater Master Plans</b>	Number of local wastewater master plans initiated/completed	Survey	Every 5 years*
<b>WQ 2-Adopt and Coordinate Statewide, Regional and Local Water Quality Monitoring Programs</b>	Initiation of regional water quality monitoring network	1) Percentage of stream miles or lake assessed for long-term water quality trend  2) Availability of online (or other alternative methods) water quality monitoring results	Every 5 years*

# Benchmarks For Water Quality Management Practices

Action(s)	Benchmarks	Measurement Tools	Time Period
<b>WQ 3-Upgrade Existing Wastewater Treatment Facilities</b>	Meet treatment capacity needs and compliance with water quality standards	Quantities of additional permitted treatment capacities or upgrades	Every 5 years*
<b>WQ 4-Construct Advanced Wastewater Treatment Facilities</b>			
WQ5-Promote Coordinated Environmental Planning	Incorporation of Regional Water Plan via Comprehensive Planning and Service Delivery Strategy processes	Survey with help from Regional Commissions and DCA	Every 5 years*

# Benchmarks For Water Quality Management Practices

Action(s)	Benchmarks	Measurement Tools	Time Period
<b>ENHANCED POLLUTION /NATURAL SYSTEM MANAGEMENT PRACTICES</b>			
<b>General Stream Health</b>	Support Designated Uses	305(b)/303(d) List of Impaired Waters	Every 5 years*
<b>WQ 6-Reduce Runoff from Impervious Surfaces</b>	Adoption of ordinances related to reduction of impervious surface or incentive programs for pervious surfaces	Survey with help from Regional Commissions and DCA	Every 2 years*
<b>WQ 7-Develop Programs to Protect Sensitive Land</b>	Adoption of ordinances for stream buffer, floodplain, or other sensitive lands protection beyond minimum requirement	Survey with help from DCA, GASWCC, Regional Commissions and Wildlife Resources Division of DNR	Every 5 years*
	Number of acres of lands identified as environmentally sensitive lands		
	Number of acres acquired as "conservation land" for protection of sensitive lands		

## **Plan Updates**

The State Water Plan and associated rules provide that each Regional Water Plan will be subject to review by the appropriate Council every 5 years, unless otherwise required by the Director for earlier review.

# *Plan Update and Amendments*

## **Plan Amendments**

- The Regional Water Plan will be amended on a 5-year basis as required unless additional changes (triggering events) are identified and funded by EPD in the interim period.
- Assumes the Council continue to function in a similar capacity, will the amendment need to be reviewed and approved by the Council?

## Triggering Events Examples

- Proposal (or expansion) of a major water-using industry or development, including energy generation or military facilities, that would be expected to significantly change the water demand or discharge conditions of the region;
- Closure of major existing water use facilities that would significantly change the water demand or discharge conditions of the region;
- Major change in regulatory requirements, such as nutrient loading or instream flow requirements based on in-depth studies;
- Major interbasin transfer into or out of the region;
- New information that results in gaps in resource availability.
- ***Additional suggestions?***



A Community Based Water Initiative

Georgia Department of Community Affairs



# What is the WaterFirst Community Program?

- Voluntary partnership between local governments, state agencies working together to increase the quality of life in communities through the wise management and protection of water resources;
- Proactive approach to water resources connecting land use and water quality and quantity;
- Pursuing and rewarding environmental excellence **beyond** what is required by law;



# What is the WaterFirst Community Program?

- Establishing a network of water professionals and leaders in the industry;
- Protecting valuable water resources for both environmental and economic benefits today and for future generations.



# Why would a community want to participate in the WaterFirst Program?

And it provides:

- **Resources:** to help guide the integration of the management and protection of water resources into daily operations and comprehensive land use plans;
- **Incentives:** participating in the WaterFirst program, and committing to the community's goals for improved water quality, bring with it real economic benefits; and
- **Recognition:** WaterFirst designation will demonstrate a community's commitment to environmental excellence.



