CHAPTER 7

TAMING THE MONONGAHELA
THE STORY OF BROWNSVILLE'S LOCKS AND DAMS

This is the story of the three locks and dam complexes that have serviced the Monongahela River near Brownsville during the past 120 years. The first two, the original Lock and Dam No. 5 at Denbo and Locks and Dam No. 5 at Brownsville, no longer exist. Their replacement at Maxwell has been in operation since 1965.

How different our lives and those of our ancestors would have been if the Monongahela River had been too shallow to be navigated by westbound pioneers or barges heaped with coal. Construction of locks and dams on the Mon made year-round navigation possible for the first time, dramatically altering the past two centuries' history in the Mon Valley.

Many questions can be asked about the three locks and dams that have serviced the Brownsville area. Why were they located in three different places? When and how was each one built? What, if anything, is left of the locks and dams at Denbo and Brownsville? And as a matter of curiosity, why isn't Maxwell Locks and Dam called "Lock 5" like its predecessors were? This series will answer those questions and others.

Sources of information consulted for these articles include records of the Pennsylvania Historical and Museum Commission and the United States Army Corps of Engineers (Pittsburgh District), J. Percy Hart's *History and Directory of the Three Towns*, newspaper articles from the archives of the Brownsville *Telegraph*, historic photographs and post cards lent by former and current area residents, information supplied by the staff at Maxwell Locks and Dam, and personal recollections shared by men and women who worked at or utilized the locks and dams.

To truly understand how the locks and dams changed the lives of generations of Mon Valley residents, we need to envision what the Monongahela River looked like before those dams were built. The following anecdote from America's past provides a glimpse of the Monongahela River as it looked two centuries ago.

Walking Across The Mon

The little locomotive slowly pulled its cars along the ridge overlooking a steep wooded hillside. Behind the engine was a coal tender sporting the initials *K.R.R.* – Kennywood Railroad. Passengers wearing shorts and sunglasses sat in the open cars, gazing down the hill to their left. Hundreds of feet below, they could see the green waters of the Monongahela River and the steel mills hugging its opposite bank.

As the train approached a "Y" in the tracks, the passengers noticed a tableau of carved life-size figures positioned near the rails. The posed mannequins wore the red-coated uniforms of eighteenth-century British soldiers. As the train passed by the historical scene, a sign explained that in July of 1755, just down the hill from this spot, British General Edward Braddock led his army of redcoats northward along the river toward France's Fort Duquesne, which stood where Point Park is located today. As the passengers studied the crimson-coated figures, someone read aloud, "After General Braddock's army walked across the river twice, it was ambushed by the French and Indians and defeated in a rout."

The story of the Battle of the Monongahela, a skirmish in which General Braddock was mortally wounded and buried five days later near Fort Necessity, is a familiar one in this area. But for the purposes of our study of the Monongahela River's locks and dams, what is significant to us is something that occurred hours before that disastrous ambush took place.

In the hours before the army was ambushed, Braddock had taken steps to avoid marching his men along a dangerous two-mile stretch of riverbank that a scout had described as having "a river on the left and a very high mountain on the right." The scout recommended that Braddock avoid these narrows. In order to do so, the general ordered his men to walk across the Monongahela River!

They did so, marched downstream for several miles, and then walked across the river again! The whole army made the double crossing without incident, and as one of the soldiers later wrote, "the men hugg'd themselves with joy" at having done so safely. It was later that same afternoon that the army was surprised by the French and Indian forces and defeated.

As we think about that story, we should pause to wonder: How did Braddock's entire army *walk* across the Monongahela River? *Twice?* Isn't the Monongahela River too deep for such a maneuver?

Yes, it is now. But on the afternoon of July 9, 1755, when Braddock ordered his soldiers to ford the Monongahela, the river's

waters were very low, resembling stretches of the present-day Youghiogheny River. Shallow waters were not unusual for the Monongahela River in those days. Early spring rains and melting snow caused the river to spill over its banks, but dry summer weather could leave it just a few feet deep.

Today the Monongahela River is not fordable anywhere, anytime. Why is the river never as shallow as it was in the 1700s when Braddock's men walked across it? The answer lies in a carefully designed network of nine locks and dams that have been constructed along its length to maintain a river channel that is deep enough year-round to accommodate river traffic.

In Braddock's day there were no dams on the Monongahela River, which was then considered a hazardous river. According to experts from the Pennsylvania Historical and Museum Commission, "in its natural state the Monongahela could be extremely difficult to navigate, as rapids, narrow channels, sand bars, snags and boulders were common hazards. The velocity of the current was only two to four miles per hour at best. In summer, low water could make it nearly impossible for boats to travel any distance."

How low is "low water?" Many boatmen thought three feet was enough water to allow navigation, but PHMC researchers discovered that "the river was rarely that deep over its full length. Only shallow-draft vessels, such as canoes, rafts, flatboats and keelboats could be used on the river in its unimproved state. Many travelers had to wait for the spring freshets to carry them successfully down the Monongahela."

Two decades after Braddock's defeat, America became an independent nation and began to grow. Westbound pioneers soon realized the importance of rivers that were deep enough to navigate all year. When these travelers reached Brownsville, many planned to leave their stagecoaches and take flatboats or (later) steamboats down the Monongahela River to Pittsburgh, the Ohio valley, or even to the Mississippi. Unfortunately, pioneers often arrived at Brownsville during dry summers only to discover that the Monongahela River was too low to navigate. They had to wait for weeks to continue their journey by water. Without a doubt, something needed to be done!

What the traveling public wanted was the development of *slack water navigation* between Brownsville and Pittsburgh. Slack water navigation is a term that describes the partitioning of a river into navigable pools that are created by constructing a system of dams along the length of the river. Each dam maintains a certain depth of water in the pool that lies above the dam. The accompanying locks enable a boat to be raised or lowered past the dam and continue its journey upstream or

downstream.

Pennsylvania legislators heard their constituents' complaints. The state's first efforts in the 1790s had been directed toward removing snags and clearing the channel in the Mon. In the opening decades of the 1800s, the Pennsylvania legislature funded several studies that recommended construction of locks and dams on the river.

The legislature didn't mind funding a study or two, but it wasn't keen on paying for actual construction of locks and dams. So in 1836 a private company, the Monongahela Navigation Company, was chartered to construct a slackwater navigation system over a ninety-two mile stretch of the river from Pittsburgh southward to the West Virginia border.

