Georgia’s Governor’s Task Force

Working Towards A Solution
How Much Water Is there?

• Normal Year Rainfall 50 inches/year Evapotranspiration 34 inches/year Streamflow & Groundwater Recharge 16 inches/year

• In a severe Drought Streamflow & Groundwater Recharge 8 inches/year Assume available for consumption 50% or 4 inches/year

• The 4 inches/year translates to approximately 300 gallons per acre per day -- this is sufficient to supply about 2 to 3 persons per acre as a population density.
Georgia Population densities

<table>
<thead>
<tr>
<th>Persons per Acre</th>
<th>2008</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Atlanta</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Metro Atlanta (ARC Counties)</td>
<td>2.1</td>
<td>3</td>
</tr>
<tr>
<td>State of Georgia</td>
<td>0.26</td>
<td>0.5</td>
</tr>
</tbody>
</table>
Conclusion

• When population densities reach 3 persons per acre you may have to water from outside the planning area. Metro Atlanta may reach this limit around 2030.

• Additional water will be available but at a much higher unit cost.
Water Use In Georgia During 2005

Total water withdrawals — 5,528 Mgal/d

Surface-water withdrawals — 4,357 Mgal/d

Ground-water withdrawals — 1,171 Mgal/d

- Thermoelectric: 2,720 Mgal/d
- Public supply: 1,237 Mgal/d
- Livestock: 67 Mgal/d
- Irrigation: 752 Mgal/d
- Industrial/mining: 603 Mgal/d
- Domestic/commercial: 149 Mgal/d

Public supply: 254 Mgal/d

- Thermoelectric: 4 Mgal/d
- Livestock: 7 Mgal/d
- Irrigation: 486 Mgal/d
- Domestic/commercial: 140 Mgal/d
- Industrial/mining: 280 Mgal/d
Areas of shortage

- Metro Atlanta
- Savannah/ Brunswick
- Southwest Georgia
Metro Atlanta

• Both Lake Lanier and Lake Allatoona are affected by the Magnuson decision
• Even without the decision, Metro Atlanta will need more water around 2035
• On Lake Lanier:
• Current demand is approximately 450 mgd and current capacity is 705 mgd
Other Areas

- Savannah/ Brunswick
  - Saltwater Intrusion
- Southwest Georgia
  - Excessive Agricultural Irrigation
Contingency Task Force –
Technical Advisory Panel

- Conservation
- Indirect Potable Reuse
- Reservoirs
Conservation

- “No regrets” solution
- Governor’s Water Stewardship Act implements most recommendations but avoids financial incentives
- Water Audits – Leak Abatement
- HET toilets in new construction
- No daytime irrigation
- Could save 30 mgd to 100 mgd
Indirect Potable Reuse

- Withdraw water downstream of Atlanta to capture wastewater discharges
- We are doing this now to a limited extend
- Some concerns about health effects due to decreased dilution
- Requires extensive pipeline construction
- Very expensive ($3 billion)
Reservoirs

• Includes both new and expanded reservoirs
• Pump storage can increase yield
• Permitting will be time consuming
• Moderate Cost ($1.7 billion)
Other solutions

- Desalination and Pumping to Atlanta
- Interbasin Transfers
- Groundwater
- Grey-water
- Cisterns
The Role of Utilities

- Statewide planning efforts
- Water treatment technology improvements
- Water management – minimization of system losses
- Focus on water conservation
- Focus on water reuse
- Treating stormwater
The Role of Planners

• Building codes that incorporate/require water reuse systems
• Incorporation of stormwater swales in landscaping and parks to help manage stormwater runoff
• Requirements of Low Impact Developments to minimize stormwater runoff and reduce water treatment costs for Utility Managers
• Public Education on water conservation and protection
• Protection of water resources through appropriate development setbacks and refusal of variances
Planners & Utilities Working Together

- Planners & water/wastewater/stormwater Utilities need to have regular discussions about growth and development patterns.

- Sprawling development can result in expensive water and wastewater cost of service and inefficient use of water.