# Components of WaterFirst

1. Watershed Assessment
2. Stormwater Master Planning
3. Water Supply Planning
4. Water Supply Protection
5. Water Conservation
6. Wastewater Master Planning
7. Water Reclamation and Reuse



# Components of WaterFirst

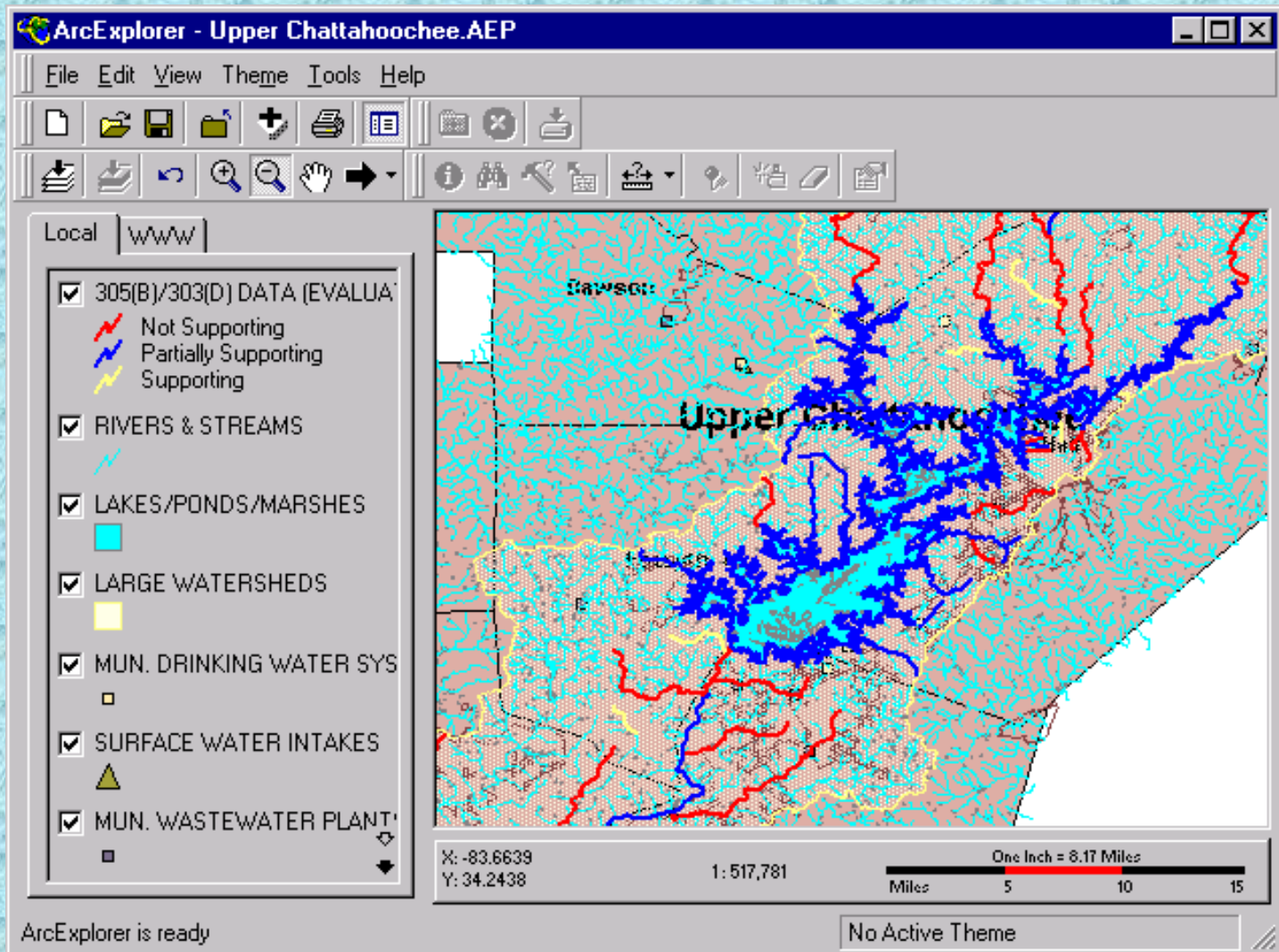
## I. Watershed Assessment

A comprehensive effort to determine the multiple causes of water quality and habitat degradation in a watershed.



