

The Duck River Dam Project More Than Just a Water Supply Cullman, Alabama

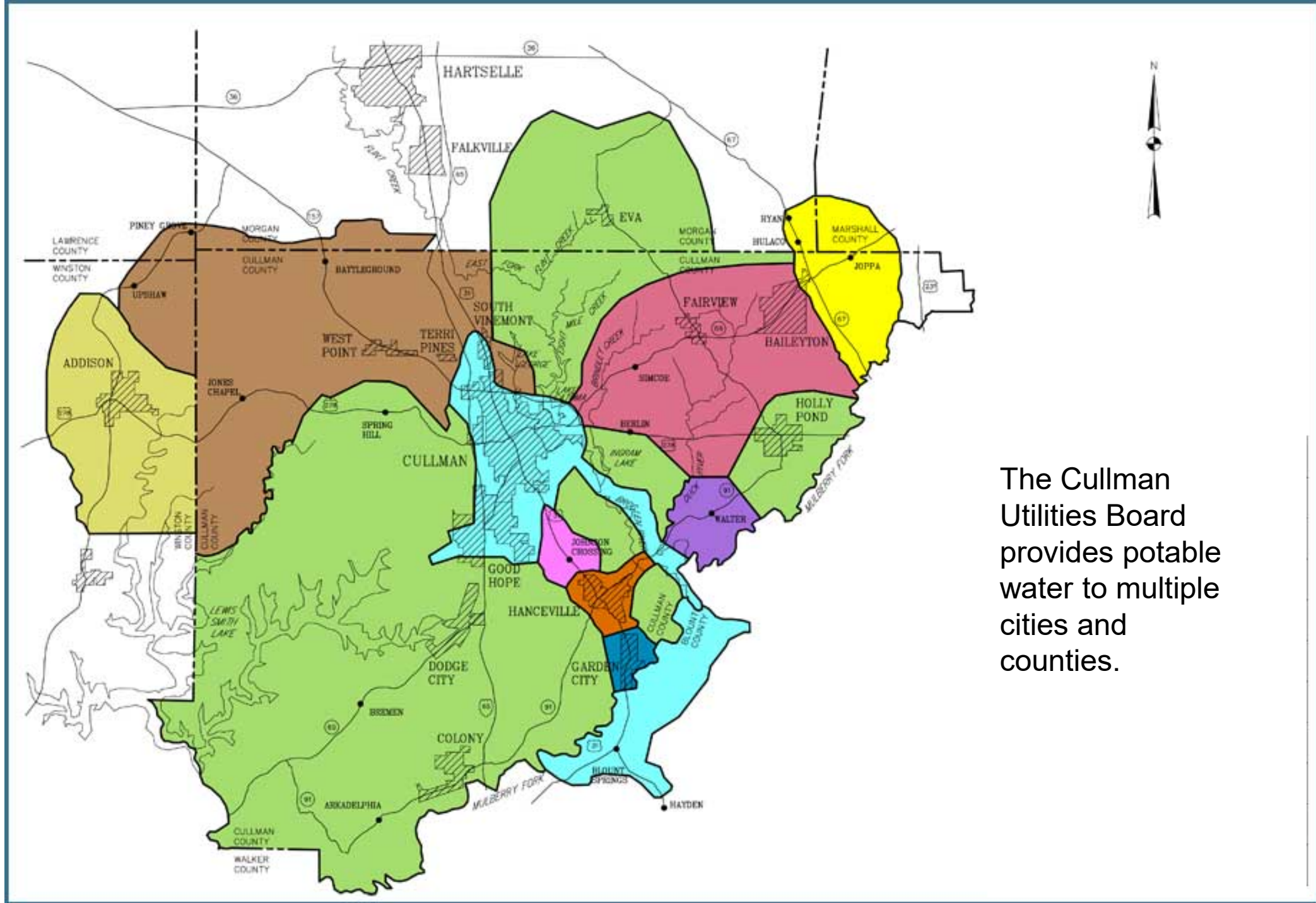
J. Steve Newton, P.E.
TTL, Inc.