By 1844, the company had constructed four locks and dams on the Mon. The southernmost two were at Elizabeth and Belle Vernon. They made it possible to navigate in a minimum of five feet of slackwater for nearly sixty miles southward to Brownsville, sparking a business boom in Brownsville. By 1856, Lock No. 5 (Denbo) and Lock No. 6 (Rice's Landing) were finished, extending slackwater navigation as far as New Geneva.

The company that built the locks and dams was making plenty of money, as every coal barge and boat that passed through each lock paid a toll to the company. Boat operators and coal companies grew unhappy about paying these tolls, so they agitated the federal government to take over the lock and dam system and operate it for free. But when the U. S. Army Corps of Engineers tried to condemn the Monongahela Navigation Company's locks and dams in order to acquire them, the company put up a fight defending against what became the largest condemnation suit in American history prior to 1900.

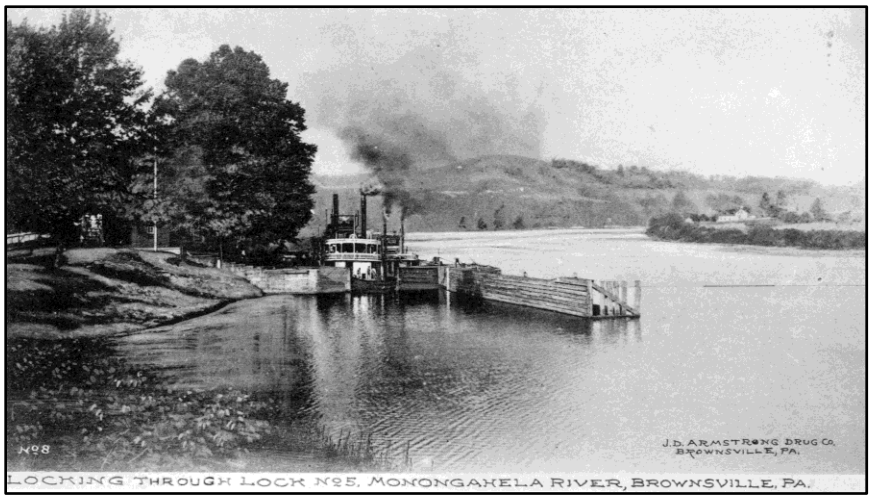
One of the locks involved in the squabble was the company's Lock No. 5 at Denbo, which went into operation in 1856. Next we will take a closer look at the lock and dam at Denbo, and we will learn how the federal government finally seized control of the Monongahela Navigation Company's locks and dams and began replacing them.

SEARCHING FOR REMNANTS OF OLD LOCK NO. 5 AT DENBO

Many local residents remember old Lock No. 5 at Brownsville, a taxpayer-built and operated facility that operated just upstream from the

inter-county bridge until the mid-1960s. Not many folks realize that it was preceded by an earlier Lock No. 5 at Denbo, part of the Monongahela River's first slackwater navigation system. The Denbo facility was constructed and owned by stockholders of the Monongahela Navigation Company (MNC).

The privately owned MNC built four locks and dams between Pittsburgh and North Charleroi prior to 1845. In the years that followed, coal mines continued to open further south on the Monongahela River. By 1856 two more locks and dams, MNC Lock No. 5 at Denbo and MNC Lock No. 6 at Rice's Landing, were placed into operation.



This historic postcard photo shows the original Lock No. 5 lock and dam at Denbo. The dam across the river was about 11 feet high, made of wooden cribs filled with stone and gravel, and was curved. The single lock had wooden gates that were operated by hand.

Where was Lock No. 5 at Denbo, and what did the dam look like? The lock was a single chamber, located on the west (Washington County) side of the river and made of smooth-dressed cut stone. It was 50 feet wide, 158 feet long, and could lift a boat about eleven feet. (Compare that to the side-by-side Maxwell locks, each of which is 84 feet wide and 720 feet long with a lift of 19½ feet.) The wooden lock gates at Denbo were hand operated by means of chains wound around hand-powered capstans located on top of the lock walls.

The Denbo dam was 620 feet long and built of stone-filled timber *cribs*, large logs stacked alternately at right angles to each other. These open cribs of seven to nine feet each were filled with stone and gravel.

Interestingly enough, the dam at Denbo did not cross the river in a straight line. Its shape was a gentle curve with its convex side upstream.

MNC Lock and Dam No. 5 at Denbo commenced operations in 1856 and was immediately busy. The Monongahela River was carrying more tonnage than any other inland river in the United States, despite its relatively short length, and that eventually spurred the U. S. government to get involved with the locks and dams on the Monongahela.

In 1879, the U. S. Army Corps of Engineers built Lock and Dam No. 9 at Hoard's Rocks, West Virginia. It was the first facility on the Mon built by the U. S. government instead of the Monongahela Navigation Company, and it incorporated new technological innovations for filling and emptying the lock chambers. At the same time, the Corps of Engineers was also constructing Lock and Dam No. 8, the first to use steam-powered lock gates.

The federal government's growing presence did not escape the notice of boat operators, who paid a toll for each boat that passed through an MNC-owned lock. In the 1880s, the boat operators lobbied the federal government to take over the entire Monongahela River navigation system and operate it for free.

In 1884, federal politicians tried to oblige. Congress authorized the Corps of Engineers to purchase all or part of the seven locks and dams owned by the MNC. There was just one problem. Those locks and dams were earning so much money for the company's stockholders that they refused to sell.

The federal government initiated condemnation proceedings to forcibly acquire the MNC's properties, and the company fought the government tooth and nail, all the way to the Supreme Court. In the largest condemnation suit in American history prior to 1900, the Court ruled in favor of the government. Stockholders of the Monongahela Navigation Company were paid almost $4 million for the company's property, which was officially taken over by the Corps of Engineers. For the first time, there was a *free* unified slackwater navigation system between Pittsburgh and Morgantown, West Virginia.

MNC Lock and Dam No. 5 at Denbo was over forty years old when it became the property of the U. S. government. It was physically deteriorating, and its small lock was unable to accommodate the long tows of coal barges that were becoming common as Pittsburgh became the steel-making capital of the world. The Corps of Engineers decided to build a new Lock and Dam No. 5, but not at the same location. The new facility would be built 2½ miles north of Denbo at Brownsville.

When those plans were announced, one man in particular was paying very close attention. That man was Denbo lockmaster Charles

W. Keibler. Keibler and his family lived in the lockmaster's house at Denbo, a house about which there is still a bit of controversy. Let me explain.