# Example: Watershed Assessment

## Forsyth - Gainesville - Hall



# Components of WaterFirst

## II. Stormwater Master Planning

In general, a program to manage the volume and flow rate of stormwater runoff so that it doesn't damage constructed or natural systems. Once considered primarily for flood control, stormwater management is vital to reduce nonpoint source pollution.



# Example: Stormwater Master Planning

## Porous Paving



Overflow parking at the Mall of Georgia

Porous concrete in the Sam's Club overflow parking lot at the Mall of Georgia



# Components of WaterFirst

## III. Water Supply Planning

An important management tool that promotes orderly, methodical development and wise investments while protecting irreplaceable natural resource.



# Example - Water Supply Planning

## Regional Reservoirs



Bear Creek Reservoir in Jackson County



# Components of WaterFirst

## IV. Water Supply Protection

The fundamental idea is to protect water supplies from contaminants, rather than to rely on treatment processes to remove them. Additionally, it is managing potential sources of contaminants and engaging in contingency planning by determining alternate sources of drinking water.



# Example - Water Supply Protection Education



# Components of WaterFirst

## V. Water Conservation

Webster's Dictionary defines conservation as a careful preservation and protection of something; *especially* : planned management of a natural resource to prevent exploitation, destruction, or neglect. It can also be defined as the efficient use of a resource. Conservation of water offers both economic and environmental benefits.



# Example - Water Conservation

## Indoor and Outdoor Water Saver Kits



# Components of WaterFirst

## VI. Wastewater Master Planning

Reviewing the adequacy of existing wastewater collection, conveyance, treatment and disposal facilities and assessing potential changes for the future



# Example - Wastewater Master Planning

## Developing an Overflow Response



# Components of WaterFirst

## VII. Water Reclamation and Reuse

Reclaimed water is highly treated wastewater that can be used again safely for other purposes.



# Example - Water Reclamation and Reuse Golf Course Irrigation



# Benefits offered through the WaterFirst Program

## Participating Communities receive:

- Resources, tools and support to help meet water management goals.
- State-wide recognition for being environmental stewards.
- Access to WaterFirst peer network and resources.
- Invitation to special “issue retreats/workshops” addressing critical water stewardship issues.



# Benefits offered through the WaterFirst Program

## Designation Benefits:

- A 1% interest rate reduction for Georgia Environmental Finance Authority state revolving water related loans.
- Annual eligibility for DCA Community Block Development Grants for water related projects.
- Priority for EPD 319 Grant funding.
- State-wide recognition, including road signage, authorization to use the WaterFirst trademarked logo, highlighted in on the Water Stewardship Website.



# How Does a Community Become a WaterFirst Community?

- Be a local qualified government.
- Be a local government – Authorities have to join through a local government.
- Be committed to water management and protection.
- Complete a WaterFirst Community Application.
- Set community goals and prepare a timeline with WaterFirst staff for improving water related services and protection.
- Achieve those goals and receive the WaterFirst designation.



# Case Studies from WaterFirst Designated Communities

- *Tybee Island, in partnership with the Department of Community Affairs and the Office of Community Design, Planning and Preservation at the University of Georgia, conducted a stormwater design charrette to provide community leaders with alternatives to traditional stormwater infrastructure. The charrette provided Tybee with specific, on the ground solutions such as rain gardens, cisterns, vegetated swales, and porous paving recommendations that would reduce the amount of standing water following rain events. The design ideas are replicable in other coastal communities. The report submitted to Tybee will also serve as an educational piece for residents and visitors alike to increase their understanding of the pollution that can be generated from stormwater runoff and solutions to managing it.*
- *The Columbus Water Works (CWW) and the Columbus Consolidated Government have demonstrated their commitment to excellence in water resource management and stewardship through education and innovation. The Oxbow Meadows Environmental Learning Center, for example, demonstrates the foresight of the city and the CWW to develop and operate the Center in conjunction with Columbus State University. The Center also illustrates a commitment to the community, education, and environmental stewardship.*