"Healthy Streams for Healthy Lakes"

Clear Water Alabama 2021

September 15, 2021





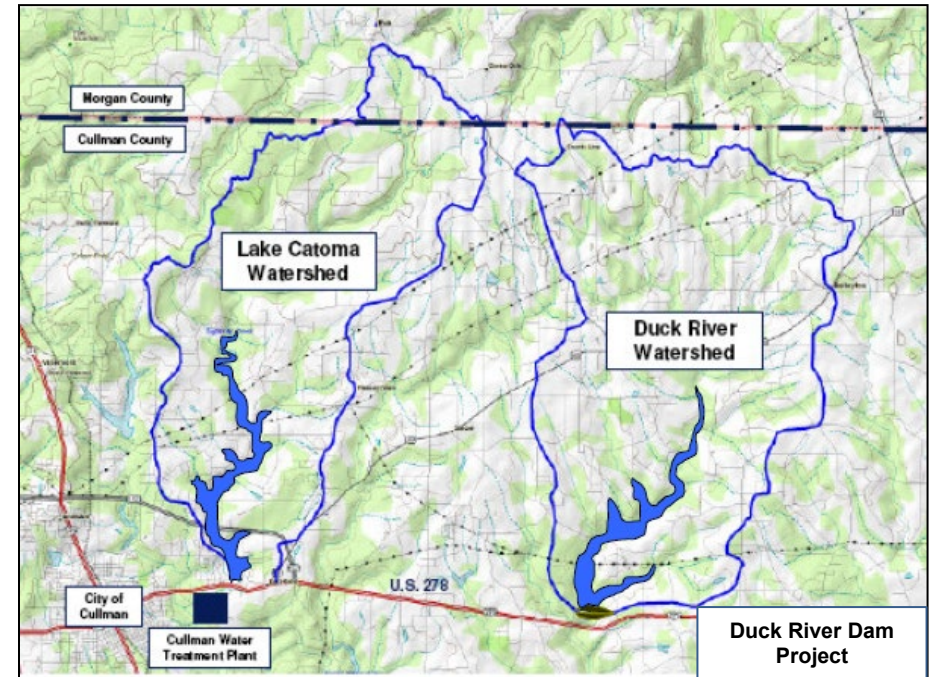
The Cullman Utilities Board provides potable water to multiple cities and counties.

Lake Catoma



Duck River Dam Project

- Construct a new reservoir
 - Redundant water supply
 - Strategic water supply
- Located east of Lake Catoma and north of Highway 278 in Cullman County
- Same ecosystem water as Lake Catoma
- No treatment modifications were needed





June 19, 2012















Borrow and Overburden Excavation

- On-site Clay Borrow – 160,000 CY
- Quarry Rock Excavation – 800,000 CY
- Overburden Excavation – 950,000 CY

Overburden material remained on-site and used to stage the concrete batch plants and aggregate processing area



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DANGER
POWER LINES
ABOVE
HEADS ONLY



Meet the Water Management Challenge

(ADEM-7) The applicant should provide for the minimum flow releases from the structure during construction, during filling of the reservoir, and after project completion according to the following schedule:

Month	Normal Release (cfs)	Drought Release (cfs)
January	16.0	14.5
February	19.0	19.0
March	20.5	20.5
April	16.0	11.0
May	16.0	4.5
June	16.0	2.0
July	16.0	1.5
August	8.4	1.0
September	6.5	1.0
October	7.6	1.0
November	16.0	1.0
December	16.0	3.0









