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
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
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
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**
Directives for WC

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

Source: US Census from UGA, 2005
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
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
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