The Pennsylvania Historical and Museum Commission recently conducted a study of the system of locks and dams on the Monongahela River. The commission's purpose was to gather data preparatory to nominating the entire Monongahela navigation system for inclusion on the National Register of Historic Places. The PHMC sought to identify any remaining parts of past or current lock and dam complexes along the river. This would include any buildings related to lock and dam operations.

An 1887 Congressional document listed the structures that were part of the lock and dam complex at Denbo that year. Mentioned were a frame office, a frame collector's dwelling, a stable and carpenter's shop, a corn crib, a shed, and a privy, all standing on a one-acre lot adjacent to the lock. So what did PHMC researchers find at Denbo? Is any of the original MNC Lock and Dam 5 complex still there?

PHMC's experts concluded that very little of that complex remains. According to the PHMC, all that still exists of the entire complex is the stone land wall of the lock and its approaches. But wait! Aren't they forgetting Charles W. Keibler's house?

Tradition has it that the building that housed the Hankins-Paulsen (later Marcus-Paulsen) company office was formerly the lock collector's house. In fact, a non-PHMC study done in 1998 reached that same conclusion. But the Pennsylvania Historical and Museum Commission isn't convinced.

"This has not been verified," says the PHMC. "The building's location seems to be the same as that of the collector's house shown on an 1897 plan, but the configuration is different."

What about looking at the building's deed?

No dice, says PHMC. "Deed research was of no assistance in determining the original function or construction date of the building [that is there now]."

Hannah Millward Fisher of Corona, Arizona, begs to differ with the PHMC conclusion. Hannah is a Brownsville native, as was her grandfather. Who was her grandfather? He was Charles W. Keibler, the last lockmaster at Denbo.

"The Keibler family," Hannah wrote to me, "lived in a house that later became the office for Hankins-Paulsen." So says Keibler family oral tradition. Hannah told me this without my having mentioned the Denbo lock and dam or the collector's house to her.

The mail also brought another unsolicited bit of evidence.

Hannah's brother, Robert Millward of Indiana, Pa., sent a copy of a family-owned photograph. Robert identified the house in the picture as "the old home of Charles and Hannah Keibler at Lock 5, Denbo." The photo shows Charles Keibler, his wife Hannah, and three of their children on the front porch.

I have carefully examined the house in the photograph that Robert Millward sent me. I have compared it to a photograph of the former Marcus-Paulsen office building that was taken by the staff of the Pennsylvania Historical and Museum Commission. After comparing the two pictures, there is absolutely no doubt in my mind that the former Marcus-Paulsen building and the former collector's house for Lock and Dam 5 at Denbo are one and the same.

So, if PHMC were to agree with me, would the building be placed on the National Register of Historic Places? Probably not.

"In any event," says PHMC, "the building has lost integrity through the application of asbestos siding and alteration or blocking of many window and door openings." In other words, it has been too significantly changed to retain its historic significance.

"The site of MNC Lock and Dam No. 5," PHMC continued, "has suffered a serious loss of integrity through the removal or obliteration of most navigation-related features, grading and filling associated with its conversion to a concrete manufacturing facility, and the addition of numerous modern buildings and sheds. The site is only marginally identifiable as an historic navigation facility. Although the stone land wall should be considered a contributing element of the National Register-eligible Monongahela River Navigation System, the boundaries should encompass only the footprint of the wall, and should not include the entire one-acre property formerly owned by the Monongahela Navigation Company and federal government."

The bottom line is, the first lock and dam ever built near Brownsville, MNC Lock and Dam No. 5 at Denbo, is too far gone to be awarded national historic recognition. Nevertheless, its builders and operators were important pioneers in our river valley's history. It was their efforts that made the yields of the coal fields of southwestern Pennsylvania and West Virginia accessible to Pittsburgh and to the world. Without those locks and dams, this area's history over the past century would have been very different.

Next we'll follow Charles W. Keibler and his family as they empty their home in Denbo and board a train bound for their new house in Brownsville. You see, when Charles lost his position as lockmaster of the closed Lock No. 5 at Denbo, he was assigned to another job. He became the first lockmaster at the brand new Lock No. 5 at Brownsville.

MEMORIES OF LIFE AT THE BROWNSVILLE LOCKKEEPER'S HOUSE

Charles Wesley Keibler had been keeping an eye on the construction of the new double lock and dam at Brownsville since work began on it the previous year. Now, in October 1908, he had been appointed to replace Abraham Milliken, thereby making Charles the last lockmaster to serve at Lock No. 5, Denbo. As soon as the new locks at Brownsville were finished, Charles expected to be appointed the first lockmaster at the brand-new facility.

In late 1909, he got his wish when Locks and Dam No. 5 at Brownsville opened to river traffic with Charles Keibler as the lockmaster. Two years later in 1911, the Corps of Engineers completed construction of two brick houses intended as homes for the Brownsville lockmaster and chief engineer. Located at 602 and 610 Water Street, the two houses were mirror images of each other built on reverse plans, which was a standard Corps of Engineers practice at its Monongahela facilities.

These two houses still survive today, and in 1999 the Pennsylvania Historical and Museum Commission nominated them for inclusion on the National Register of Historic Places. A 1998 federal study has identified these two Water Street houses as the only surviving pair of lockkeepers' houses built by the Corps of Engineers on the Monongahela River.

On October 1, 1911, Charles Keibler moved his family into their new Brownsville residence. He and his wife, Hannah Thomas Keibler, had seven children in all: Charles Edward, Howard, Sarah, Grace, George, William, and Alfred. Charles' daughter Sarah Keibler married Earl Millward. Their daughter, Hannah Millward Fisher of Corona, Arizona, remembers her mother talking about her childhood days.

"I believe my mother told me that when they moved to Brownsville from Denbo," Hannah informed me recently, "they moved their furniture by railroad car."

And what was Sarah's impression of the new Water Street house?

"She said the family's new home was very modern for its time," Hannah told me. "It had indoor plumbing and electric lights. The lights really impressed their former neighbors from Denbo. The man who delivered eggs would snap the lights on and off just to see them work!

"The house next door was the home of the Chief Engineer, Frank Marker," Hannah continued. "All my grandfather and Mr. Marker had to do to go to work was cross the railroad tracks, go down the steps to the lock wall, and walk across the gates to the office."

