

Environment Committee

Monday, June 16, 3:00 – 4:00 p.m.
Charlotte-Mecklenburg Government Center
Room 280

Committee Members: John Autry, Chair
Ed Driggs, Vice Chair
David Howard
Claire Fallon
Kenny Smith

Staff Resource: Hyong Yi, Assistant City Manager

AGENDA

- I. **Catawba-Wateree Basin Water Supply Master Plan** – 45 minutes
Staff Resource: Barry Gullet, Charlotte-Mecklenburg Utility Department
Staff will recap the May 12 Dinner Briefing presentation and provide additional details about the Water Supply Master Plan.
Action: If ready, the Committee may recommend Council adopt a Resolution in support of the Plan.
Attachment: 1. Water Supply Plan.ppt

Next Meeting

Wednesday, August 13, 2014; 2:00 p.m., Room 280

Distribution:	City Council Bob Hagemann	Ron Carlee, City Manager Stephanie Kelly	Executive Team Environmental Cabinet
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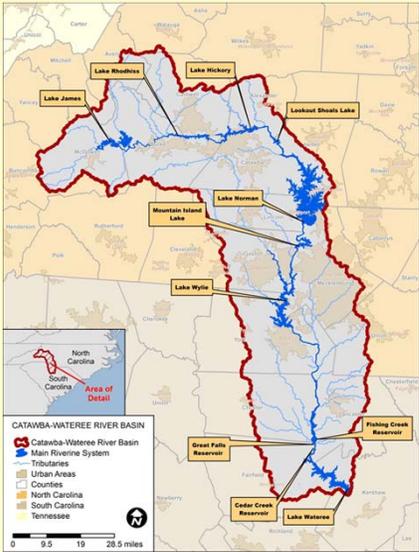
**Catawba-Wataree River Basin
 Water Supply Master Plan
 Environment Committee Briefing
 Charlotte-Mecklenburg Utility Department**

June 16, 2014



History

- 1911 – Drought leads City to Catawba River for water
- 2006 – Water supply study found Catawba reaches maximum capacity by 2050
- 2007 – Catawba-Wataree Water Management Group incorporated
- 2010 – Water Supply Master Plan commissioned
- 2014 – Water Supply Master Plan completed



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Are We Running Out of Water?

NO – the Catawba River is running out of capacity to support new water users

IF we add customers beyond mid-century, we WILL run out of water during drought periods

Exceeding capacity impacts the ENTIRE BASIN regardless of where the new customers are located

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What is the Master Plan?

- Planning study voluntarily commissioned by the Water Management Group
- Funded by Water Management Group, Duke Energy Foundation, NC DENR, SC DHEC
- Non-regulatory
- Prepared by a team of consultants
- Assisted by a Stakeholder Advisory Team
- Compiles data needed to understand the problem
- Identifies and models possible solutions
- Recommends long-term strategy
- Establishes a process for on-going monitoring and updates

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Water Supply Plan Objectives

- Determine the feasibility of significantly extending the time until the Catawba River reaches carrying capacity
- Provide an achievable, comprehensive, scientifically-sound water supply plan for the region
- Bring stakeholders together to build consensus around water supply strategy, especially considering conflicting interests

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Master Plan Considerations

- Evaluate 26 scenarios in 8 categories
 - Population growth
 - Climate change
 - Public water consumption changes
 - Power consumption/generation changes
 - Critical infrastructure modifications
 - Wastewater effluent flow recycling
 - Lake operations
 - Drought response plan modifications
- Work in larger context of other plans & regulations
- Establish on-going process with periodic updates

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Key Findings

- Average annual precipitation in this region has decreased about 10% over the past 50 years
- Net water use is expected to increase 122% by 2065 to 419,000,000 gallons/day
- Climate change could increase evaporation 11% by 2050 reducing available water considerably
- Basin-wide, per capita water use has decreased from 113 gallons/person/day to 85 (2002 to 2011)

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Recommended Strategy

- Further improve water use efficiency
- Access more water during extreme drought by lowering critical water intakes in the basin
- Increase storage by raising summer water levels in Lakes James, Norman, and Wylie by 6"
- Respond quicker to drought indicators

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Benefits of Recommended Strategy

- Dependable, resilient, water supply extended to 2100
 - Continued economic development capacity
 - Reliable drinking water supply for more than 2 million people
 - Electricity to power the region
- Protects environmental, recreational, aesthetic aspects of the Catawba-Wateree River
- Coordinated drought management and planning
- Framework for continued regional water resources planning

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What Does the Plan Ask of Charlotte?

- Continue water use efficiency improvements
 - Currently 100 gallons/person/day residential usage
 - Target is 80 gallons/person/day by 2055
- Follow established drought response plans
 - Low Inflow Protocol (LIP)
 - Progressive water use restrictions during drought
- Support regional water resource planning
- Address water supply contingency planning

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What Are Others Asked to Do?

- Other public water suppliers have goals and actions similar to Charlotte
- A few public water suppliers and Duke Energy asked to consider future modifications to water intakes
- Duke Energy asked to reduce hydro power production within 1 day of drought status change (instead of 5 days currently)
- Duke Energy asked to change lake management to increase summer water level targets in 3 lakes by 6"
- Duke Energy asked to improve water use efficiency for thermal power production

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Master Plan Implementation Schedule

Table 1-5 Proposed Implementation Schedule for Recommended Planning Scenario (MP-01Mb)

Action	Schedule					
	2015	2025	2035	2045	2055	2065
High-end Water Use Efficiency (WC-01D)	Implement	Continue Monitor	Continue Monitor	Continue Monitor	Reduction Goal Year 2055	
Lower Upper Catawba Intakes (CI-01)	Feasibility/Predesign	Financing/Permitting	Design and Construction	Complete by 2045		
Lower Mt. Island Riverbend Critical Intake (CI-05)	Recognition of Change					
Lower Lake Norman Critical Intake (CI-03)				Operations Change		
Lower Lake Wylie Critical Intakes (CI-04)	Feasibility/Predesign	Financing/Permitting	Design and Construction	Complete by 2045		
Raise Summer Target Operating Levels by 6" (RO-02B)	Evaluate Impacts of Change	Modify CRA* (if needed)				
Semimonthly LIP Stage Lookup (LP-03)	Operations Change					

* Comprehensive Relicensing Agreement

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Next steps

- Request Water Management Group member organizations to formally support the plan
 - Resolution of support
 - 18 public drinking water utilities
 - Duke Energy
- Continue hearing feedback, refining plan as needed
- Collectively take steps toward implementation
- Increase regional public awareness
- Monitor and evaluate planning assumptions, results
- Update modeling within next 10 years

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Water Supply Master Plan Report is available at

www.catawbawatereewmg.org

Questions?

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