

The logo features a square frame containing a blue-toned image of water ripples. The text "Water Contingency Planning Task Force" is centered in white, bold font.

Water Contingency Planning Task Force

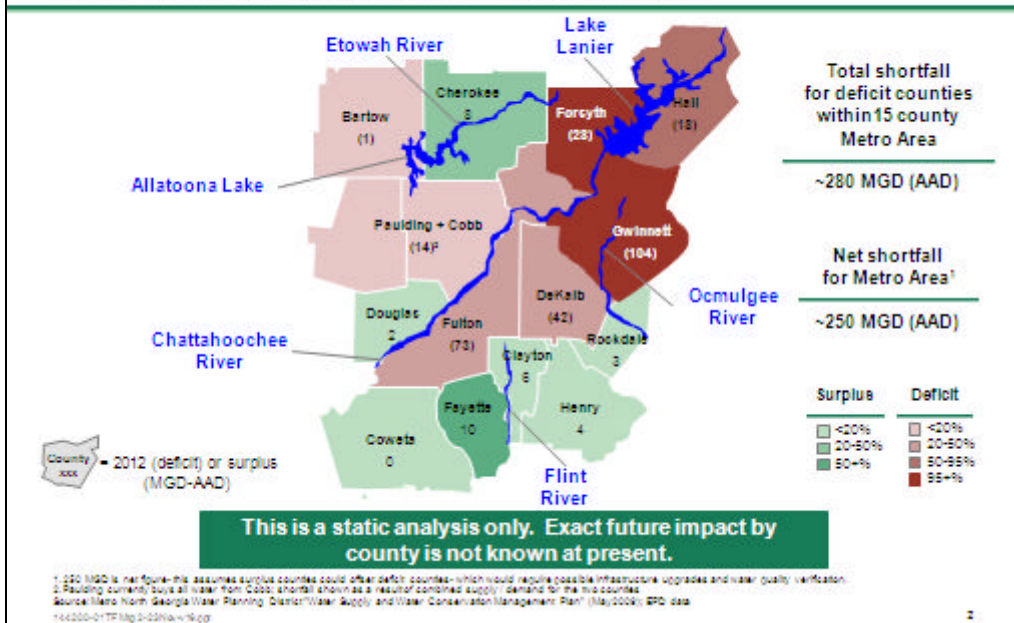
The Water Crisis

Metro Atlanta will face water supply shortages in 2012

- In July 2009, a federal judge ruled that Lake Lanier was not constructed for water supply. We have less than three years for Congress to reauthorize Lake Lanier to include water supply.
- Absent Congressional action, water supply levels will be drastically reduced to 1975 levels.
- In 2012, the potential water shortfall is ~ 35% for Metro Atlanta. In 15 years, we could face a gap of 44% based on the judge's ruling. These estimates include projected growth for the region.
- Many communities face more severe shortfalls. For example, Gwinnett County would have no access to its sole source of water.

What would the ruling mean? Where is shortfall?

The shortfall is not evenly distributed across the Region.



It is important to note that no one knows exactly how the ruling would pan out if it were to come to pass. But this picture shows the best working interpretation of the ruling. It is not exact because EPD would analyze the situation and potentially re-allocate permits.

Given the caveat stated above, this static view shows that Gwinnett, Forsyth, and Hall counties would be hit very hard.

It also shows a total deficit, if we exclude the areas of surplus, of ~280 MGD.

For reference, the counties shown in green will have surplus water supplies in 2012. This surplus is derived from evaluating each county's water supply and each county's specific water demand. Also, note these counties do not rely on Lake Lanier or the Chattahoochee River for water supply and are thus, not impacted directly by Judge Magnuson's order.

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

Types of costs	Approach	Result
<div style="background-color: #2e7d32; color: white; padding: 5px; text-align: center;">Lower economic output of existing businesses</div>	<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 style="text-align: center;">↓</p> <p style="text-align: center;">Translates into roughly \$26-\$39B per year</p>
<div style="background-color: #e0e0e0; padding: 5px;">Reduced investment for future growth</div> <div style="background-color: #e0e0e0; padding: 5px;">Reduced quality of life</div> <div style="background-color: #e0e0e0; padding: 5px;">Property value decline</div>	<p><i>Costs are significant– but not explicitly quantified by Task Force</i></p>	
<div style="background-color: #2e7d32; color: white; padding: 5px; text-align: center;">Shortfall costs begin accruing now, as businesses evaluate metro ATL suitability... we need to ACT!</div>		

¹ Measures to Reduce the Economic Impact of a Drought-Induced Water Shortage in the AP Sevier Area, APDUC (2007); Estimating Business and Residential Water Supply Interruption Losses from Catastrophic Events, Borden (2009); Economic Loss Estimation of Water Supply Shortage Based on Questionnaire Survey in Industrial Sectors, Jiang (2002)
Note: Assessed impact to Metro Atlanta GDP from potential water shortfall of ~20% (assumed shortfall borne equally by all sectors), did not include supply

