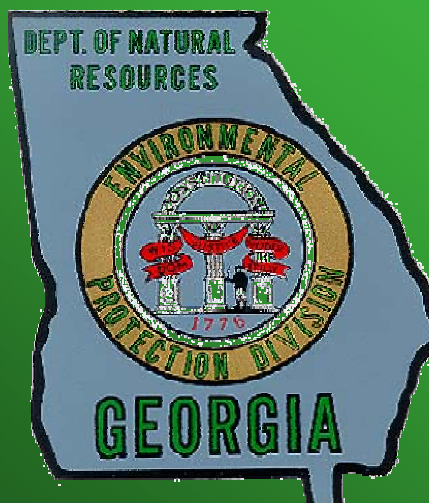


Water Conservation in the Flint River Basin

Flint River Basin Advisory Committee

Camilla, Georgia

April 20, 2005



By: Alice Miller Keyes, EPD
and Jim Hook, NESPAL

Discussion Items

- Water Conservation (WC)
 - Definition
 - Governing rules
- Building a State of WC
 - Planning efforts
 - How are you affected?
 - Who else is affected?
- Agricultural WC Practices



T.Keyes 2004

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T.Keyes 2004

Water Conservation

The beneficial reduction in water use,
water waste, and water loss

- Not just for drought situations
- Now considered a management tool
- Conservation ethic



Water Conservation in Georgia

- Many Benefits:
 - Reduces delivery and pumping costs
 - Protect river flows and aquifer levels
 - Reduce water production costs
 - Extend the life of existing supplies
 - Demonstrate responsible use of shared waters

WC is the most economical way of meeting humans water demands AND sustaining water resources.

Current Governing Rules

Statutes

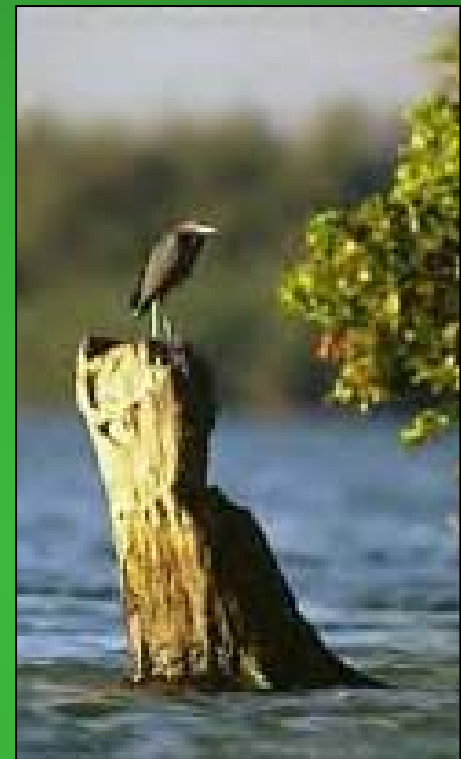
- Water Quality Control Act
- Ground Water Use Act
- Metro North Georgia Water Planning Act

Rules and Regulations

- Surface and Ground water withdrawals
 - Conservation Plans for non-farm uses
 - Annual reports
 - Associated Guidelines
- Outdoor watering schedule

