

# 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

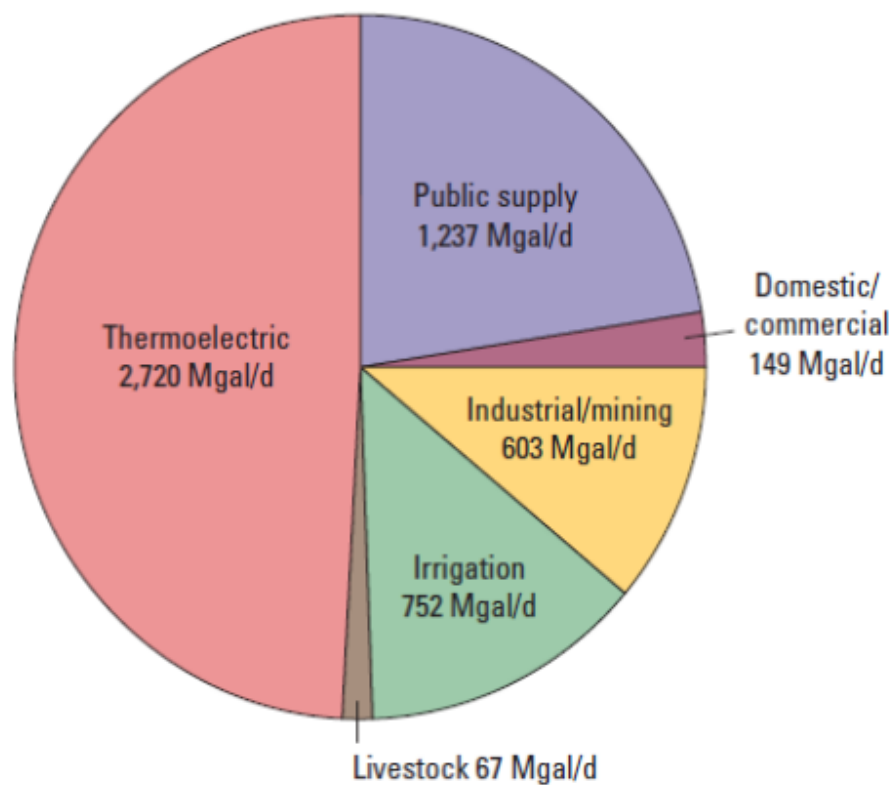
## Persons per Acre

	<u>2008</u>	<u>2030</u>
• City of Atlanta	5	7
• Metro Atlanta (ARC Counties)	2.1	3
• State of Georgia	0.26	0.5

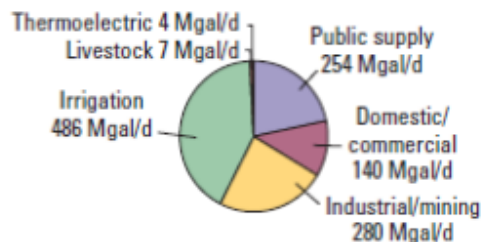
# Conclusion

- 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.

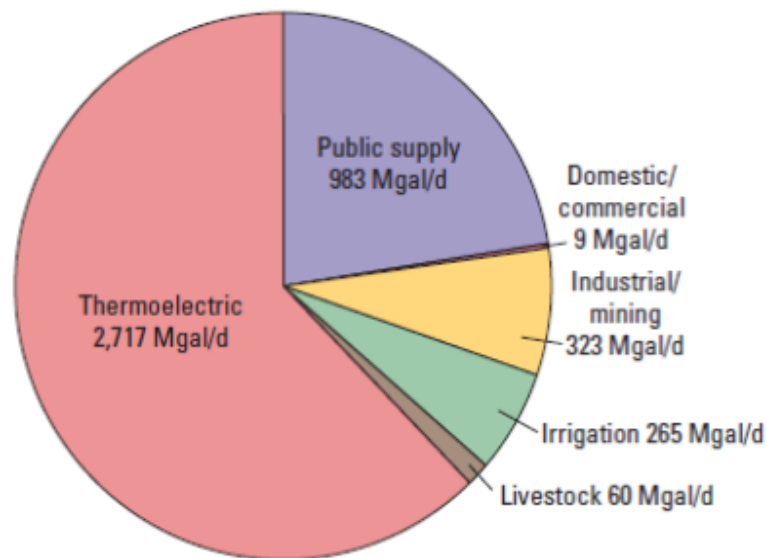
# Water Use In Georgia During 2005



**Total water withdrawals—5,528 Mgal/d**



**Ground-water withdrawals—1,171 Mgal/d**



**Surface-water withdrawals—4,357 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 extent
- 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.