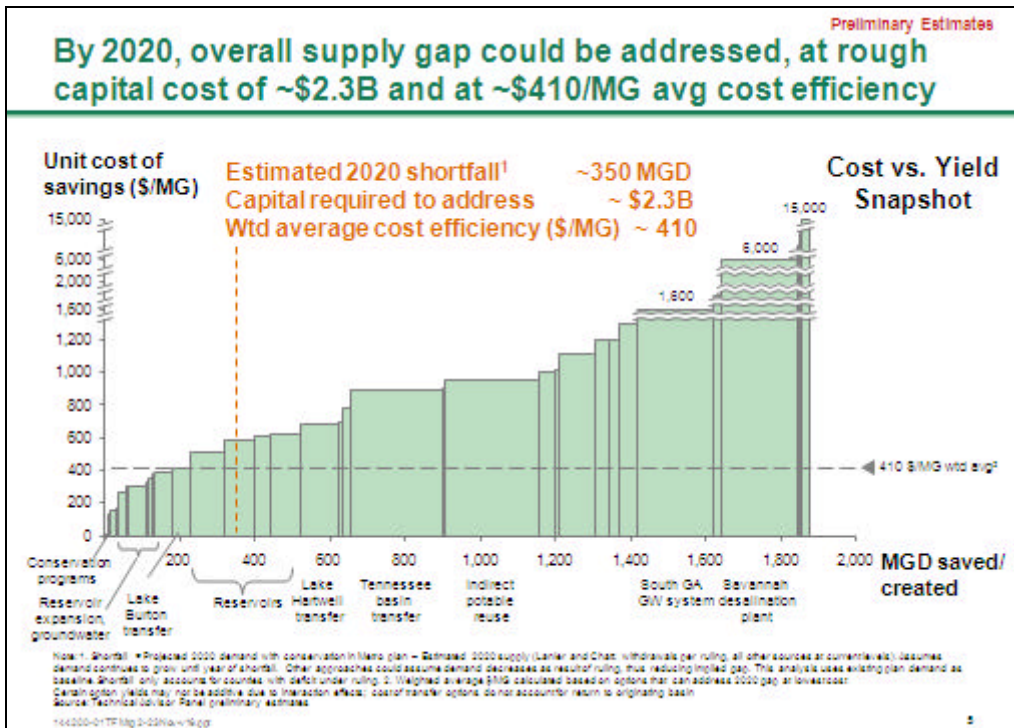
There are many counties impacted by Judge Magnuson's order. With a potential supply shortfall of tremendous magnitude, it is important to consider what the cost to Metro Atlanta would be if we did not act.

There's no pure way to cost this out as it has never happened before. But by citing relevant economic studies that examine economic costs of water supply shortfall, it is apparent this could mean as much as \$26B per year in lost business output– or 10+% of our local Gross Domestic Product. Further, this value doesn't count changes to our quality of life and property values. In addition, this cost evaluation did not factor in the impact to Georgia and the broader region, which would be even greater.

The point is shortfall costs begin accruing now as businesses evaluate Metro Atlanta suitability. Thus, the time for action is now.

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

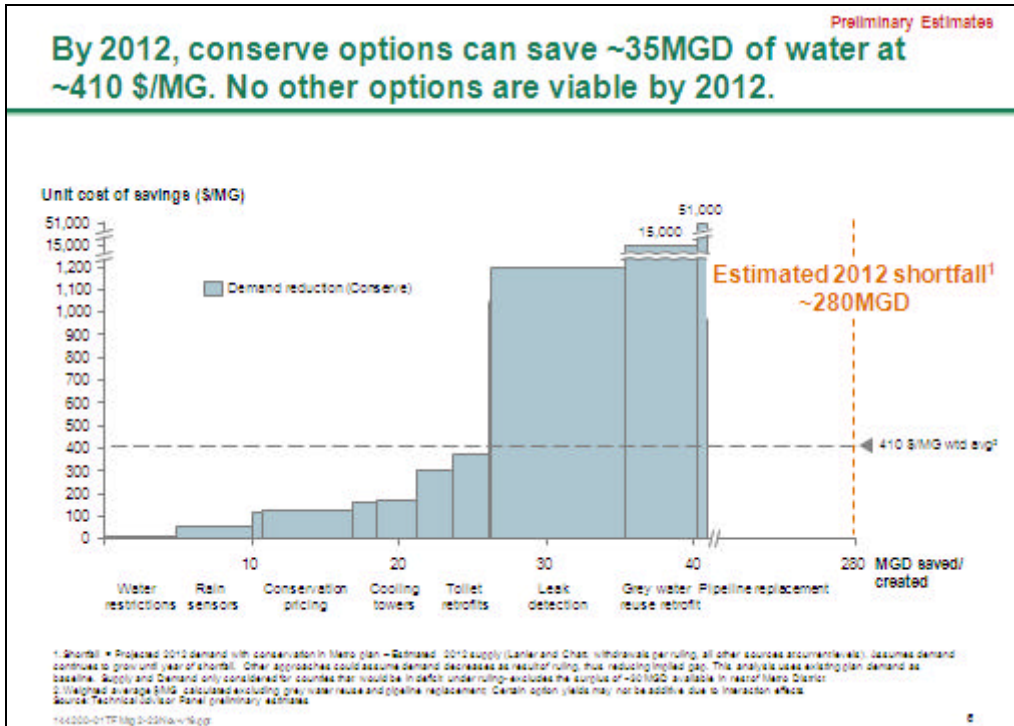


The timeframe depicted here is 2020 which allows enough time for all options to become available and hence make an overall comparison. The vertical axis is the unit cost of water saved or supplied. Essentially, the Net Present Value cost divided by the Millions Gallons yielded. The horizontal axis shows the amount of yield- in millions of gallons per day- per option.