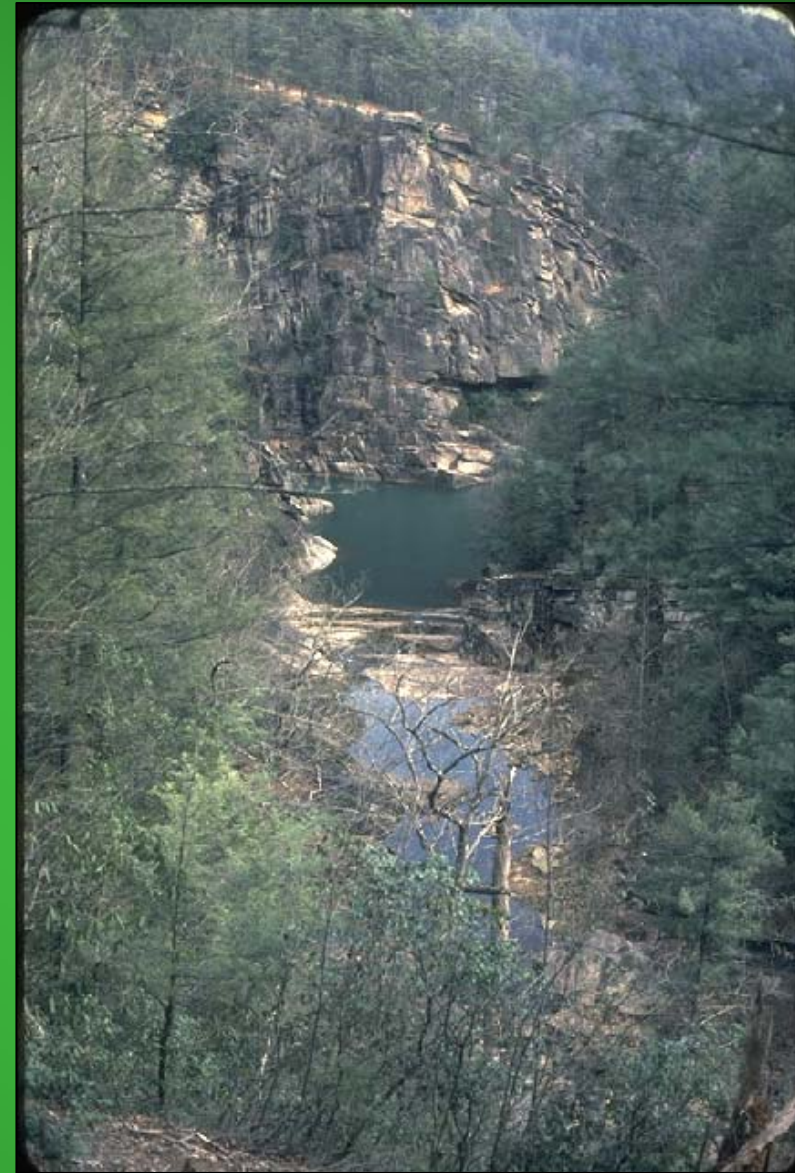
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Directives for WC

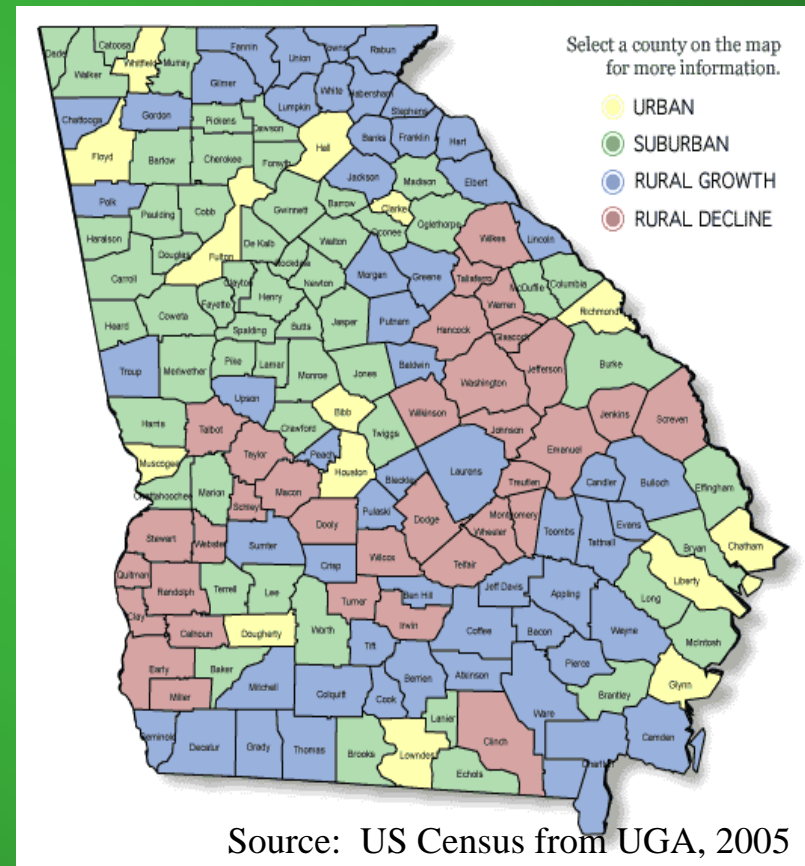
- Georgia Statute
- Governor's Executive Order - 2003
- Comprehensive Statewide Water Management Planning Act - 2004
- DNR Board
- Citizens



