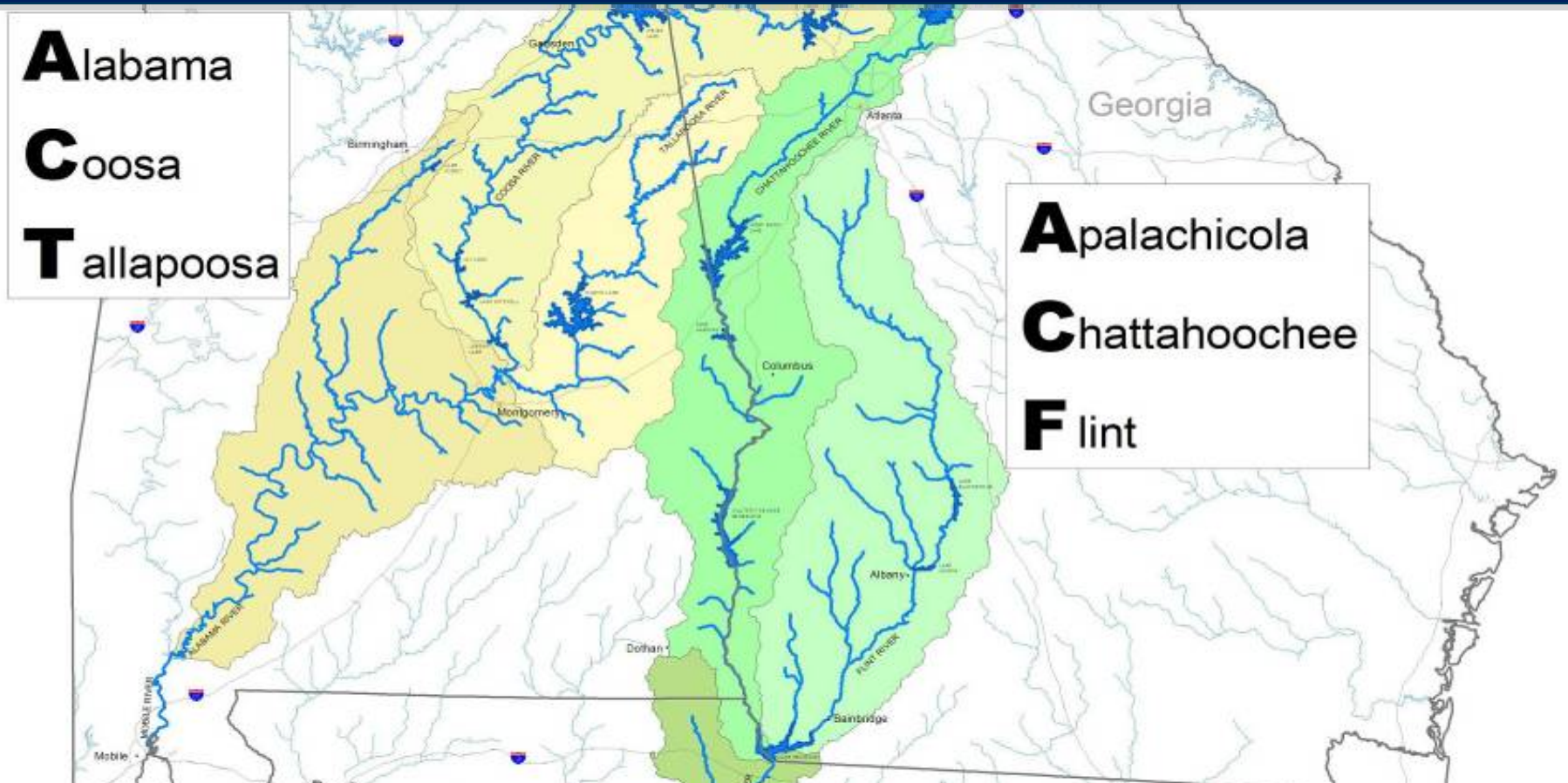


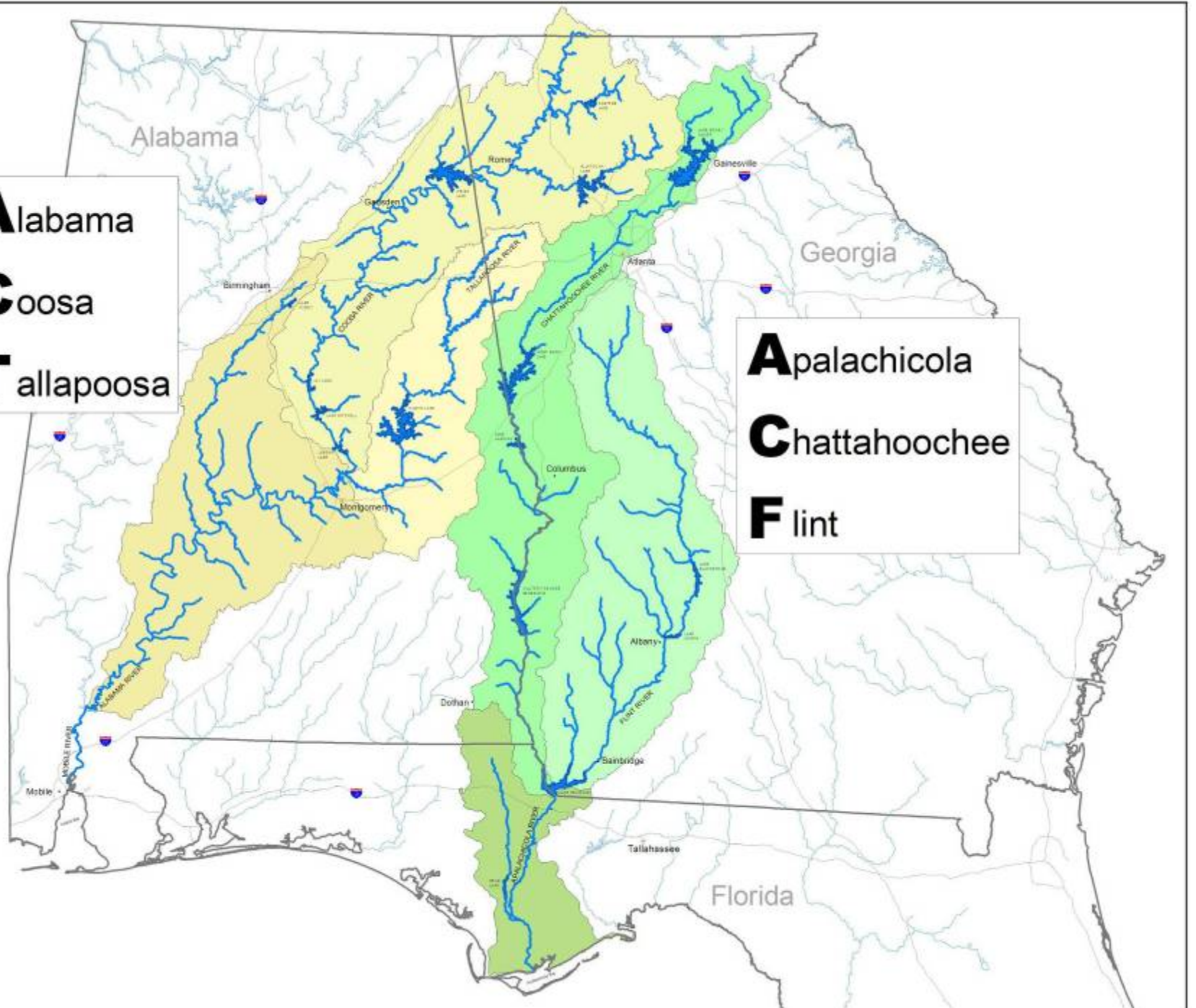
Tri-State Water Wars



Overview and Response to Water Wars Litigation

Alabama
Coosa
Tallapoosa

Apalachicola
Chattahoochee
Flint



Lake Lanier Litigation

6 cases consolidated in 2 Phases

- Plaintiffs include Alabama, Florida, Georgia, Alabama Power Co., the Water Supply Providers, Columbus, Lake Lanier Association, Apalachicola, SeFPC
- Issues to be litigated in 2 phases:
 - **Challenges to Corps' authority to operate for water supply and recreation (Phase I)**
 - Challenges to operating plans (endangered species issues) (Phase II)

Magnuson's Order

Lake Lanier not built for water supply

- Water supply was not an originally authorized purpose of Lake Lanier.
 - Instead, Congress intended for water supply to be an “incidental” benefit
- Ruled that the Water Supply Act does not allow the Corps to reallocate storage that “seriously affects” other project purposes or causes “major operational changes”

Magnuson's Order

3 years to secure Congressional

- Current water supply levels **exceed** the Corps' authority and thus, Congressional approval is needed for the Corps to meet current water supply levels.
- Ordered the litigation stayed for a period of **three years**, allowing for Congressional action approving the reallocation of storage in Lake Lanier

Magnuson's Remedy

Water supply limited to 1975 levels

- Absent Congressional authorization in three years, then water supply levels **revert to mid-1970s levels**
 - Buford Dam can release 600 cfs for incidental water supply downstream.
 - City of Buford and Gainesville can withdraw 2 and 8 MGD respectively from Lake Lanier.

Buford Dam Releases

Supply from River would be cut in half



710 MGD

Permitted Withdrawals:
497 MGD



387 MGD

Permitted Withdrawals:
230 MGD

Lake Lanier Withdrawals

Supply from Lake would drop by 95%



Gwinnett Co.
is allowed
150 MGD today.
In 3 years, they
would be allowed
0 MGD.

