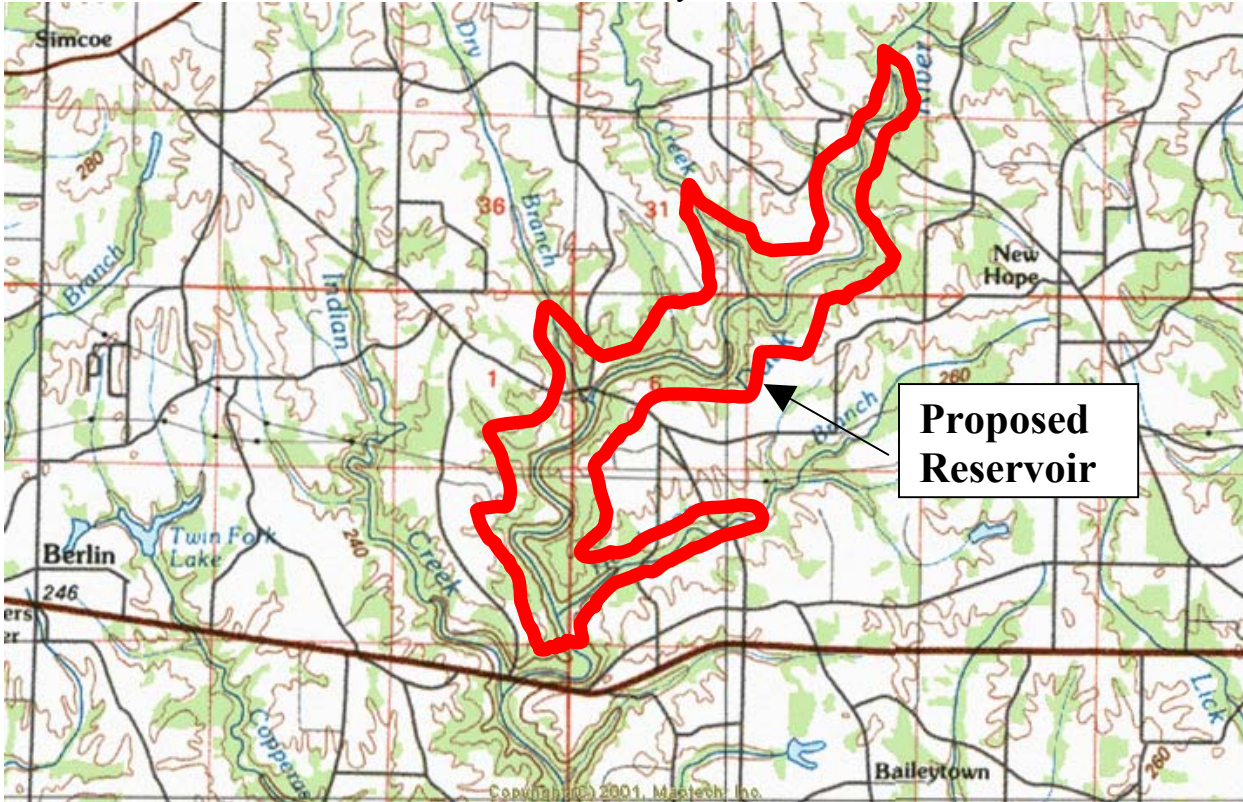


## GENERAL INFORMATION ABOUT THE DUCK RIVER DAM

### Location

- The dam will be located just north of Highway 278
- Duck River is located between Cullman and Holly Pond



map is an approximation of the location of the reservoir

### Dam details

- Rock fill dam, with earth core
- 1,925 feet long and 130 feet high
- 600 foot long, 15-foot diameter tunnel will be used for releasing minimum flows
- Cost then \$43,785,000 (1999)
- Cost now? Over \$52 million

### Reservoir details

- 640-acre reservoir with normal pool elevation of 725 feet above mean sea level
- River elevation varies from approx. 620' near the dam to 720' near the top of the reservoir
- Five-mile long reservoir
- Storage capacity is 26,500 acre-feet (8.5 billion gallons)
- 100-foot wooded buffer zone to be maintained around the perimeter of the reservoir
- 37-square mile drainage area
- Withdrawal capacity is 32 million gallons per day (MGD)

### River Details

- Duck River is 20 miles long
- Over 5 miles of the river will be impounded, and 3 miles of tributaries
- The drainage area for the entire basin is 63 square miles
- The Duck River drainage is 17 percent of the Mulberry drainage at the Garden City gage

## Cullman-Morgan Water District

- Formed in 1993 as a “temporary political subdivision of the State of Alabama”
- Consists of nine water systems: City of Cullman; Cullman County; V.A.W. Water District; Johnson Crossing Water District; Hanceville Water District; Garden City Water District; Walter Water District; Joppa, Hulaco, and Ryan Water District; and East Cullman Water District
- Not all systems are currently obtaining water from Cullman
- Will have powers of eminent domain when reorganized as a water authority

## Water usage

- Average usage reported in 1998 was 14.8 MGD, peak demand in 1998 was 24.2 MGD
- Lake Catoma capacity 25 MGD
- Demand was predicted as 21.8 MGD by 2005 and 27.0 MGD by 2015
- The Cullman Utilities Board reported using about 15 MGD in June 2005, which is less than the predicted amount of 21.8 MGD.

## Water Quality

- Water in the reservoir must be re-classified by the Alabama Department of Environmental Management as Public Water Supply before withdrawals begin
- The Duck River is currently classified to meet Fish and Wildlife standards, which are less protective than Public Water Supply standards
- Water quality standards must be met before ADEM can approve the reservoir for public supply
- Water quality impairments exist in Duck Creek and Long Branch, both tributaries in the basin.
- Tributaries are still impaired for nutrients and pathogens, even though no longer on 303d list

## Flow releases

- Minimum flows will be released from the dam based on a monthly schedule
- The Duck River reportedly runs dry on occasion in the summer months and these are the natural conditions for this system.
- Peak flows in the winter whitewater paddling months will be drastically reduced
- Downstream pollutant loads may increase due to reduced peak flows in the winter
- Normal releases from the dam in low flow months are actually less than average conditions.

Month	Actual Average Monthly Flow (cfs)	Normal Releases	Percent Reduction	Actual Monthly low flows	Proposed Drought Releases
January	107.4	16.0	85.1	14.3	14.5
February	120.0	19.0	84.2	18.9	19.0
March	117.9	20.5	82.6	20.5	20.5
April	81.9	16.0	80.5	10.9	11.0
May	41.6	16.0	61.5	4.1	4.5
June	17.3	16.0	7.5	1.6	2.0
July	21.9	16.0	26.9	1.1	1.5
August	13.0	8.4	35.4	0.8	1.0
September	10.4	6.5	37.5	0.5	1.0
October	12.8	7.6	40.6	0.4	1.0
November	29.0	16.0	44.8	0.6	1.0