A Regional Solution for Water Supply
Reliability and Sustainability

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Buford Dam on the Chattahoochee River forms Lake Lanier, which supplies the Atlanta Metropolitan Area.

**Atlanta Water Demand (MGD)**
- Average – 600 MGD
- Peak -- 1,000 MGD
Lake Lanier Reservoir Levels

Elevation in FT MSL

Lanier Action Zones and Actual 2008 Elevations

Top of Conservation

Zone 1

Zone 2

Zone 3

Average

Zone 4

Actual 2008

Forecasted Values

May 25, 2008

August 17, 2008

October 11, 2008

Actual data thru March 3, 2008

Bottom of Conservation
The Atlanta Metropolitan Area experiences recurrent droughts.

Lake Lanier Stage, October 1

Stage (ft msl)

Year
Lake Lanier

Residual Storage (% and acre-feet) vs. Pool Elevation

![Graph showing the relationship between Pool Elevation (feet) and Residual Storage (% and acre-feet). The graph indicates a linear increase in storage as the pool elevation increases.]
Lake Allatoona is on the Etowah River, tributary to the Coosa River.
Georgia Power - Plant Hammond requires 920 CFS cooling water from the Coosa River
The 2008 Georgia State Water Plan Proposes Regional Solutions To Water Quality and Quantity Issues…including Aquifer Storage Recovery (ASR)
The Valley and Ridge Carbonates extend from Alabama to New York.
ASR wellfield storage can supplement surface reservoir storage, conserving water otherwise lost to evapotranspiration and other consumptive uses.
Etowah Water Bank will have two principal wellfield areas:

- **ASR Wellfields (75 wells)**
  - 150 MGD

- **Conventional and/or ASR Wellfields (50 wells)**
  - 100 MGD
Producing utilities would provide treated drinking water during winter months for storage in EWB wellfields in NW GA

- Rome
- Dalton
- Calhoun
- Cherokee
- CCMWA
- Others
Utilities and industries would purchase capacity for a 24 month drought and to help meet summer peak demands

- City of Atlanta
- Gwinnett County
- Douglas Water Authority
- Paulding County
- Forsyth County
- Power plants
- Large industries
- Others, including some producing utilities
EWB facilities will be developed in phases

- Initial regional and local hydrogeologic investigations
- Test hole drilling at six sites
- ASR pilot demonstration program (20 MGD capacity) in Coosa Basin
- Expansion to 150 MGD in Coosa Basin to provide unimpaired flows at the AL State Line and to supplement Atlanta water supply
- Development of EWB wellfield facilities in Chattahoochee/Flint Basins to further supplement Atlanta water supplies and to help sustain dry weather flows at the FL State Line
• 150 MGD approximates the current estimate of consumptive use (151.4 MGD) from surface reservoir evaporation and other such losses in the Atlanta area...storing water underground is an effective water conservation measure

• Up to about 150 MGD, water not stored underground will be lost to evapotranspiration
Key Points:

- EWB wellfields will store only treated drinking water.
- EWB wellfields will recover only up to the volumes of water previously stored, i.e.: no mining of groundwater.
- EWB will own, lease or otherwise control lands beneath which drinking water is stored.
- EWB requires no initial funds from state or local government agencies.
- EWB will transition ownership to local governments in 20 years.
EWB benefits are many-fold

- Ease inter-basin transfer issues
- Improved water supply reliability/sustainability
- Ecosystem protection and enhancement due to increased streamflows and reduced temperatures
- Supplement surface reservoir supplies
- Store large volumes for droughts
- Provide flows to meet peak water demands
- Augment low flow stream conditions to protect endangered and other species
- Improved assimilative capacities (TMDLs)
- Could help to settle GA/AL/FL/SC/TN issues
Second EWB Wellfield Area in West Central Georgia

- Series of conventional and/or ASR wells below Columbus to supply extra flow to Chattahoochee/Flint Rivers during droughts
- Flow would come from 50 wells
- Corresponding increase in allowable Chattahoochee River diversions by Atlanta area water utilities from Lake Lanier flow releases during droughts, i.e.: a water transfer
- Total effective flow increase of up to about 400 CFS
- This could help to settle GA/FL issues
**Etowah Water Bank**

- Georgia company, with office in Rome
- Goal is to enhance the water supply sustainability of the Atlanta Metropolitan Area while also protecting the water supply interests of downstream areas in Georgia, Alabama and Florida.
- Target storage volume in NW GA is 110 BG (336,000 AF), equivalent to 150 MGD for 24 months, supplemented with 100 MGD (224,000 AF) from West Central Georgia wellfield
- Public Private Partnership with up to about 35 participating water utilities and industries
- Privately financed initially, transitioning to revenue bonds as soon as possible
- Sell EWB to participating utilities in Year 20
EWB Current Status

- Began plan formulation – December 2007
- Conceptual plan completed – April 2008
- Hydrogeologic investigations underway
- Met with about 10 water utilities, other potential participants, and EPD since May to ascertain level of interest and refine plan
- Confirmed availability of funds to implement plan in successive phases, beginning immediately
- Negotiating agreements with potential buyers and sellers for ASR Demonstration Project
- Start construction during 4Q2008
“Song of the Chattahoochee”

Out of the hills of Habersham,
Down the valleys of Hall,
I hurry amain to reach the plain,
Run the rapid and leap the fall,
Split at the rock and together again,
Accept my bed, or narrow or wide,
And flee from folly on every side
With a lover's pain to attain the plain
Far from the hills of Habersham,
Far from the valleys of Hall.