Eighty-six-year-old Alfred Keibler of Hockessin, Delaware is one of Charles W. Keibler's five sons. Alfred, who has lived in Delaware since the 1960s, was born and raised in the lockmaster's house. He recently shared memories of his childhood days at 610 Water Street.

"I was born in the lockmaster's house in Brownsville in 1914," Alfred explained. "Our house was a sturdy square house with a reinforced concrete foundation, brick side walls, and a slate roof. Our back yard adjoined Monongahela Railway property, and the railroad's main line from Fairmont to Pittsburgh ran between our back yard and the locks.

"My dad's office on the lock was just across the tracks. There was a wooden walk from the railroad tracks to his office, which along with the Chief Engineer's shop was on the building's second floor. The first floor was used for storage, because we had floods almost every spring. When a flood occurred, everything movable had to be taken off the locks and carried up a driveway next to the Chief Engineer's house. The driveway ran under the railroad tracks and sloped up to Water Street.

"After a flood, everything was covered with mud. The power house was a reinforced concrete building in the middle lock wall, and it had a heavy iron door and window shutters to close when flooding occurred. This kept debris from entering, but not the muddy water, so the lockmen were busy with hoses and rags cleaning everything in order to get back into operation as soon as possible.

"During one flood," Alfred Keibler recalled, "the officials at the Hillman boat works, which was located above the locks, called my dad to tell him that two old wooden barges had broken loose and were on their way downstream. They knew that there wasn't anything he could do, but they thought he might want to see that they didn't get jammed against the lock or one of the lock buildings.

"We spread the word and a crowd gathered to watch them go over the dam. They broke in two as they went over the dam, and a huge pile of kindling wood went downstream."

The lockmaster's house on Water Street was located in a noisy area, to put it mildly. Alfred described living with a round-the-clock racket.

"It was really very noisy living there in the 1920s," he commented. "Wireless communication hadn't been invented, and a lot of communicating was done with whistles and bells. When a boat wanted to go through the lock, it would signal the lock with its steam whistle. The lock would then reply with so many blasts of the whistle, signaling whether the lock was open or whether another boat was approaching from the opposite direction. If another boat was in the lock, the lock would whistle when the coast was clear."

A 1929 Brownsville *Telegraph* newspaper article estimated that twenty to thirty boats went through Lock No. 5 each day. The result was a never-ending concert of boat and lock whistles.

"In addition to those frequent whistles on the river," Alfred continued, "were all of the train whistles as coal and passenger trains rumbled by our house. Then to top it off, the South Brownsville Volunteer Fire Company's whistle was on top of my dad's office, pointed right at our house and at the town beyond. If the fire was large and the firemen needed more volunteers, they would keep blowing the whistle. The fire whistle was at the lock because the lock could provide the steam and compressed air to operate the whistle."

So how did anyone get any sleep at the Keibler's Water Street house?

"We got used to all of the noise and slept right through it," declared Alfred. "Once I was invited to spend the night at my friend Alfred Millward's house. He lived out in the country on Telegraph Road, on the hill above Charleston School. You know, I couldn't sleep that night because it was too quiet. All I could hear were the insects!"

Alfred Keibler remembers the neighborhood around the lockmaster's house as a friendly place.

"It was a wonderful neighborhood," he reminisced. "The people were very friendly and helpful. For example, Mrs. Jacobs was our neighbor to the south. In the fall she made apple butter and ketchup in her backyard. She used a very large cast-iron kettle that was held on a tripod over a fire behind her house. The kids in the neighborhood would always gather around to watch.

"Late in the afternoon when the apple butter was 'cooked down,' she would have all of the neighborhood kids sit in a circle on the grass. Then she would come out of the house with a big loaf of just-baked bread that was still warm and spread the pieces with warm apple butter. I have eaten in many fine restaurants in my lifetime, but none of them could ever match Mrs. Jacobs' warm homemade bread and apple butter.

"Another fellow in our neighborhood was Harry Edel, a partner with his brother George in the Brownsville Brewery. Few people had cars in those days, but Harry had a large touring car. Every so often, Mr. Edel would gather the neighborhood kids and take us for a ride in his car. We would go all over town and end up at Jeffries Homemade Ice Cream place in Middle Alley, where Mr. Edel would buy us all ice cream cones. There were no freezers or electric refrigerators then, so you had to eat ice cream in the store. It was quite a treat."

Under Charles Keibler's guidance, Locks and Dam No. 5 survived the first World War unscathed by saboteurs or spies, and the nation was

nearing entry into another world war when Charles decided in 1940 that it was time to retire. In the first thirty-one years of Locks and Dam No. 5's existence, no other man had ever served as lockmaster there.

Leaving his job also meant Charles and his family had to say goodbye to the lockmaster's house that they had occupied since it was built in 1911. Charles and Hannah packed once more and moved to their new address at 629 Lewis Street in Brownsville. His forty-four-year career of loyal service at the locks and dams of the Monongahela River was over.

Two years later in 1942, a tired thirty-year-old coal miner slowly walked out of the mine for the last time. Unhappy working underground, the fellow soon hired on to work on the river boats, beginning a second career that would last for decades. Next, this veteran of the Monongahela riverboats will share with us some of his memories of "locking through" at Brownsville Lock No. 5.

BUILDING LOCKS AND DAM NO. 5 AT BROWNSVILLE

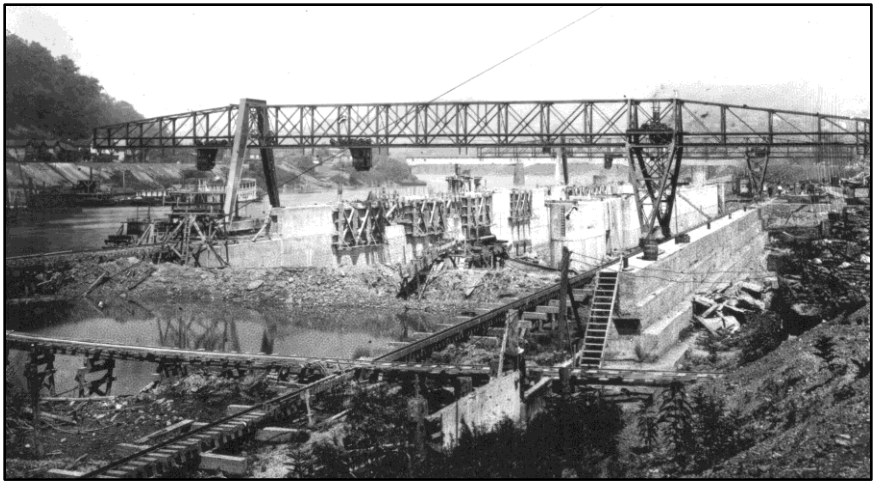
The first article in this series about our local locks and dams examined why the Monongahela River's first navigational system of locks and dams was built. Next we focused on the former Monongahela Navigation Company's Lock and Dam No. 5 at Denbo and speculated about what remains of it, including possibly the lockkeeper's house. Members of the family of Charles W. Keibler, the first lockkeeper at Brownsville, shared stories of living in the Brownsville lockkeeper's house at 610 Water Street.

