Lake Wallenpaupack

history

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LAKE Wallenpaupack and its hydroelectric power plant were completed in 1926 in a vast stream basin in northeastern Pennsylvania.

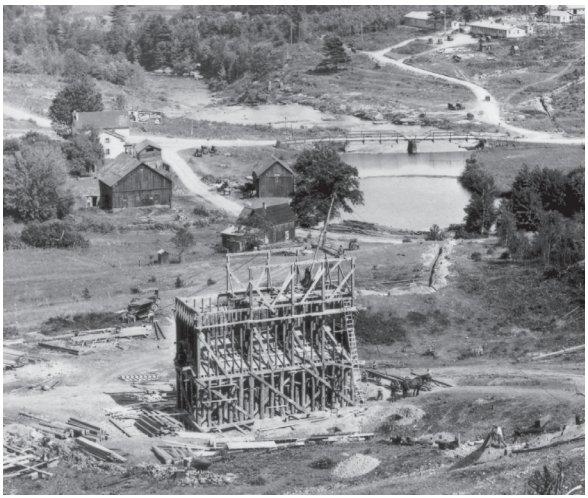
Now a major tourism and outdoor recreation destination, the 5,700-acre Lake Wallenpaupack fills what was once a bowl-shaped valley. Sixty feet at its maximum depth, it is one of the largest man-made lakes in Pennsylvania.

Through the middle of it flowed the Wallenpaupack Creek, called "the stream of swift and slow water" by Native Americans who lived in the Pocono Mountains generations before European colonists arrived in Pennsylvania.

Engineers recognized the water-power potential of the damming of the Wallenpaupack Creek in the early 1900s.

After PPL decided to construct a dam across the Wallenpaupack Creek, it purchased roughly 12,000 acres – at about $20 per acre – from about 100 landowners. Farms, houses and other structures were either razed or moved, clearing the valley for it to be filled with water.

Crews began work in 1924 and in two years finished the 1,280-foot-long concrete dam, the powerhouse and the 3.5-mile flow line that carries the



Batching plant at boat access at Mangan Cove. Plant was used to supply sand and gravel to make concrete.

lake water to the plant. The pipeline, originally made of Douglas fir shipped from Washington state, was one of the world's largest at the time; it was replaced with a steel pipeline 14 feet in diameter in the late 1950s. It's big enough for a truck to drive through it.

Completed with a work force of 2,700, the entire hydroelectric project cost about $1 million.

Electrical output at the Wallenpaupack hydroelectric station, operated from our headquarters in Allentown, Pa., makes up only a small part of the company's generation portfolio. Its 44,000-kilowatt capacity, created by water-powered turbines, is important when extra power is needed during times of peak demand.

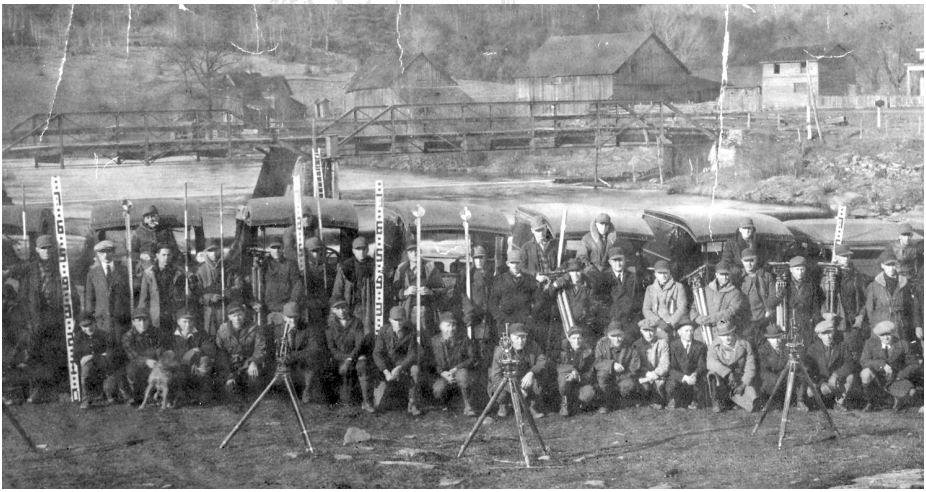
When the hydroelectric project started up in 1926, the systemwide generating capacity was about 225 megawatts. In 2010, generating capacity was about 12,000 megawatts.

The Lake Wallenpaupack hydroelectric station is operated under a Federal Energy Regulatory Commission license. Every 30 to 50 years power companies that use dams to produce energy need to renew their FERC licenses.

Under that license, the company owns most of the 52 miles of lake shoreline up to 1,200 feet above sea level and controls how that fragile land is used through a comprehensive shoreline management policy.

Four plots of company-owned land at Ledgedale, Ironwood Point, Wilson-ville and Caffrey are set aside around the lake for camping and recreation. These areas, on the border of Pike and Wayne counties, are enjoyed by tens of thousands of tourists every year.

