

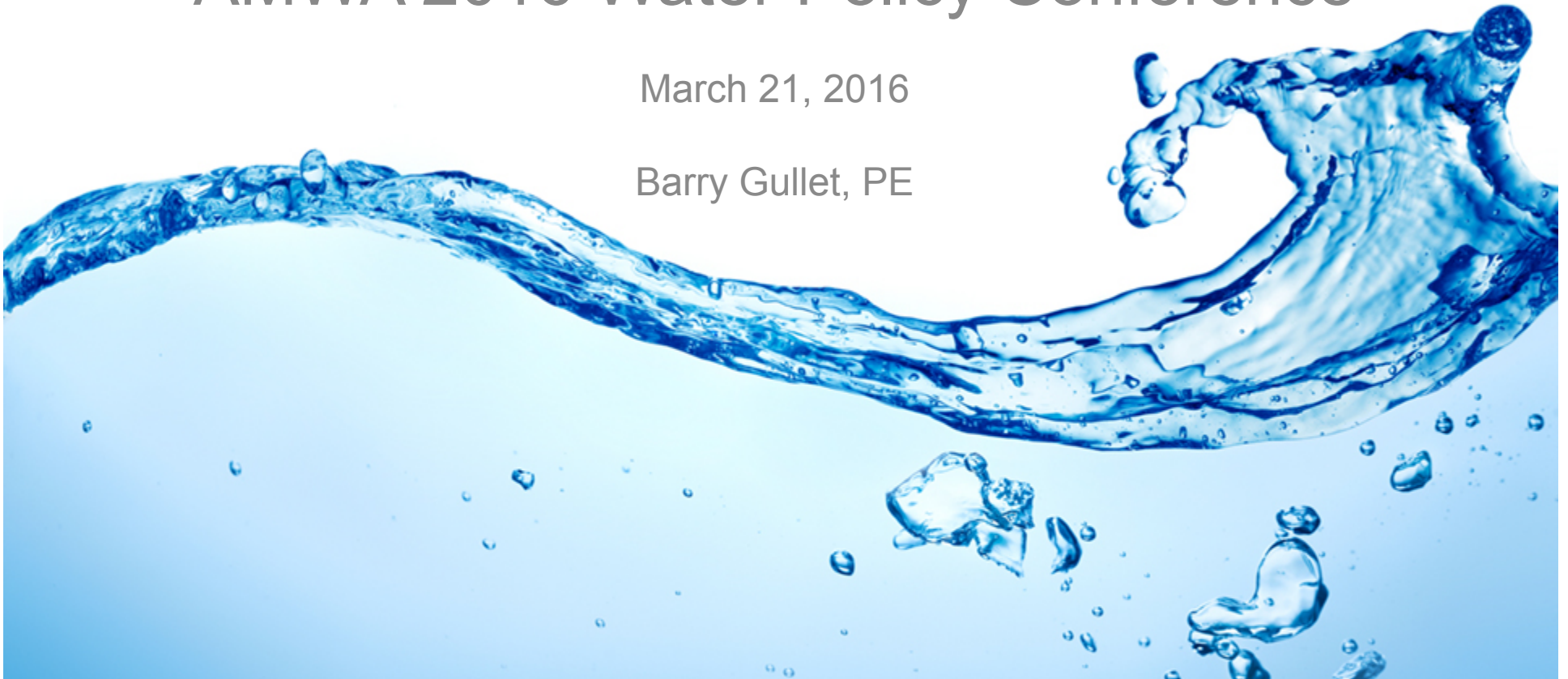


Sustainability & Resiliency

AMWA 2016 Water Policy Conference

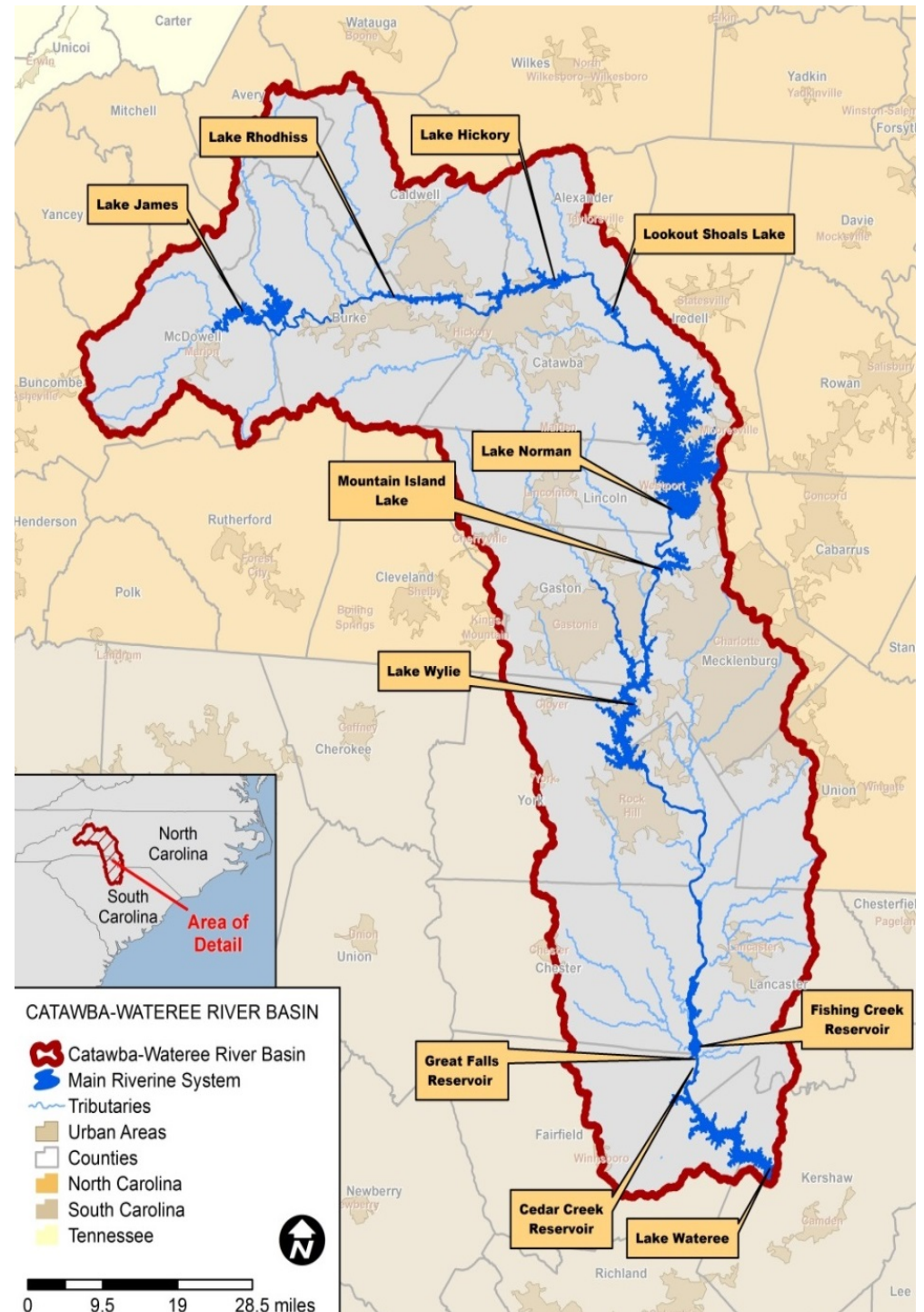
March 21, 2016

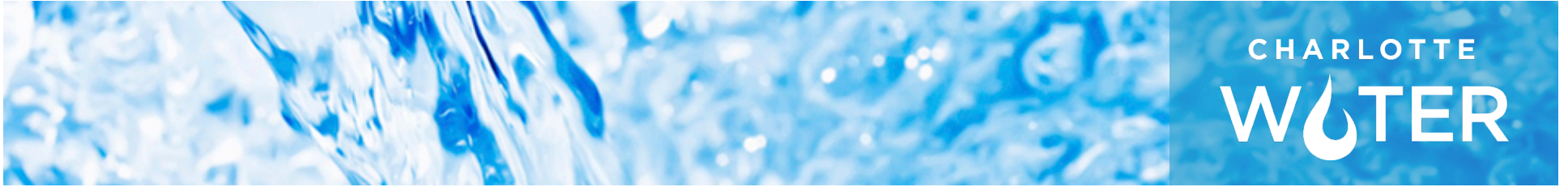
Barry Gullet, PE



The Catawba-Watauga River Basin

- 225 miles long
- 4,750 square miles
- 11 Impoundments
- 2 states
- 2 Million People
- Water Supply
- Coal-fired Power
- Nuclear Power
- Hydro Power
- Industry
- Agriculture
- Recreation