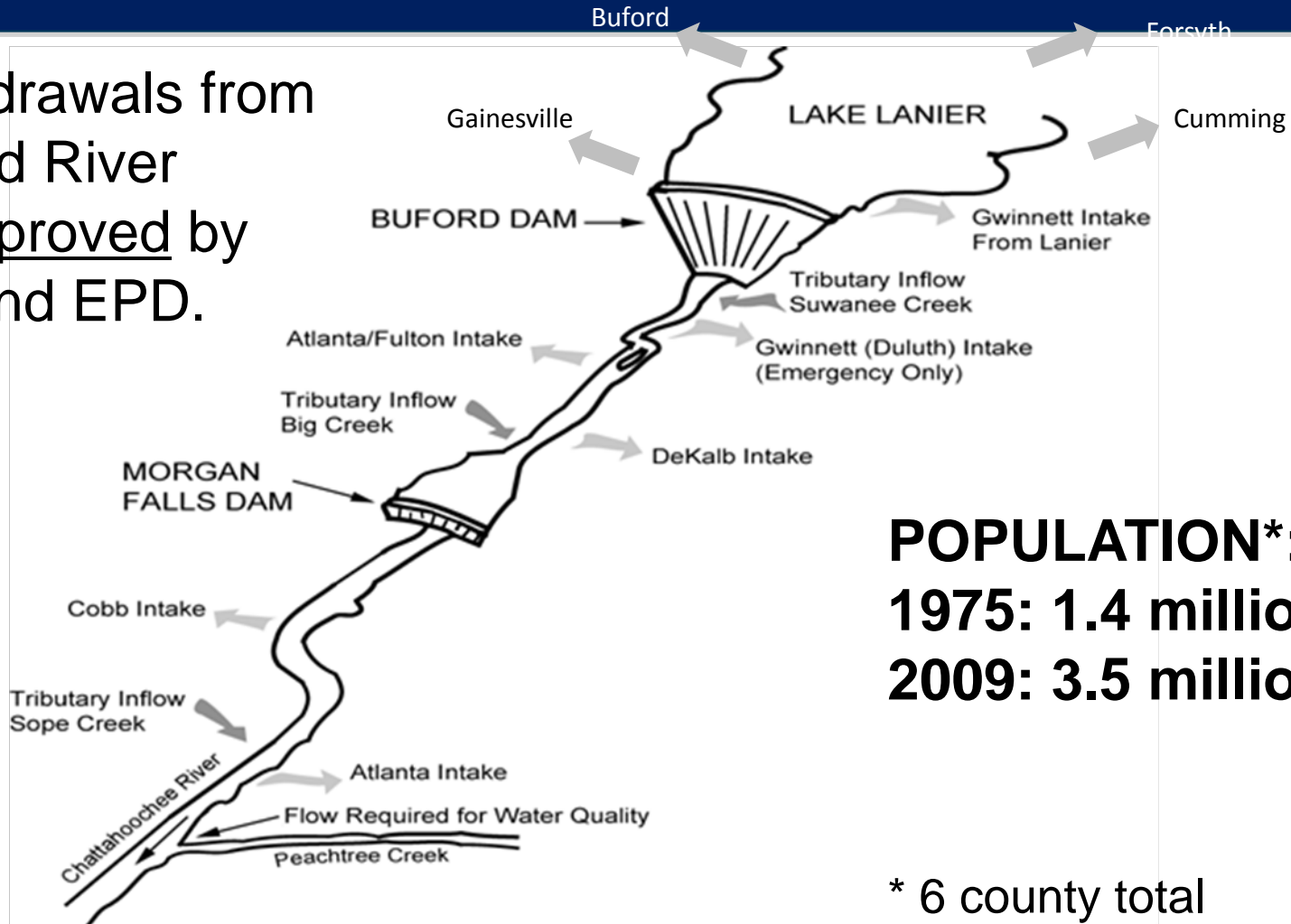
2009
214 MGD*

1975
10 MGD*

*Permitted Withdrawals

Withdrawals

All Withdrawals from Lake and River were approved by Corps and EPD.