United Rentals

MAGNUM

10195481

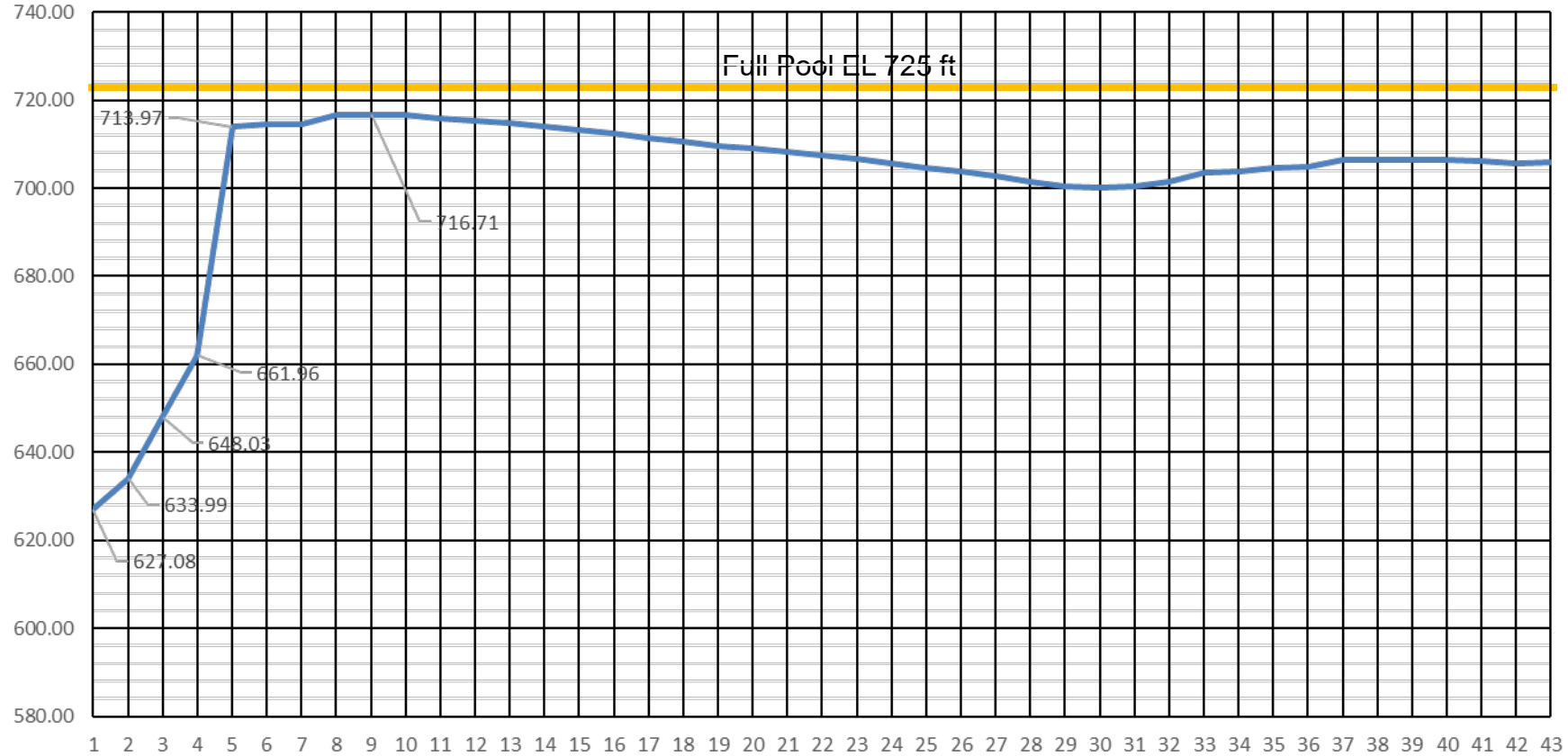
United Rentals

1-800-UR-RENTS

10195481

1-800-UR-RENTS

100-year Flood Event on Christmas Day 2015



Christmas Day 2015



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Christmas Day 2015



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Meet the Water Quality Challenges

- Watershed Management Plan – transition from river to reservoir
- Protecting water quality during construction
 - NPDES Construction Stormwater Permitting (ALR100000)
 - Air permitting for on-site aggregate production
 - NPDES Permitting for on-site concrete production (ALG110000)
- Preserve and maintain a 100 foot riparian buffer around the entire reservoir
 - Owned by the Board under a restrictive covenant
 - No direct lake access except at the 2 boat launches



Watershed Management

- Extensive water quality sampling and biological monitoring
 - Existing health of the river
 - Improvements to the Watershed Management Plan
- Working with land users
 - Significant compliance with AFO/CAFO
 - Reduced nutrients in the watershed
- Water supply protection
 - 100 ft riparian buffer with restrictive use covenant
 - Extensive water quality monitoring
 - Fish and Wildlife to Public Water Supply
- Public education

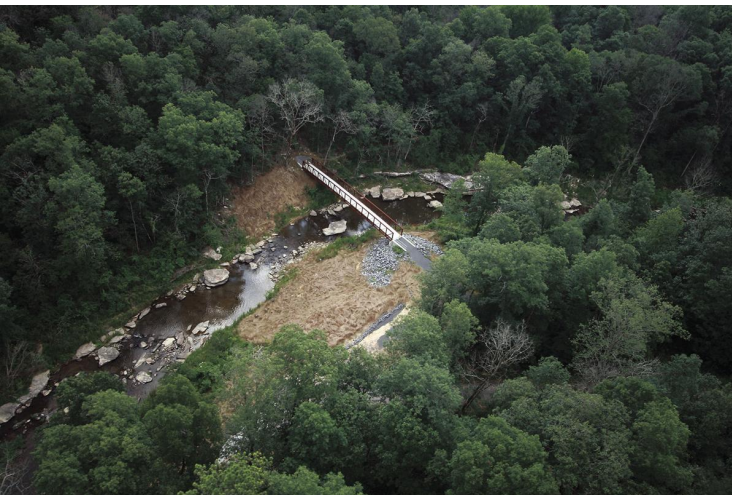


It's more than just a water supply...