Given the criteria of cost and yield, this unit cost/yield curve shows how the various options that were evaluated stack up in terms of the amount of water they either save (in case of conserve options) or supply (in case of capture and control options) and at what cost.

The expected water shortfall in 2020, if the judge ruling were in effect, is approximately 350 MGD. This assumes demand growth projections continue per previous long range plans. Future demand could be forecasted differently but the evaluation process used the existing long-term plan demand assumptions as a base case.

A key question for the Task Force members - what options should be pursued to meet this shortfall. This chart shows one possible way to think about the situation—from a purely economic viewpoint. The most cost effective portfolio of solutions would meet the shortfall at roughly \$410/MG, with a capital investment of approximately \$2.3B.



Now that we have seen all the options presented (considering timing for implementation), what does 2012 look like for Metro Atlanta? Can we close the gap?

You can see there are a number of conserve options that are available by 2012, and collectively yield roughly 35 MGD at roughly \$410 \$/MG. **No other options are viable to meet water supply needs in 2012 if Judge Magnuson's order goes into effect.**

These projections are incremental and take into account water savings from conservation measures currently in place or projected for implementation.

Some of the conservation options evaluated, such as grey water reuse and pipeline replacement appear to be prohibitively expensive- so we didn't count their yield towards the total nor did we burden the cost of the portfolio with their costs

Since closing the gap by 2012 appears undoable, can we close the gap sooner than 2020? Based on the options evaluated, the shortfall can be closed by 2015- but at a substantially higher cost to the region and state. If time allowed for implementation of options through 2020, the shortfall could be closed at roughly half the cost of implementation by 2015.

Summary- implications of analysis to date

Do not see ability to meet gap by 2012. Limited option set available in this timeframe

Appears we could meet gap by ~2015 and 2020...at significant cost

- 2015 average cost efficiency (\$/MG) level of \$~800/MG, with capital expense \$~3.0B
- 2020 cost efficiency of \$~410/MG avg, with capital expense \$~2.3B
- Value of 2020 option vs. 2015 option set is significant (\$~390/MG difference) which equates to ~\$1.9B over 50 years

Conservation measures play important role in solution: low impact, cost-effective– but the range of yield identified suggest we can not close gap by conserving alone

- Expanded indirect reuse could offer significant yield (200+ MGD), though at above average unit costs (~\$950/MG vs ~800\$/MG for comparable yield supply options)

Capture measures provide the bulk of the cost-effective yield identified, though they generally come only by ~2020.

Control options, while politically charged, can factor into long-term supply security

Challenge moving forward- evaluating key tradeoffs and taking into account different stakeholder concerns to balance equity and efficiency.

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In summary, can we close the gap, by when and at what cost?

The preliminary answer:

We do not see ability to meet the gap by 2012. Simply too few options can come online that quickly, and we do not see ~280 MGD of incremental conservation savings ramping up by July 2012.

We could, however, address the full gap by 2015 and beyond– though at significant cost- over \$3B in capital. Further, there is great value in deferral. If we can wait until 2020 and select the most cost effective solutions, the average \$ per million gallon cost in 410 versus 800- this equates to ~\$2.3B savings over 50 years.

Conservation measures play central role in solution: they are positive for the environment, they save energy, and they are often the most cost-effective solutions. The range of yield identified, however, suggests we can not close gap by conserving alone.

Capture -- while these options can take 8 -12 years, they could deliver significant cost effective yield (again, with an upfront capital cost). Of note are reservoir expansions, which mitigate impacts and are more cost effective per gallon

Control options, while politically charged, can factor into long-term supply security.

Our challenge moving forward is evaluating key tradeoffs and taking into account different stakeholder concerns to balance equity and efficiency.

Next Steps

Task Force members will prioritize the evaluated options based on various criteria including cost, yield, timing, environmental impact and stakeholder sensitivity.

Recommendations will be developed based on prioritization and provided to Governor in mid-December.

Report will be used by Governor Perdue and other elected officials to guide legislative agendas and policies during the 2010 session.

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Next steps for the Task Force include prioritization of the options evaluated to close the gap. Each Task Force member will prioritize each option based on criteria such as cost, yield and timing as well as potential environmental impacts and stakeholder sensitivity.

The responses by each Task Force member will be used to generate a set of recommendations for use by Governor Perdue and other elected officials.

A report will be presented to the Governor in mid-December after the final meeting of the Task Force is held on December 11, 2009.