# Case Studies – Cont.

- *The City of Hartwell has provided educational brochures and worked with Boy Scouts and other youth community clubs to stencil storm drains and reinforce their direct connection to area streams. The city is also implementing a meter change-out program, and notifying customers of potential water leaks within their homes. These are just a few of the steps Hartwell has taken to improve their stewardship and management of water resources.*
- *The City of Savannah provides the following items to citizens who are connected to the Savannah Water and Sewer systems: Indoor Water Conservation Kits includes low-flow showerheads, faucet aerators, a toilet bank bag, and leak detection tablets; Outdoor Water Conservation Kits that includes a multi-position garden hose nozzle, hose repair ends, water gauge, garden hose nozzle seal & screen washer; Toilet Diverter devices that save 1/2 gallon per flush of the fill cycle water; and Leak Detection Dye Tablets to detect silent toilet leaks.*



# Case Studies – Cont.

- *Henry County and the Henry County Water & Sewerage Authority (HCWSA) enacted an amendment to a local ordinance to disapprove such private sewage disposal systems, keeping sewer system location decisions in the hands of the Henry County Board of Commissioners and HCWSA, preventing the likelihood of poor installation and undue stress on roads, schools, and water supplies by unplanned growth*
- *Gwinnett County conducted a Watershed Assessment to determine not only the condition of local streams but what factors were contributing to their impaired conditions. To address these stressors and to minimize the problems they caused, a watershed protection plan was developed to address changes in hydrology, alterations of riparian corridors, and reduced water quality. It takes a broad understanding by the local governments, the development community and the general public about best management practices – why they are needed, what they are, and how they can be accomplished - in order to improve water quality and protect water resources. Providing their constituencies with a base of knowledge and recommendations developed from the Watershed Assessment will assist the county in improving and protecting water resources.*



# DESIGNATED WATERFIRST COMMUNITIES

**Since 2003**

Gwinnett County  
City of Savannah

**Since 2004**

Columbus Consolidated Gov't and Columbus Water Works  
City of Hartwell

**Since 2005**

Cobb County  
Cobb/Marietta Water Authority  
City of Tybee Island

**Since 2006**

Town of Braselton

**Since 2007**

City of Griffin  
City of Rome  
Tifton/ Tift County



# Designated WaterFirst Communities

## **Since 2008**

Oconee County

City of Gainesville

Douglasville/Douglas County/WSA

## **Since 2009**

City of Hinesville

City of Roswell

## **Since 2010**

Forsyth County

City of Winder

Henry County/Henry County Water & Sewerage Authority

Coweta County

City of Cornelia

# WaterFirst Class

City of Austell  
City of Fairburn  
City of Garden City  
City of Jefferson  
City of Loganville  
City of Monroe  
City of Pooler  
City of Richmond Hill  
City of Valdosta  
City of Waycross  
Floyd County  
Walker County



# WaterFirst

Committed to Caring for Our Water Resources

**Deatre N. Denion**

**Program Coordinator – Water First**

**Office of Sustainable Development**

**Georgia Department of Community Affairs**

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**912-704-4136**



***Revised Schedule for  
Completion of  
Middle Ocmulgee  
Regional Water Plan***

## **Suggestions for Schedule Extension**

- Public Outreach - Further coordination with local governments, utilities and Regional Commissions on implementation activities, i.e. Table 7-1
- Coordinate with Metro North Georgia Water Planning District on potential nutrient loading issues
- Refine instream flow study language in Section 7.4 (Recommendations to the state)
- Refine recommendations on future council role (beyond February 2012)
- Application for 319 grant project
- ***Council suggestions for other activities?***

# *Suggested Milestones to Completion*

- Council return comments to PC by *January 14, 2011*
- Council to review final Council Review Draft at CM10 (*early February 2011*)
- Council to submit Initial Recommended Regional Water Plan to EPD – no later than *March, 2011*
- EPD to provide public notice for 45-day public comment period  
- no later than *May 9th, 2011*
- Council to review and revise regional water plan based on public review comments and EPD comments – pending on public comment notice date
- Council to review Final Draft – no later than *September 9<sup>th</sup>, 2011*
- Submit Final Recommended Regional Water Plan to the Director for EPD Adoption - no later than *September 30<sup>th</sup>, 2011*
- ***Council modifications to dates?***