

2000-2010

An Exciting Future Unfolds

When steelmaking ended in Johnstown in 1992, The Que's largest water consumer also disappeared. After a period of uncertainty, a unique grassroots coalition emerged that recognized the significant history and future potential of the reservoir and its pipeline.

A unique new owner

The new owner of The Que resulted from a rare form of intergovernmental cooperation between the Boards of Commissioners of the two counties served by The Que, Cambria (home to Johnstown and most customers) and Somerset (site of the reservoir). In 2000, these two boards took the bold action of forming a cross-border governing agency, the Cambria-Somerset Authority (CSA) to acquire The Que, four other smaller reservoirs, the pipeline, and over 5,000 acres of land.

Ambitious goals for the future

The CSA's mission goes beyond the original goals envisioned when The Que was built a century ago. Using the original pipeline, the CSA provides water to industrial customers in Johnstown, supporting hundreds of jobs. However, the CSA also pursues two other goals never envisioned by the Cambria Iron Company (who kept The Que closed to the public):

1. To provide diverse recreation opportunities to enhance the quality of life in the region
2. To practice conservation of our natural environment to ensure its availability for future generations



The Quemahoning Partnership

The CSA has succeeded in providing water supplies and attracting thousands of visitors from the region and surrounding states through partnerships with an impressive array of diverse public and private entities including:

- Pennsylvania Department of Conservation and Natural Resources
- Pennsylvania Fish and Boat Commission
- Pennsylvania Game Commission
- Cambria and Somerset Counties Conservancy
- Summer's Best Two Weeks

These partners have helped introduce the following services at The Que that were never before available to the general public:

- Boating/kayaking/sailing
- Camping
- Swimming
- Rustic cabins
- Fishing
- Hiking
- Hunting
- Mountain biking

Beginning in 2009 The Que also began to provide drinking water to thousands of residential customers following the development of a filtration plant, separate new pipeline and pumping stations funded by the Somerset County General Authority.

In 2011, The Que's impact extended even further, with the initiation of controlled water releases downstream to enhance whitewater rafting and kayaking on the Stonycreek River. Through another innovative partnership with the Stonycreek Quemahoning Initiative of the Conemaugh Valley Conservancy, the CSA installed a special 48-inch valve that can release large quantities of water to increase the flow of the Stonycreek to allow for whitewater activities from April to October.



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The Big Que.



An Amazing History and an Exciting Future

A brief overview of the history and future of the Quemahoning Reservoir





How it all began: *Before 1900*

The story of the Quemahoning Reservoir (“The Que”) is all about water and natural resources. Wildlife were attracted to this valley by the presence of water and natural mineral deposits they would lick for nutrition. Native Americans followed, and gave the place its name, translated as the “lick” (mahoning) in the “pines” (que).

Water and Steelmaking

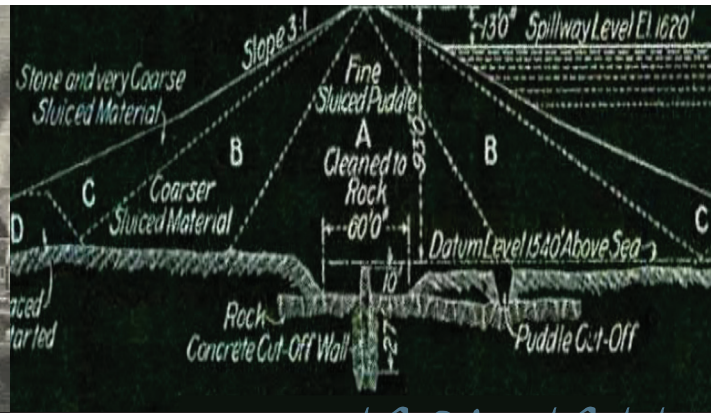
The industrial revolution attracted a new group to the Quemahoning valley’s resources: steelmakers. What does water have to do with steelmaking? The answer is simple but surprising: the production of one ton of finished steel requires up to 271 tons of water. This incredible thirst for water was the reason the Cambria Iron Company identified this valley as the site for a massive new reservoir to supply its steel mills in Johnstown.

**1 ton of steel=
271 tons of water**



The growth of Johnstown’s mills

By 1900, Johnstown’s mills were producing approximately 1 million tons of steel each year, requiring vast amounts of water—and human resources. At their peak, the mills directly employed 18,000 workers, with thousands more working in support industries, including coal mining, which supplied another major raw material for steelmaking. This great need for labor brought a wave of immigrants to the region, many of them arriving from Europe to begin a new life in America.



How they did it: *1907-1911*

The Que’s massive size required innovative engineering and construction techniques that continue to amaze people to this day

A design that stands the test of time

The Great Johnstown Flood of 1889 was caused by the failure of a man-made reservoir, so the Que’s designers set out to create a project that would not only hold billions of gallons of water, but also to do it safely. As a result, the breast of reservoir actually consists of three different types of materials:

1. A solid concrete core at the base of the breast extending 10 feet upward from bedrock
2. A thick inner layer of “puddle,” very fine, compacted, impervious clay
3. Two outer layers consisting of coarser earth and rock

“First large dam east of the Mississippi” built with water

To move these massive amounts of material into place, engineers used an innovative technique: “sluicing.” Essentially, thousands of cubic yards of puddle, earth and rock were washed, or sluiced, from the surrounding hillsides, and funneled to the breast of the dam using a series of troughs known as “flumes.”

Sources: Cambria Somerset Authority, *Engineering Record*, February, 1913, *Geographical Review*, October, 1957, Johnstown Area Heritage Association *Johnstown Tribune Democrat*, Len Lichvar, National Institute of Standards and Technology, Somerset Planning and Engineering Services and Stonycreek Quemahoning Initiative



How it works: *1911-Today*

The Que’s designers also faced two other challenges: measuring the water being discharged, and delivering the water to the mills in Johnstown.

How much water?

To measure the huge quantities of water, the 40-foot long pipe-like device displayed here, called the Venturi meter, was installed. This original unit is significant for three reasons:

1. It was one of the largest ever built at the time
2. It was designed to operate with no moving parts
3. It measured the flow of billions of gallons of water for nearly 100 years without a single failure.



Another marvel: the pipeline

Once measured by the Venturi meter, the water began its journey to the mills downstream. To accommodate a flow of up to 100 million gallons each day, engineers designed a huge steel pipeline 66 inches in diameter at its largest point. The pipeline runs 12 miles to Johnstown, and flows exclusively by gravity with no pumping stations. To accomplish this feat, the pipeline:

- Crosses streams 13 different times
- Flows through four tunnels along the way
- Is buried in huge trenches under the streets of Johnstown