We are going to pause to take a closer look at how Locks and Dam No. 5 at Brownsville were built, and we will begin a conversation with a river boat veteran who made many "lockings" through the Brownsville locks.

Corps of Engineers Locks and Dam No. 5 at Brownsville came close to not being built at all. In 1905, eight years after the federal government gained possession of all of the locks and dams that were built by the privately-owned Monongahela Navigation Company (MNC), a federal plan was proposed to renovate the deteriorating MNC Lock and Dam 5 at Denbo. This plan was scrapped though, because the forty-nine-year-old facility was in poor condition, and its single lock was just too small to handle the longer tows bringing coal downstream from the

mines of southwestern Pennsylvania and West Virginia.

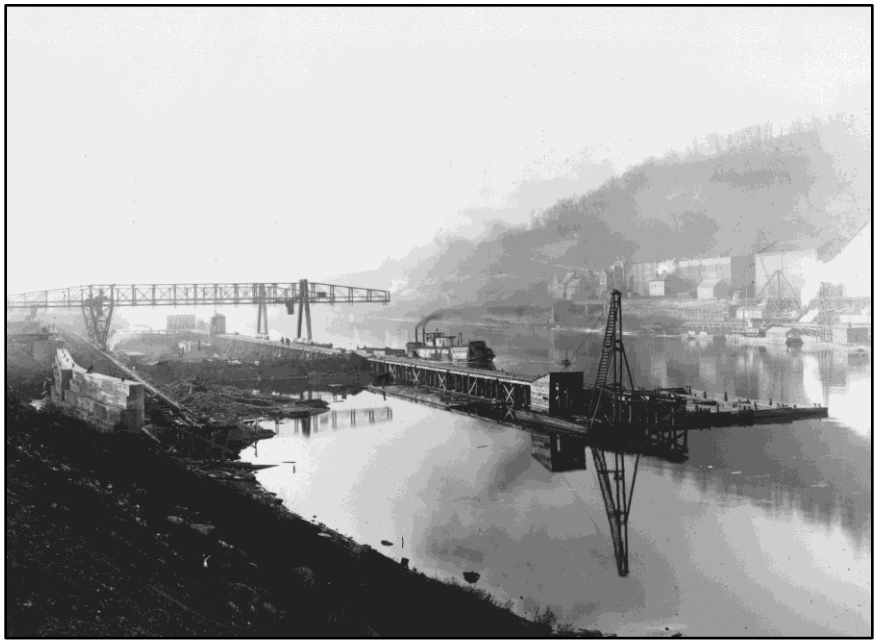
So in 1907, it was decided to build a double lock and dam at Brownsville, about two miles north of the Denbo lock and dam. Congress provided $756,042 for the job, but it ended up costing over $1 million. The new Locks and Dam No. 5 at Brownsville consisted of a concrete dam, two lock chambers, an esplanade, concrete powerhouse, office, warehouse, and two brick houses for the lockmaster and lockman.



Construction is underway on the new Locks and Dam No. 5 at Brownsville in this c. 1908 photograph. The metal gridwork spanning the upper portion of the picture is not a bridge; it is part of the lock construction apparatus. Visible downstream beyond it (just below it in the picture) is the wooden covered bridge that spanned the Monongahela River at Brownsville until it was closed in 1910 and replaced with a steel bridge, which opened in 1914.

The concrete dam stretched 555 feet from the western river bank to the wall of the river side lock. The dam was originally fitted with a movable top to temporarily raise the dam's height during periods of low flow. This feature was intended to maintain adequate pool depths for navigation. The dam's movable top only lasted until 1921, when the deteriorating crest was replaced with a concrete top.

How did the two new Brownsville locks compare with the Denbo lock they replaced? Denbo's single lock had been 50 by 158 feet with an 11 foot lift. Each new lock chamber at Brownsville was 56 by 360 feet with a lift of 12½ feet. The river side lock (the lock nearest the main channel) at Brownsville originally was divided into two smaller chambers by an internal set of gates, so that in dry seasons, less water was required to lock single vessels or small tows.



In this view looking upstream, no dam had been built yet so as to permit continued navigation during the construction of the double lock. In the distance can be seen the distillery buildings which are still standing in West Brownsville.

There is contradictory information on when the Brownsville locks officially opened. In its recent study for the Bureau of Historic Preservation, the Pennsylvania Historical and Museum Commission (PHMC) stated that the lock "opened to navigation in December 1909, at which time the Denbo Lock and Dam No. 5 was abandoned and sold."

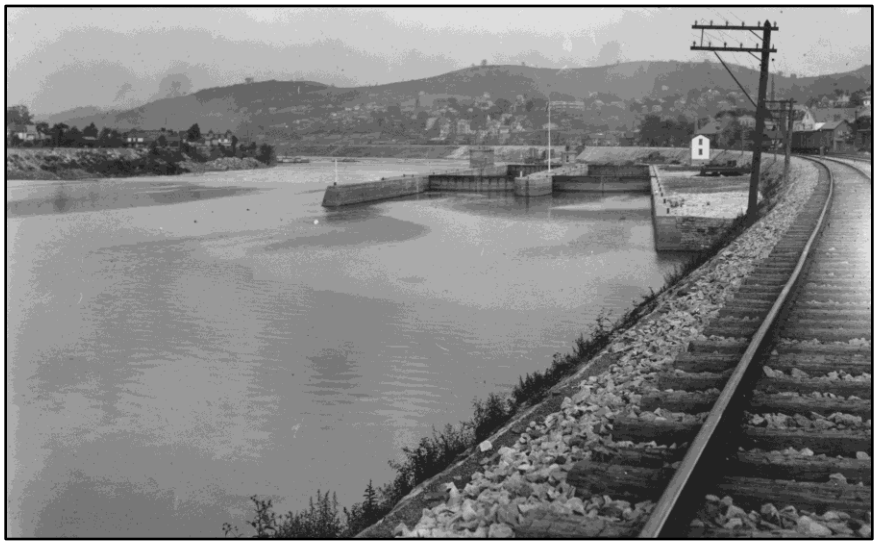
A retrospective Brownsville *Telegraph* newspaper article published on July 1, 1929 pinpoints the big day differently. "The lock has been open since April 8, 1910," reported the *Telegraph*, "at which time it was formally thrown open to river traffic."