WRD - Tallulah Gorge

A State of Diversity

- Statewide population has doubled since 1960
- Culturally and socially diverse
 - Urban counties – 7 metro, 35 suburban
 - Non-Metro – 77 growing, 40 in decline
- Many water users!!



Building a state of WC

Three front approach

1. Restructure EPD operations and administrative functions
2. Finalize a GA WC plan
3. Develop an ongoing process to implement WC statewide



Flint River Conservation Efforts

- Use local expertise to inform statewide planning efforts
 - How can water conservation be used as a management tool?
 - What practices are best in this region?
- Possible WC issues to include in the FRB plan:
 - Goals
 - Best Practices and Programs
 - Partnerships
 - Measures of Success



Max Carter – courtesy of SARE

Flint River Conservation Efforts

- Statewide WC plan and policies will compile comprehensive, yet distinct, water conservation efforts
 - Incentives and Requirements
 - Education and Outreach
 - Methods of Funding
 - Guidance for Management Practices
- All water use groups will be addressed

WC Practices: Golf Courses

- Manual on Best Management Practices
- Memorandum of Agreement with Golf Course Superintendents Association
 - 75% of golf courses in state will comply
 - Practices for reducing golf water needs



WC Practices: Municipal

- Outdoor Watering Schedule
- System leakage or Water Loss Control
- Water Use Reporting and Monitoring
- Provisions for Water Reuse
- Water Conservation Rates
- Toilet retrofit initiatives
- Rain sensors on lawn irrigation systems



South Cobb Reclamation Facility

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Elements of a FRBP water conservation strategy for irrigation users

- Water metering (and real-time monitoring)
 - **Water use reporting**: shows responsible use
 - Management tool: confirmation of correct application amounts

Elements of a FRBP water conservation strategy for irrigation users

- **Water Loss Control:** for Irrigation Management
 - Eliminate leaks – service programs
 - Eliminating off target application
 - End gun shutoffs, minimize runoff, minimize deep percolation
 - Controlling evaporation losses
 - At the pond, during application, from soil, from crop

Elements of a FRBP water conservation strategy for irrigation users

- **Watering Schedule** : in Ag Irrigation
 - Region wide coordination unnecessary
 - Individual field irrigation scheduling for optimal water, land, and crop input efficiency

Elements of a FRBP water conservation strategy for irrigation users

- Education and outreach
 - Cooperative Extension Service
 - USDA/UGA/FVSC Research & Education
- Technical Assistance for WC Planning
 - Natural Resources Conservation Service/FSA
 - Ga Soil & Water Conservation Commission
 - Flint and other Water Management Districts
 - EPD?

Elements of a FRBP water conservation strategy for irrigation users

- Implementing conservation
 - Appropriate strategies for individuals
 - Incentive Programs (+/-)
 - Linking new, modified, transferred permits to conservation implementation
 - Linking water savings with additional water permitting
 - What about absentee landowner systems

Elements of a FRBP water conservation strategy for irrigation users

- Water Conservation during drought
 - Flint River Drought Protection Act – anticipated drought
 - Are water cutback options needed?
 - Water use scheduling among multiple users of streams

Elements of a FRBP water conservation strategy for irrigation users

- Ultimate test of a water conservation strategy
 - Is water being put to reasonable and beneficial uses?
 - Have we used appropriate and available technology and management to minimize wasted water?

Questions?

Alice Miller Keyes
Planning and Policy Advisor
GA Environmental Protection Division
Director's Office
Atlanta, GA



Alice_keyes@dnr.state.ga.us
404-463-1678