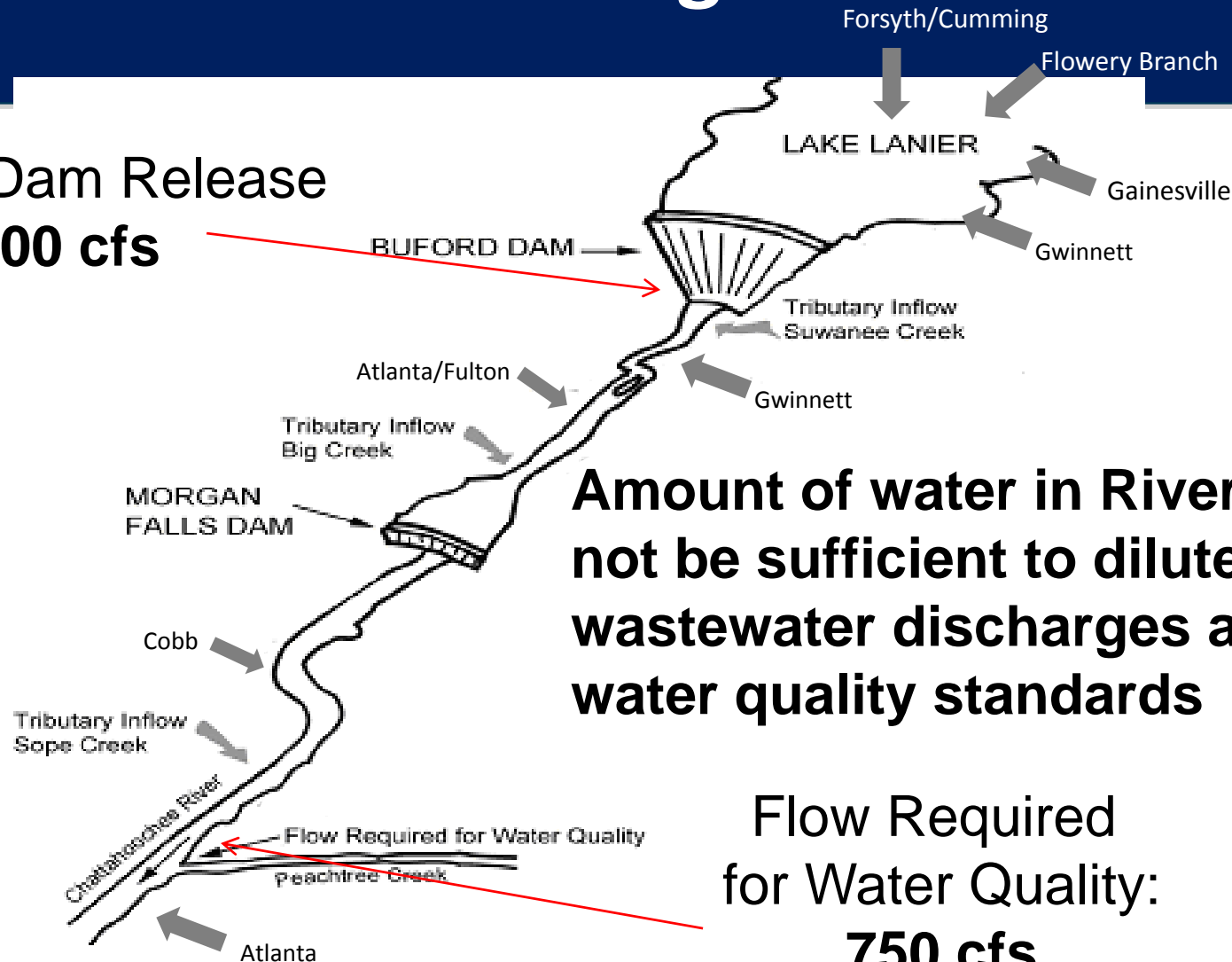


POPULATION*:
1975: 1.4 million
2009: 3.5 million

* 6 county total

Wastewater Discharges

Buford Dam Release
600 cfs



Amount of water in River will not be sufficient to dilute wastewater discharges and meet water quality standards

**Flow Required for Water Quality:
750 cfs**

Georgia's Response to Ruling

Governor pursues multi-prong strategy

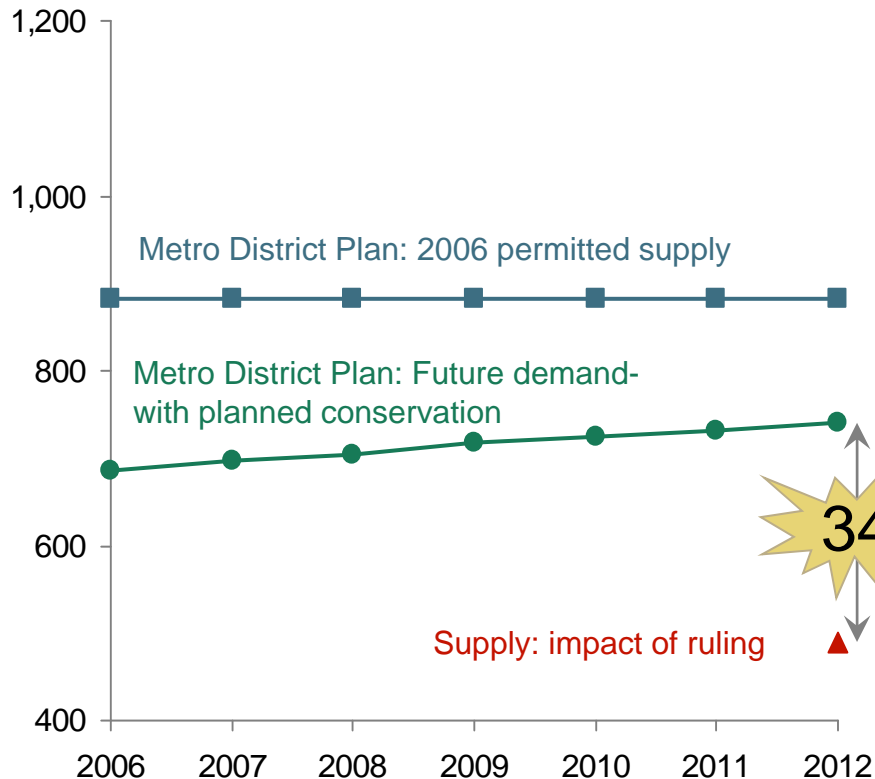
- **Multi-prong Strategy:**
 - Appeal the decision
 - Negotiate with Alabama and Florida
 - Congressional Reauthorization, as directed by Judge
 - Contingency Planning to address gap in supply
- **Water Contingency Planning Task Force** convened by Governor to address gap. Recommendations due by mid-December.
 - Directed members to analyze crisis as if it were a threat to their business
 - Develop a fact-base to educate leaders on Georgia's water situation and the implications of judge's ruling
 - Define a time-driven action plan prioritizing specific options for conservation, supply enhancement, and water policy