The newspaper went on to describe daily operations at Lock No. 5. Perhaps some readers will recognize some of the names mentioned in the July 1929 article.

"Today," the *Telegraph* stated, "there are twenty men who are regularly employed and several others who are available for relief work. Assisting Charles W. Keibler as Lockmaster are three assistant lockmasters, Frank B. Starr, David B. Watkins and Charles C. Benton. Frank J. Marker is Chief Engineer. Robert M. Davis, James W. Norman

and George Secrest are all assistant engineers. The locktenders are Thurman H. Clark, John D. Coldren, John F. Dwyer, George Gabler, Arthur Haywood, John Paul Moore, George Murray, Samuel Steele, Harry G. White, James E. Wolfe and Thomas C. Worcester.

"From twenty to thirty boats pass through the lock here every day," the *Telegraph* article continued. "They are owned principally by Carnegie Steel, Jones and Laughlin Steel, Crucible Fuel, Pittsburgh Steel, Hillman Coal, Keystone Sand and Gravel, Iron City Steel, and the United States government."



In this photo of the completed Locks and Dam No. 5 at Brownsville, the old covered bridge at Brownsville has been demolished. Ferries can be seen transporting passengers and cargo across the river from the old Brownsville wharf to a temporary wharf in West Brownsville. This is a rare look at the Monongahela River at Brownsville with no bridge across it. The period from 1910-1914 is the only time Brownsville and West Brownsville were not connected by a (non-railroad) bridge since the covered bridge opened in 1833.

In addition to Brownsville's two locks and the dam, the facility in 1929 included quite a few buildings. A two-story building on the shore wall housed the office where Charles Keibler worked upstairs, with supply and storage rooms on the lower floor. A building on the middle lock wall contained a sub-office and housing for employees. It was from this sub-office that the lock whistle was operated.

On the river side lock wall (closest to the dam) was a structure

containing the main machinery. In addition to these three main buildings, five small concrete "shelter houses" could be found on all three lock walls. Their purpose was to provide shelter for the locktenders during inclement weather.

Lock No. 5 at Brownsville became an integral part of the town's daily life. If a fire erupted in town, the lock's air compressor powered the Brownsville fire whistle, sending its blast echoing throughout the valley. Lock personnel even monitored the town's daily rainfall, consulting a gauge located on the middle lock wall.

But while Lock No. 5 willingly provided these services to the community, its main role remained the safe transport of boats between Pool 4 and Pool 5 by "locking them through" the two concrete locks. At the old Denbo lock, hand-powered winches had been used to operate the lock gates. At Brownsville, human energy was replaced by mechanical muscle.

"Air power operates all machinery at the locks," explained the *Telegraph* in its 1929 description. "The air is compressed by two water turbines located beneath the outside lock, and electricity is also manufactured at the local locks."

By 1940 when Charles W. Keibler retired, some structural changes were about to take place at the thirty-one-year-old locks. The July 17, 1941 issue of the *Telegraph* reported that "reconstruction of the river wall of Lock No. 5 here is expected to begin next month." The renovation of the lock included the rebuilding of approximately two hundred feet of the wall of the river side lock, removal of the existing powerhouse on that river wall, and the construction of an operation building on the new wall.

In 1942, two years after Keibler's retirement, a young miner named Davis S. Sheplar walked out of the coal mine for the last time.

"I was about thirty years old," Sheplar, who is now eighty-nine, told me recently. He continued emphatically, "I didn't want to work in the coal mines any more!"

His comment came in a conversation that I had with Davis, his wife Helen, and their daughter Cynthia Sheplar Theakston. Davis and Helen were visiting this area from their home in Ruther Glen, Virginia, and Cynthia had accompanied them from her home in Richmond.

"How did you intend to make a living if you abandoned the miner's life?" I asked him.

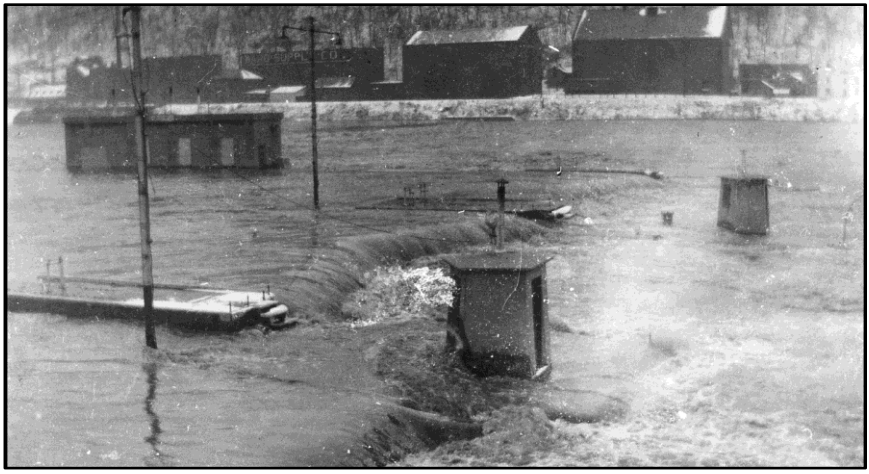
"I went on the river," he replied. "In 1942, I started on the *Warren Elcy*. I worked for Jones and Laughlin Steel Company mostly, and I went through the locks many times over the years."

"Would you describe a locking for me?" I asked.

"Well, one of the boats I worked on was named *Sailor*. When *Sailor* would come up the river, the boat would blow for the lock while we were still downstream from West Brownsville. We'd blow the whistle three times. That would tell the lockmaster to get the lock ready to admit the boat. If we heard one blast of the lock's whistle in reply, that meant there was already a boat in the lock."

"So where would your boat have to wait?"

"Boats coming up the river would wait below the inter-county bridge on the West Brownsville side of the river. Boats coming downstream would wait around Newtown."