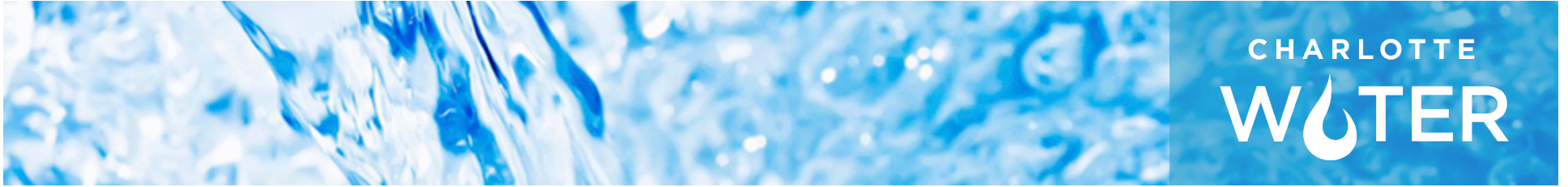




The Wake Up Call

2006 Projection:

The region will reach the safe yield capacity of the water supply source around 2050



The Response

- Formed Catawba-Wateree Water Management Group
- Understand risks and vulnerabilities
- Undertake integrated basin-wide planning process
- Technical platform for policy and decision makers

Elements of the Water Supply Master Plan

Supplemental funding

Stakeholders

Water use projections

Refine hydrologic model

Climate change

Develop & evaluate options

Action plan

Communication

Implementation

Future phases

Periodic future updates



Water Supply Master Plan - Quantity

- Report issued May 2014
- Resolutions of support by governing boards
- Recommendations extend supply capacity beyond 2100
- Establishes basin-wide planning as an on-going process

Risks to Water Supply

- Drought
- Infrastructure failure
- Sudden contamination incident
- Changes in raw water quality
- Reduced storage due to sedimentation
- Increased water demand (no water withdrawal permitting system)

Regional Drought Response Plan

- Collaboration among competing uses
- Managed by affected parties
- Modeled based on previous drought of record, future demand
- Defines failure as any intake being uncovered on any part of the river/impoundment system
- Proven successful during new drought of record

Raw Water Intake Contingency Plan - Scope

- Scope includes 16 public water supply utilities
 - Excludes contingencies for power company, Charlotte Water
- Identify water supply emergency scenarios
- Quantify anticipated water supply shortfalls
- Identify remedial measures and contingencies
- Prepare formal contingency plans

Raw Water Intake Contingency Plan - Findings

- Stand alone response measures
 - Temporary emergency pumping
 - Alternate water supply sources
- Utility partnership contingencies / interconnections
 - Joint ownership of portable pumping equipment
 - MOUs / Mutual Aid
 - Joint emergency exercises
- Preferred: Use of partnerships & interconnections

Charlotte Water - Water Supply Contingency

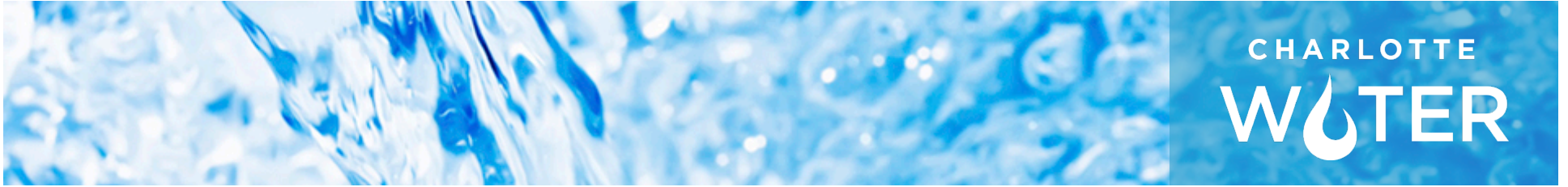
- Planning undertaken as separate effort by Charlotte Water
- Integrated with other components of water system resiliency planning
- Considers alternate source development
- Evaluates degree of risk reduction for various scenarios with existing water supply sources
- Optimize mitigation investments
- Work is underway

Water Supply Master Plan - Quality

- Unprotected, multi-purpose, highly developed watershed
- Identify potential long-term changes to treatability for drinking water
- Identify data gaps, how to fill them
- Identify options for solutions
 - Change emerging trends
 - Treatment process changes
 - Other?

Some Difficult Issues

- A large utility can “back up” many smaller ones, but not vice-versa
- Failure of a large water system could have regional impacts – should the region bear some resiliency costs?
- Difficult to communicate need for rate increases to fund risk mitigation without exposing serious vulnerability



For More Information:

www.charlottewater.org

www.catawbawatereewmg.org