- The Duck River Reservoir is able to support the following recreational activities:
 - Limited horsepower boating
 - Fishing
 - Picnicking
 - Sightseeing and photography
 - Nature observation
 - Tim Scott Recreational Trail

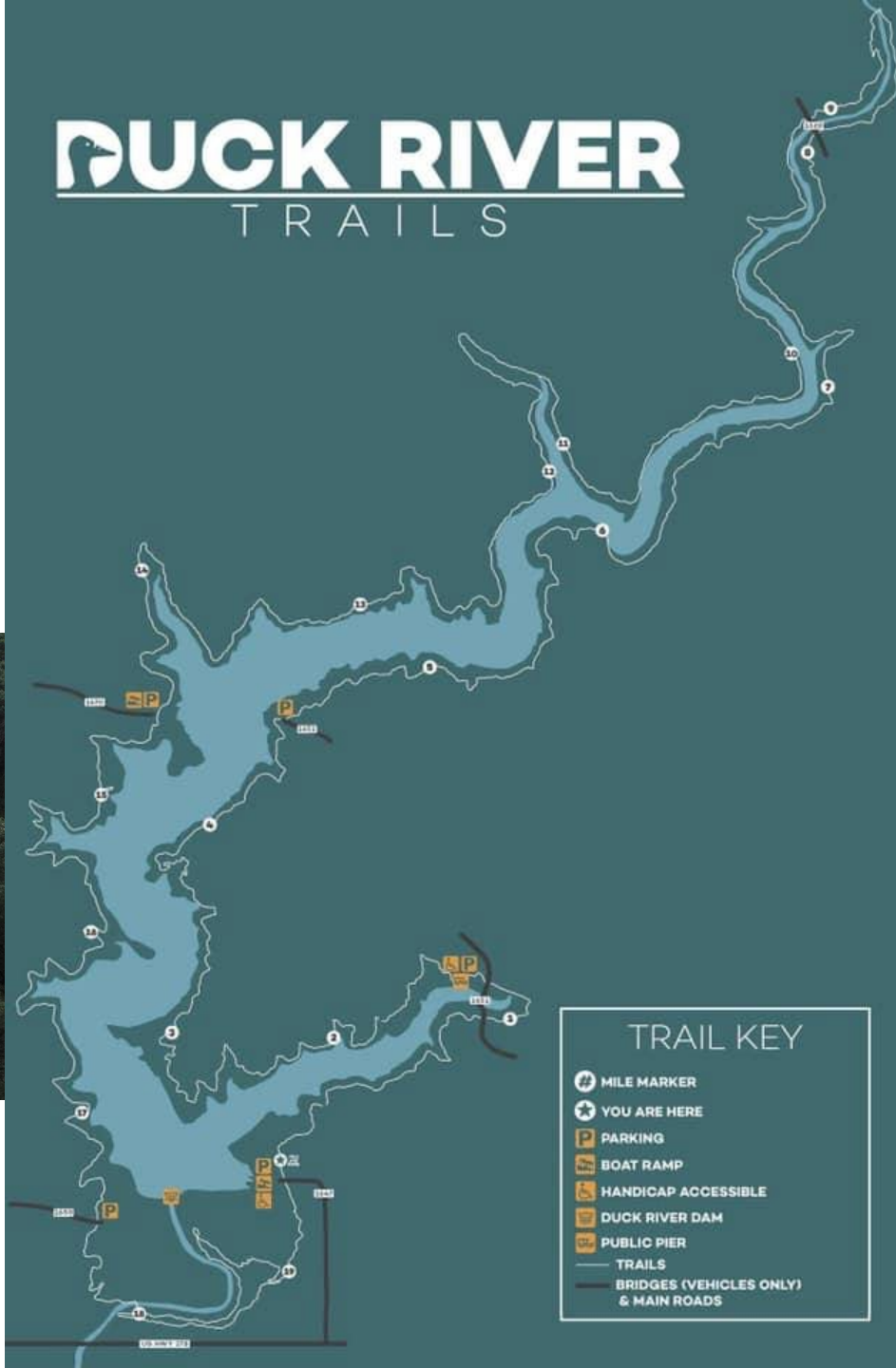


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DUCK RIVER

TRAILS



- ### TRAIL KEY
- MILE MARKER
 - YOU ARE HERE
 - PARKING
 - BOAT RAMP
 - HANDICAP ACCESSIBLE
 - DUCK RIVER DAM
 - PUBLIC PIER
 - TRAILS
 - BRIDGES (VEHICLES ONLY) & MAIN ROADS









REPORT GA
1-800-277-XXXX

FISH RELEASE
NO FEEDING







It's more than just a water supply...

- **Sustainable** – Meet the water supply needs of the region for many years to come
- **Water Supply Integration with Lake Catoma & Optimization**
- **Environmental** – integrated with the watershed management plan and required minimum flows downstream
- **Beneficial** – Provide water for industrial growth and recreational opportunities for the community