The 1936 St. Patrick's Day flood rendered the locks on the Monongahela River inoperable. In this photo of Locks and Dam No. 5 at Brownsville, only a few surface structures are visible above the torrent.

"You say that all of this communication was done by whistle. Does this mean the boat was not equipped to contact the lock by radio?"

"Not in the early years I worked. There was no radio communication on the boats and no radar then. If the captain needed to contact the company office, he would have to get off on the lock and use the telephone there."

Davis' daughter Cynthia joined the discussion. "I remember that when we'd hear *Sailor*'s whistle, I'd say, 'Mom, here comes Dad.' Each boat's whistle had its own unique recognizable sound."

"Oh, yes," her mother agreed. "You could always tell which one it was."

"Where did you live at the time, that you could hear the whistle?" I asked.

"We lived on Second Street in Brownsville," Davis replied. "When I first started, the steam boats had a steam-powered whistle. The later diesel boats used an air whistle."

"And *Sailor* had her own rich, deep whistle," Cynthia said. "They used to call her 'The Bull of the Woods.' We were able to recognize the whistles of all the boats Dad worked on. The *Vulcan* had the most distinct whistle to me. It had a sort of yodeling squeak to it."

When the lock whistle finally sounded again, that meant that the lock was clear and ready to accept *Sailor*. The fascinating procedure of "locking through" was about to begin. Next, we will follow *Sailor* through Lock No. 5 and learn exactly how a locking was done.

TRAVELING THROUGH LOCK NO. 5 AT BROWNSVILLE

The shrill blast of the Lock No. 5 whistle echoed along the river, reverberating from the West Brownsville and Brownsville hillsides. That signal meant that Brownsville's Lock No. 5 was all clear and ready to admit the next upriver tow. Aboard the waiting paddlewheel boat *Sailor*, moored below the inter-county bridge along the Monongahela's west bank, captain and crew prepared to maneuver the boat and its six empty barges into the locks. In *Sailor*'s engine room, Davis Sheplar awaited the captain's orders.

"When the captain wanted to give an order to the engine room," Davis told me recently, "they belled you in the engine room, where I worked. Half ahead slow, full ahead, forward, reverse; whatever amount of throttle the captain wanted, the bells would tell you."

Eighty-nine-year-old Davis Sheplar, now of Ruther Glen, Virginia, began working on river boats in 1942, having said "good riddance" to his coal mining job. Many of his years on the river were spent aboard *Sailor*. In a recent discussion with Davis, his wife Helen, and his daughter Cynthia Sheplar Theakston, I listened as he described a typical trip through Lock No. 5 aboard *Sailor*.

"Brownsville was a double lock," Davis explained. "If we had a tow of six barges, the boat would push four of the barges into the river side chamber, then the deck hands would disconnect those four and the captain would back up the boat with its remaining two barges. After the boat and the other two barges backed out, lock personnel would close the chamber's gate. Then *Sailor* and the remaining two barges would enter

the lock closest to the river bank."

"You say the deck hands disconnected four barges from the other two," I commented. "What held those barges together?"

"Ratchets," he replied. "Hemp rope. And they had laid steam line from barge to barge too, so that if a barge had a leak, the steam-powered pumps could pump out the barge. Later on electric motors were put on them to siphon them out."

At night, even if the lockmaster could not see how long a waiting tow was, he knew whether a double locking was needed thanks to a system of coded whistles. A 1929 Brownsville *Telegraph* story described a typical locking of that era.

"Assume a boat is en route to an upriver point towing six empty barges," the reporter explained. "As it rounds the bend near the Pike Mine below Brownsville, or opposite the Colbert Supply company, a whistle is sounded. Two whistles are for a single locking, while three signals designate to the lockmen that a double locking is required. The boat is answered by signals from the lock."

Davis Sheplar's wife Helen and his daughter Cynthia could hear *Sailor*'s whistle in their home on Brownsville's Second Street. I wondered if there was an opportunity during the locking for Davis to say hello to his family.

"Were you permitted to leave the boat while it was going through the locks?" I asked him.

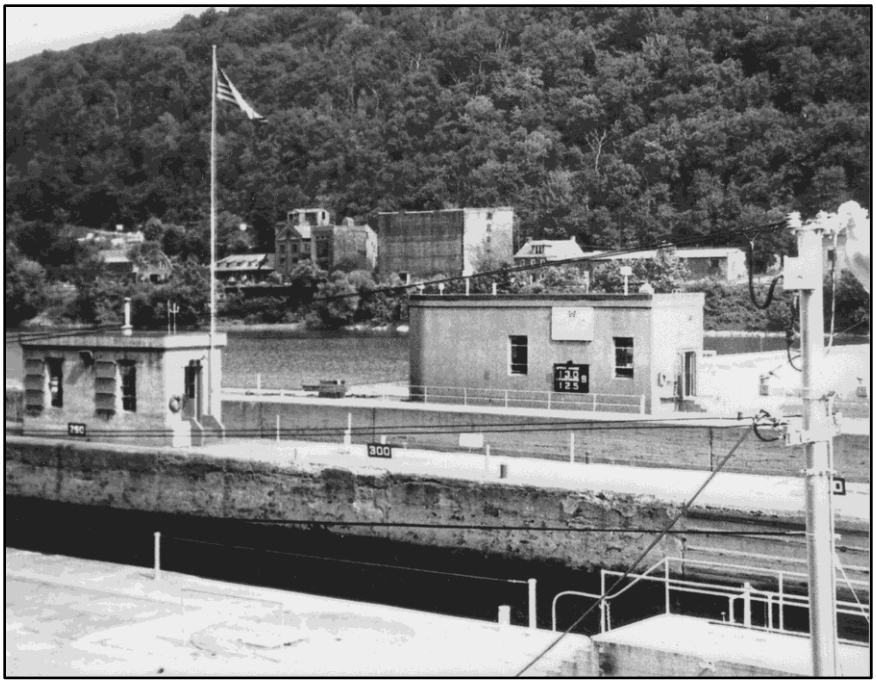
"Yes, you could get off," he said, "but you would have to get back on before the boat left the lock. I used to get off, climb up the ladder, and use the telephone while the boat was in the lock."

I turned to Cynthia. "And what did you do when you knew your dad was out there waiting to go through the locks?"