Over the years, an entire community has grown up around Lake Wallenpaupack. The lake continues



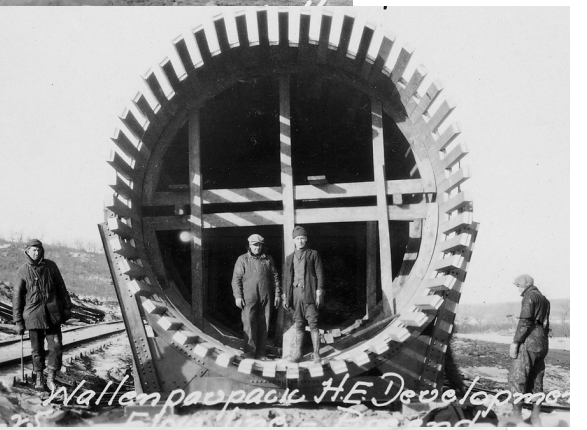
The bridge in the background spans the Wallenpaupack Creek in this 1922 picture showing the corps of surveyors and engineers who were to design Pennsylvania's largest man-made lake.

to be a special area for residents and a memorable destination for countless tourists, outdoor enthusiasts and anglers.

Mules and steam engines provided much of the brawn needed to build the Wallenpaupack dam, as seen in this view of the earthen north embankment of the dam.

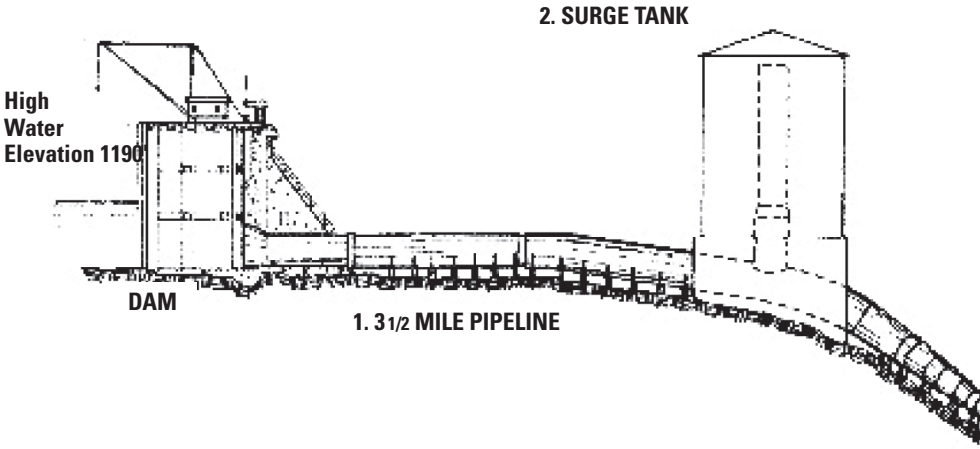
Steam rollers were an important tool in compacting the earthen portions of the Wallenpau-pack project, such as the Tafton Dike, under construction here.

The three-and-a-half-mile-long, wooden flow line — large enough to drive a truck through — was a marvel of engineering never before seen in the Pennsylvania of the 1920s.



Protecting the face of the dam and the Tafton Dike (shown here) with riprap was a backbreaking job, with most of the stones placed by hand.

The Project



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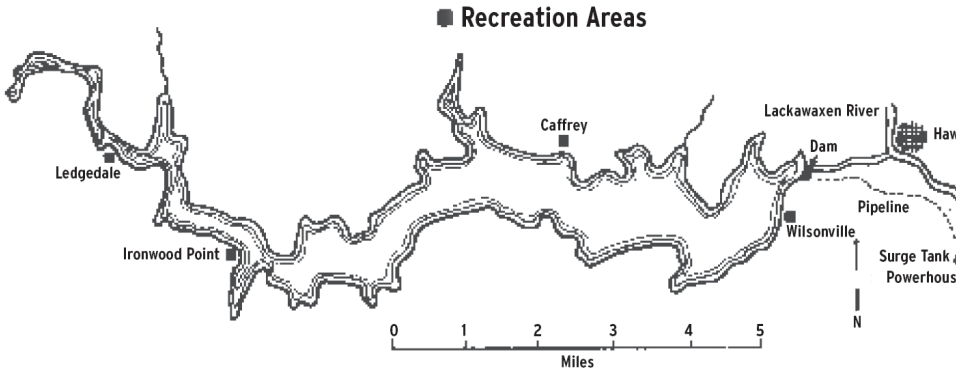


General Profile of the Wallenpaupack Hydroelectric Project

1.Pipeline — carries water 3 1/2 miles from lake to surge tank.