Closing the Gap

Conserve, Capture & Control are strategies to address shortfall

250 MGD (34%) gap between supply and demand by 2012

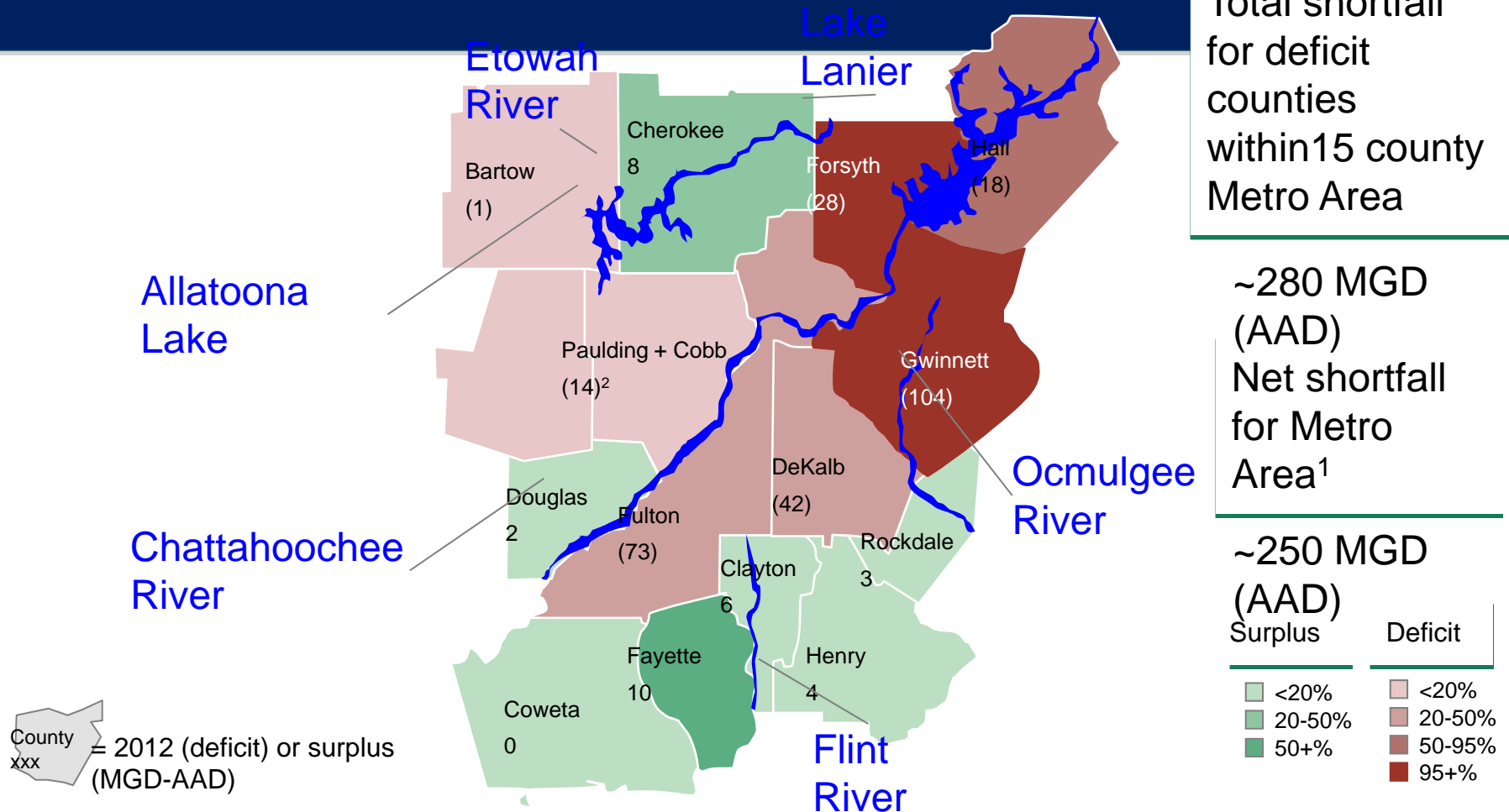
Supply/Demand (AAD - MGD)



- 1 Conserve
 - Reduce water demand
- 2 Capture
 - ID new sources and expand existing sources, including reservoirs, etc.
- 3 Control
 - Change policies and procedures to optimize how water is managed

What would the ruling mean?

Where is shortfall?



This is a static analysis only. Exact future impact by county is not known at present.

1. 250 MGD is net figure- this assumes surplus counties could offset deficit counties- which would require possible infrastructure upgrades and water quality verification.

2. Paulding currently buys all water from Cobb; shortfall shown as a result of combined supply / demand for the two counties

Source: Metro North Georgia Water Planning District "Water Supply and Water Conservation Management Plan" (May2009); EPD data

