

The Berea Water Cycle

Originally only needed to support Berea College, the water system has grown over the years to accommodate the town.



A UNIQUE SYSTEM IN A UNIQUE PLACE

Owsley Fork reservoir (pictured) was built in 1970 and stores 180-200 days worth of water.

RAIN FILLS BEREAS'S FOUR SOURCES

Owsley Fork and Cowbell Reservoirs along with Kale Lake hold Berea's drinking water. Water is pumped from Owsley Fork and Cowbell to B-Lake.

TO THE WATER PLANT

Gravity takes the water from B-Lake to the water plant. 3 million gallons of water are processed each day.

Bereans are the first users of this water, a unique aspect of this water system.

The unique DAF system lessens the plant's ecological footprint.

THE WATER IS FILTERED AND TREATED

The water goes through a unique dissolved air flotation (DAF) system to remove the organics, viruses, and bacteria. Some chemicals are added such as chlorine for disinfecting, fluoride for dental health, and phosphate for pipe corrosion control.

WATER STORAGE

A ground storage reservoir holds 3 million gallons of water that gravity feeds to the Berea City Water Tower. The tower then gravity feeds to the college and city.

The tower holds 500,000 gallons of water.

OVER 1 BILLION GALLONS OF WATER ARE PRODUCED ANNUALLY (2010) AND THE SYSTEM HAS 74 MILES OF PIPES.

The clean, new water arrives at the faucet ready for use.



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(cont.)

AFTER THE FAUCET

Individuals in Madison County used 70 gallons of public-supplied water a day in 2010.

(USGS)

WHEN IT GOES DOWN THE DRAIN

It travels to the wastewater treatment plant so it can be processed well.

WASTEWATER TREATMENT PLANT

The water discharges into Silver Creek. The plant utilizes treatments such as ultra violet disinfection.

The plant processes an average of 4.3 million gallons per day.

(2010)

Depending on the amount of water flowing in and how deep it goes, groundwater can be less than a day to hundreds of thousands of years old.

BACK INTO THE EARTH

When it rains, some water soaks through the soil into gravel and bedrock below and gets locked in. If available, gravel, sand, and rock formations can often hold large amounts of water. These supplies are called aquifers.

UP INTO THE ATMOSPHERE

Water is constantly evaporating during every step of the journey. It reenters the atmosphere as vapor and will condense to make clouds. When enough moisture builds, they will precipitate water back down over Berea.

At any time, the atmosphere holds 0.04% of Earth's freshwater, and 0.001% of total water, as vapor.

AND THE CYCLE REPEATS

Special thanks to Steve Jones from Berea Municipal Utilities

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