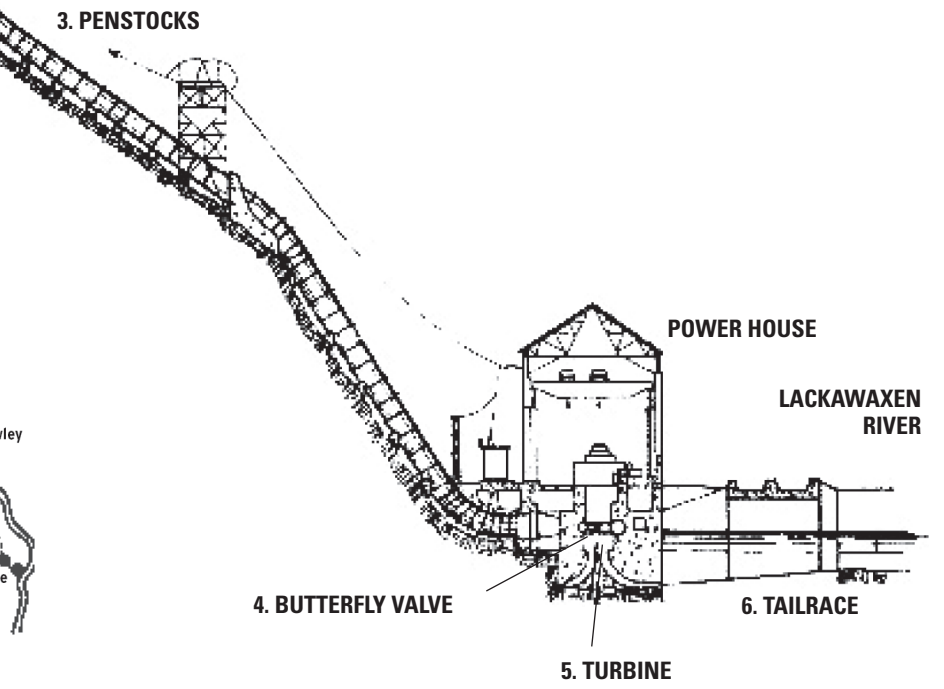
2.Surge Tank — Absorbs the rise in pressure when the butterfly valves are closed and acts as a storage reservoir to furnish water when the valves are opened.

3.Penstocks — Direct and regulate the flow of water to each turbine.

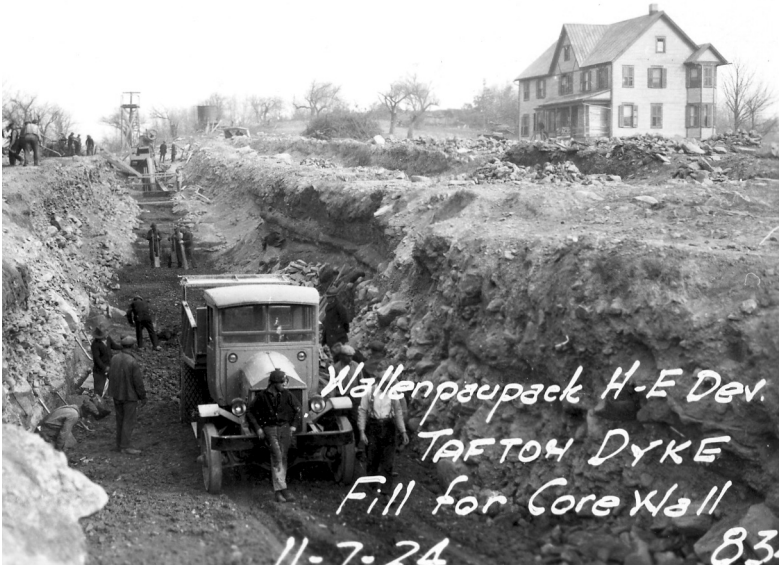
4.Butterfly Valve — A device for starting or stopping water flow thereby controlling electric generation.

5.Turbine — The falling water spins the turbine and produces electricity.

6.Tailrace — The channel in which water flows from the power plant to the Lackawaxen River.



This portion of the Wallenpaupack Creek disappeared under the lake's 5,700 acres.



There's more to Wallenpaupack than meets the eye. This 1924 photo shows excavation for the impervious earth fill that has kept the Tafton Dike intact for more than nine decades.

By 1925, it was evident that a massive landmark was growing near Hawley.

While the dam was under construction three-and-a-half miles away, the seldom-seen Wallenpaupack Hydroelectric Station and its tall surge tank were taking shape down at Kimbles, Pa. Smoke from many steam engines obscures detail in the center of the photo.

This steam shovel belonged to the Phoenix Utility Co., the builder of the Wallenpaupack project and the forerunner of PPL's Construction Department.

These trucks, with their canvas sides and "new-fangled" pneumatic tires, were "state of the art" vehicles in 1923.

U. S. Route 6, along the Tafton Dike, was a dusty dirt road before Wallen-paupack was built.

Construction workers' barracks-like quarters below the dam were even-ually displaced by the massive Wallenpaupack flow line.

Lake Wallenpaupack
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