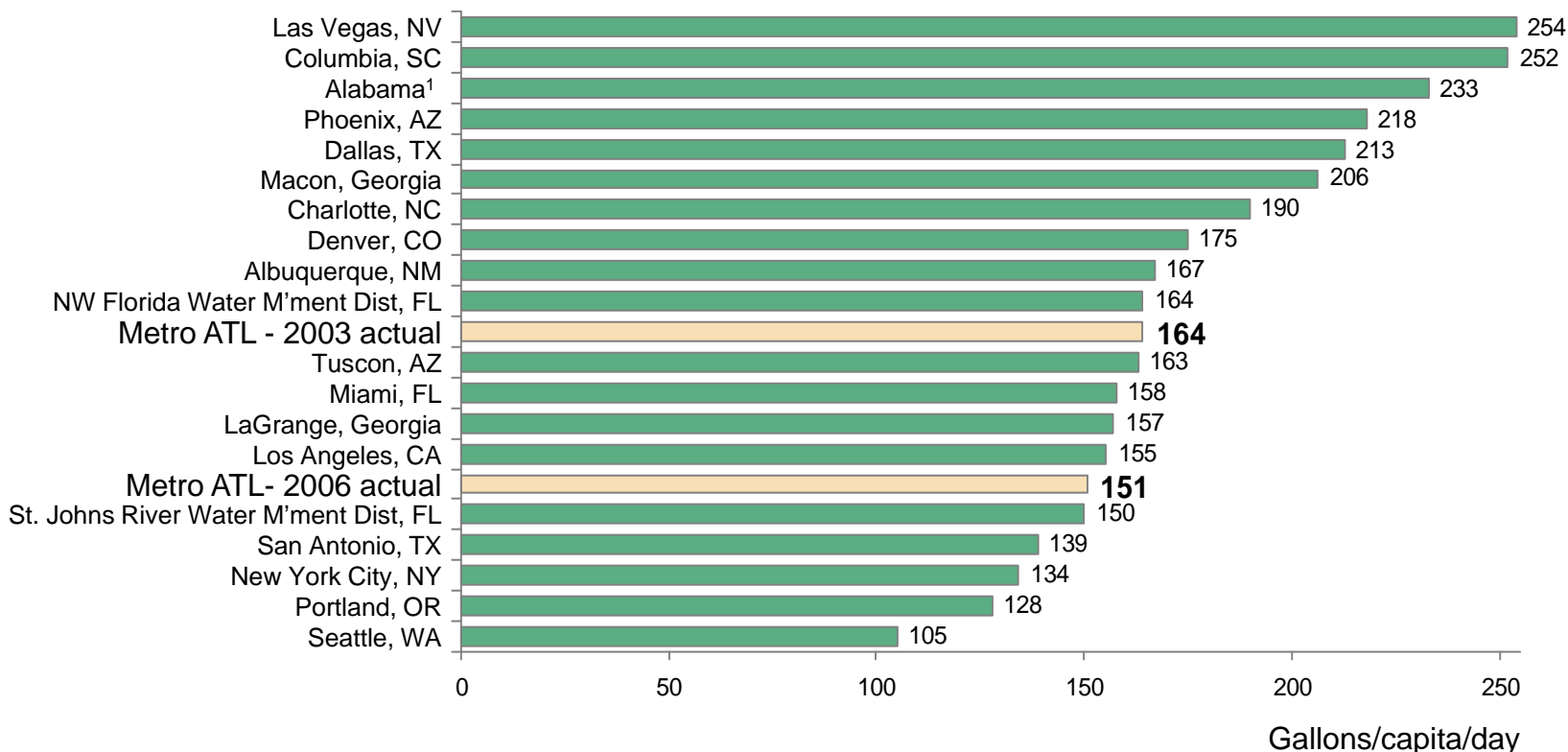
What is cost of inaction? 2012 water shortfall could reduce Metro Region economic output by >10% (\$26B+/yr)

Types of costs	Approach	Result
Lower economic output of existing businesses	<ul style="list-style-type: none">• Referred to studies documenting impact of water supply shortfalls¹ on business output• Tailored assumptions to suit local situation- consulted local economists	<ul style="list-style-type: none">• Implies a potential 10-15% reduction in output <p>↓</p> <p>Translates into roughly \$26-\$39B per year</p>
Reduced investment for future growth	<i>Costs are significant– but not explicitly quantified by Task Force</i>	
Reduced quality of life		
Property value decline		
Shortfall costs begin accruing now, as businesses evaluate metro ATL suitability... we need to <i>ACT!</i>		

1. Measures to Reduce the Economic Impacts of a Drought-Induced Water Shortage in the SF Bay Area, SFPUC (2007) ; Estimating business and residential water supply interruption losses from catastrophic events, Brozovic (2006) ; Economic Loss Estimation of Water Supply Shortage Based on Questionnaire Survey in Industrial Sectors, Jiang (2005)
Note: Assessed impact to Metro Atlanta GDP from potential water shortfall of ~35%, Assumed shortfall borne equally by all sectors (ie, did not re-allocate supply)

Overall District water usage projected to be similar to those seen in low-usage metro areas

Per capita public supply use, by metro areas– showing Metro ATL 2003 and 2006 actual usages



Realization of this requires continuous improvement and ongoing education- fostering a "conserve first" mindset

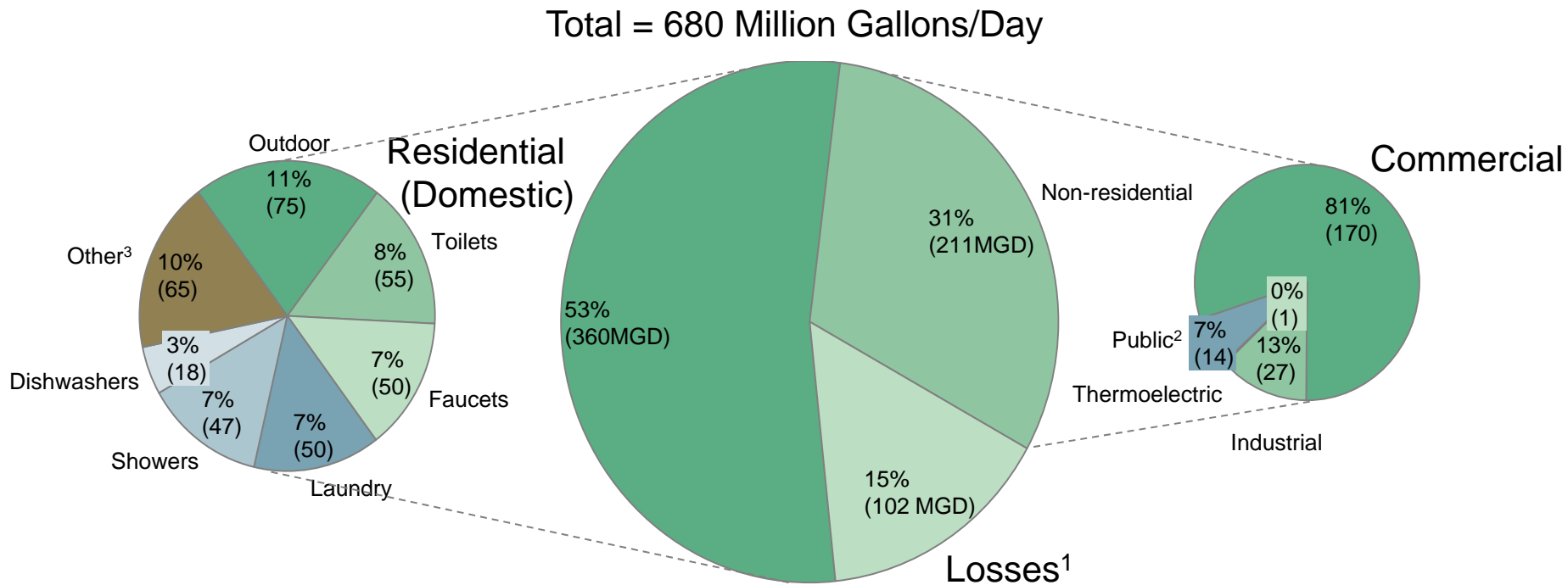
1. State average; data not available for individual cities in AL

Note: Overall per capita is calculated by dividing total gallons of water produced by water provider by the population served, where total gallons of water produced includes use for residential, commercial, industrial, irrigation, and non-revenue water

Source: Georgia EPD analysis with data collected from 2000 - 2008

Roughly 95% of Metro public supply water use occurs in residential/commercial uses, or system losses

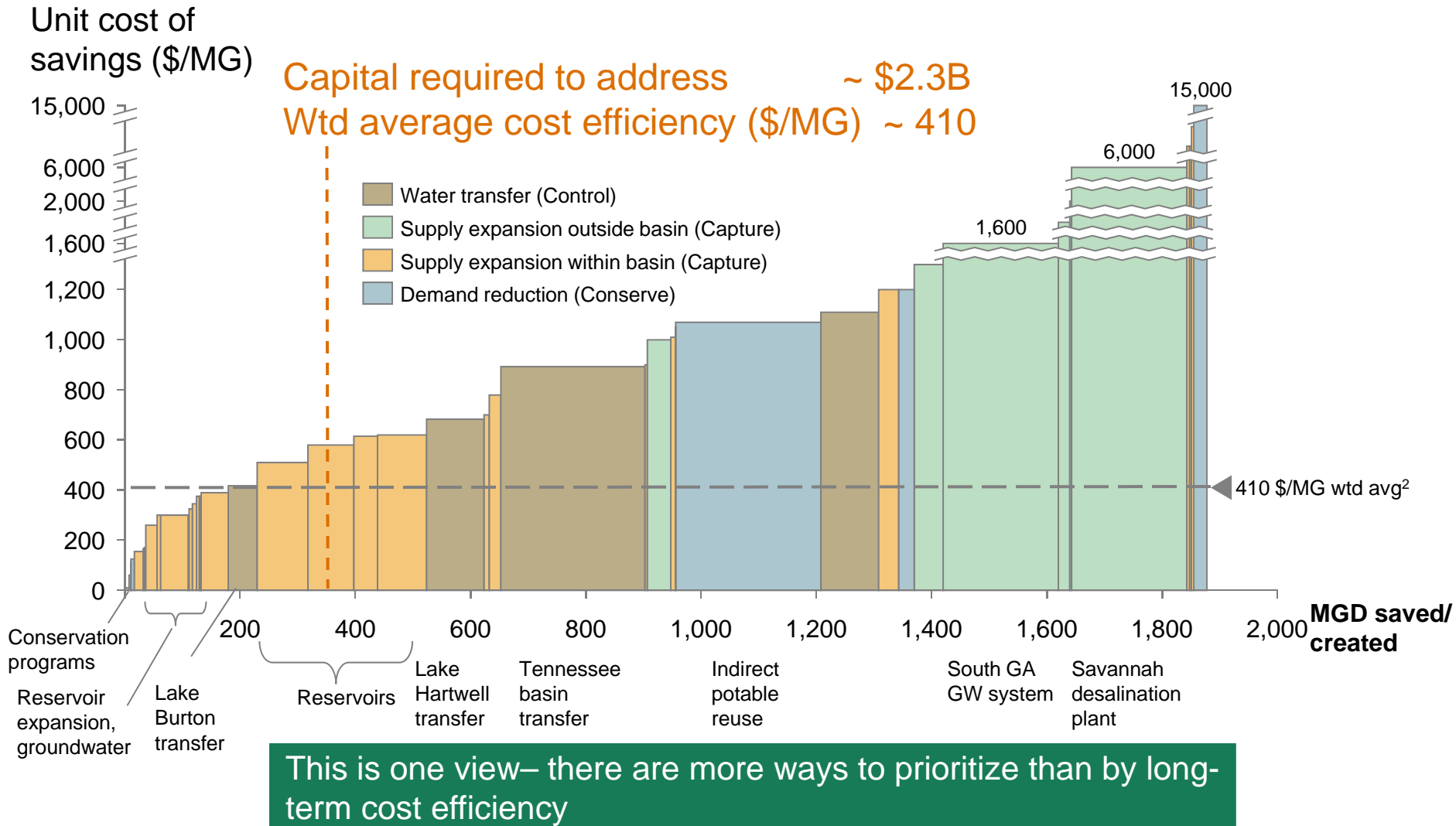
Metro North GA public supply usage



1. Includes apparent losses (meter inaccuracies, data errors, etc) and real losses (leakage, breaks, overflows, etc) 2. Includes "unbilled authorized" (eg, fire fighting, hydrant flushing, street cleaning, etc) 3. "Other" category not defined in Metro plan – likely includes drinking, food preparation, leaks, etc.

Source: Metro North GA Water Supply and Water Conservation Management Plan (May 2009)

Recap: 2020 solution view, ranked by cost



Summary: Task Force Findings (I of II)

Conservation playing a major role for Metro district- low impact, cost-effective

- Only conservation contributes by 2012. Conservation is a necessary, but not sufficient, part of solution
- Metro ATL per capita usage, after considering existing plans combined with TF options reach levels comparable to leading metro areas

Do not see ability to meet gap by 2012- even with extremely aggressive conservation scenarios

There is a potential 2015 contingency solution- though it is very expensive and difficult to implement

- Solution largely defined by large Indirect Potable Reuse option; there is not a broad set of sizable, cost-effective alternatives potentially available by 2015
- Solution capital intensive (\$3B) and overall twice as costly (long term \$/MG) than 2020 solution
 - 2015 average cost efficiency (\$/MG) level of **\$~890/MG**, with capital expense **\$~3.0B**
 - Total 50-yr cost of portfolio is **\$~5.0B** which is significantly higher than 2020 cost optimal portfolio (**\$~480/MG** difference which equates to **\$~2.4B** over 50 yrs)
 - Funding this portfolio could increase overall retail water rates by ~\$2.70/kgall or **~55%**¹
- Additionally, the Indirect Reuse option poses a number of feasibility questions (timing, funding, environmental impact)

1. Ga Association of Water Professions; assumes incremental portfolio costs borne by utilities (directly or indirectly). Analysis assumes ~\$5/kgall weighted average retail rate baseline.

Summary: Task Force Findings (II of II)

By 2020 a broader set of potential solutions exist, and there are more cost-effective potential solution portfolios

- The theoretical "cost optimal" 2020 portfolio has cost efficiency of **\$~410/MG avg**, with capital expense **\$~2.3B**; equates to **~\$2.6B** over 50 years
- Based on Task Force feedback, an Alternate 2020 portfolio was defined- balancing cost efficiency with concern for environmental impacts and implementation feasibility
 - While there is not consensus, there is general agreement on core set of conservation and capture options. These alternatives differ primarily on the mode of conservation (ie, desired extent of mandates) and the mix of reservoir expansions vs. new builds
 - No Interbasin transfer options are contained in the 2020 alternate portfolios under evaluation. This is based primarily on relative cost effectiveness, as well as on Task Force input and on implementation feasibility

Summary: Task Force Recommendations (I of II)

1. Continue to pursue reauthorization of Lake Lanier

- Aggressively pursue other three prongs of Governor's 4 prong-plan (negotiations, appeal, Congressional action)

2. Pursue aggressive conservation program- in support of current plans and incremental Task Force options. While the Task Force is evaluating the degree of mandates recommended, the specific areas of focus include, at a minimum

- ***Expanded efficiency programs (fixture retrofits, sub-metering, cooling tower standards, etc):*** Georgia Assembly to pass statute that requires local government to create incentive or mandated efficiency programs, AND appropriate funding to help support these programs
- ***More aggressive conservation pricing:*** Enact policies on minimum rate differentials across usage tiers and usage information levels to be provided on bills
- ***More aggressive utility leak abatement programs:*** Pass statute that requires annual water loss audits, loss data reporting to EPD, and leak abatement programs
- ***Time-of-day restrictions on outdoor watering:*** Pass statute that requires outdoor watering restriction of no day-time watering
- ***Funding for conservation education program:*** Appropriate funding for holistic conservation education program
- Evaluate incorporation of conservation plan and efficiency criteria in permitting applications
- Evaluate conservation efficiency criteria in GEFA low-interest loan qualification, and to consider prioritization of SRF Green project reserve funds for these projects

Summary: Task Force Recommendations (II of II)

3. **Only devote resources towards the 2015 Contingency Solution if outlook on negotiations and reauthorization demands. Metro ATL should only pursue this if required**
 - If 2015 Contingency Solution is deemed necessary, the State must ensure a funding mechanism exists to address joint liability issues.
 - Indirect Potable Reuse project would be so costly and involve so many counties, resolving funding liability issues would be a key challenge
 - Smaller groundwater options included in the 2015 plan should be evaluated by local governments
4. **If we must pursue a contingency plan, but we are able to pursue a 2020 solution, we recommend initiating feasibility studies and permitting on capture options in the recommended 2020 Portfolio (to be finalized ~15 December)**
 - Confirm yield, cost, and timing estimates. Specifically, incorporate outputs from forthcoming state water plan and EPD hydrology modeling to ensure the portfolio incorporates best available information

Comparison of solution portfolio cost and yield

Note: there is no possible solution by 2012

	2015 portfolio	"Alternate" 2020 portfolio
Yield (MGD)	~340 MGD	~360 MGD
Capex (\$B)	~ \$3.1 B	~ \$1.7 B
Cost efficiency (\$/MG)	~\$890 / MG	~\$460 / MG
50-year cost (\$B)	~ \$5.0 B	~ \$2.9 B

Next Steps

- **Conservation Efforts**
- **Tri-State Negotiations**
- **Regional Water Strategy**
- **2010 Legislative Session**
- **Capital**

Summary

We face a very serious supply shortfall, which threatens the economic well being of Metro Atlanta, Georgia and the entire Southeast...

We've made significant progress in reducing water usage- though there's still further to go

- GA usage actually lower than other nearby areas
- Metro ATL usage levels actually below rest of state, other comparable areas

This Task Force is charged to evaluate potential options and prioritize solutions to address the gap

- Conservation
- Capture
- Control