"When we heard Dad's boat," she said, "we knew he'd be calling us on the phone soon from the lock. If he needed something, perhaps a carton of cigarettes, we'd take it to the lock. He'd get off the boat, onto the lock, and meet us at the gate. They wouldn't open the gate. They were pretty careful with security, especially during the war years."

While Davis was spending a few moments with his wife and daughter, the lower gates on both locks had swung shut with *Sailor* and the barges inside the two chambers. Two lockmen then opened valves that allowed water to pour into the closed locks. This water came from the pool above the dam and entered the locks through culverts within the lock walls.

The water continued to enter the locks until the boat and barges had been raised to a level equal to that of the upper (fifth) pool. The valves controlling the culverts were then closed and the flow of water into the



By 1965, when this photo was taken, the deteriorating concrete walls of the locks at Brownsville were showing their age as the new Maxwell Locks and Dam neared completion.

still-sealed locks stopped. Then the gates on the upstream ends of the two locks were opened.

"What kept the boat and barges from bumping around inside the lock?" I asked Davis.

"Ropes. If *Sailor* was headed upstream, the boat would be far below the top of the lock wall when the locking started," he explained. "So the lock workers would lower a rope with a hook on it, and a deck hand would attach a rope from the boat to the hook. The ropes would be pulled up, and the boat or barge would be moored to the lock by wrapping the rope around the timberhead on the lock."

"And when the boat and barges had been raised to the level of the upper pool and the upstream gates were opened," I asked, "how were the four barges that were in the river side lock propelled out of that lock?"

"They would be pushed out, then ropes would be used to move those four barges over toward the other chamber so as to line them up with the boat and two barges that were exiting the second chamber."

The four disconnected barges were moved out of their lock by

pulling them with ropes attached to a small revolving machine. Then the steamboat pushed the remaining two barges out of the river side lock, the four barges were reconnected to the tow, and the journey upstream was resumed.

There was usually another boat moored above the locks, waiting to lock through in the opposite direction. This downriver tow often had six barges loaded with 6,000 tons of coal. It would enter the now-empty lock before the gates were closed.

"They would lock one boat up, then one boat down," said Davis. "If three boats were waiting above the lock and three below, they would alternate. That way they wouldn't have to change the water level in the lock to admit the next boat."

During downstream lockings, a different method was used to expel disconnected barges from their lock. After the water level in the barges' lock had dropped, the downstream gate of the lock was opened and the barges were "flooded" out of the chamber by introducing a rush of water into the lock, causing a swift current that carried the barges out into the stream. Under normal circumstances the whole procedure took about twenty minutes. But what about under abnormal circumstances?

"Did you ever have difficulty during icy conditions?" I asked Davis.

He nodded. "Once we were coming downriver on *Sailor*, and the ice was really thick. *Sailor* would go forward into the ice, trying to break it up, but the ice would plow up over the barges. The deck hands would use ice spikes to try and push it away. *Sailor* would stop, back up, then go forward again into the ice.

"Before we reached Lock No. 5, we had to stop at Marine Ways to have their carpenters build a new wheel for the boat. That ice had just chewed the paddle wheel to bits.

"When a boat would reach Lock No. 5 in icy conditions, they would lock a lot of ice through first to get it out of the way so the boat wouldn't shove it into the lock. On the winter trip I was just describing, after going through Lock No. 5 it took us six hours to travel from Brownsville to California because of the ice."

"In normal conditions, how long should a trip take between Pittsburgh and Bobtown, your usual destination?"

"We would go upriver one day, back down the next."

"Twelve hour duty shifts?"

"Six on and six off."

"Did you work for a certain number of days in a row?"

"When I started in 1942, I would be gone ten days on the boat, then home for five days. If they couldn't get anyone to take your place, you stayed on the boat for another trip. Eventually it got to be seven days on,

seven days off."

"At the end of your seven or ten day tour," I said, "when you left the boat near Pittsburgh, how would you get back to your home in Brownsville?"

"I'd ride the bus. I'd get off the boat at Pittsburgh and board a Greyhound bus en route to Maryland. It would stop in Brownsville."

"You mean they wouldn't let you hitch a ride on the boat back to Brownsville?"

Davis prompted laughter from both Helen and Cynthia by exclaiming, "No! I would never have wanted to! I spent enough time on that boat!"

Locks and Dam No. 5 handled river traffic at Brownsville for 57 years, from 1909 until the facility closed in 1966. By then the Corps of Engineers had constructed modern new locks and a gated dam near Maxwell. After the Maxwell facility opened, the old fixed dam and locks at Brownsville became an obstacle. Next, we will journey back to 1967 to watch as demolition experts prepare to dismantle the locks and dynamite the dam at Brownsville.

THE FINAL DAYS OF LOCK NO. 5 AT BROWNSVILLE

A typical passage through the locks at Brownsville aboard the paddlewheel boat *Sailor* was a journey duplicated by thousands of towboats, barges, and other water craft over the fifty-seven years that Locks and Dam No. 5 was in service. The locks and dam at Brownsville are gone now, victims of the same relentless march of progress that befell their predecessor at Denbo back in 1909. Why was the Brownsville facility replaced, and when did it happen? Let's harken back to the closing and demolition of Locks and Dam No. 5 at Brownsville.

The plan to eliminate Locks and Dam No. 5 was on the drawing board of the U. S. Army Corps of Engineers as early as 1953. In that year, the Chief of Engineers recommended in his annual report that two locks and dams in this area be replaced. Locks and Dam No. 5 at Brownsville, opened in 1909, and Locks and Dam No. 6 at Rice's Landing, opened in 1915, were judged to be inadequate and in need of replacement.

Five years passed. By 1958 the plan to upgrade the navigation

system on the middle stretch of the Monongahela River had become more specific. The Chief of Engineers proposed construction of a new gated dam at Locks and Dam No. 4 (Charleroi). This would raise Pool 4 by six feet. Pool 4 was the section of river between the Brownsville dam and Charleroi. This would mean that the river along the Brownsville wharf and the West Brownsville swimming beaches would rise six feet.

In conjunction with the raising of Pool 4, the Chief of Engineers recommended replacing the two dams at Brownsville and Rice's Landing with one dam to be constructed at river mile 61.3 near the town of Maxwell. This plan was approved.

Planning and design for the new $30 million Maxwell complex began in January 1959, and construction started in December 1960. The Maxwell locks opened to navigation in November 1964, and the dam was completed in October 1965. The nearly simultaneous completion of the new gated dam at Charleroi resulted in the closing of Locks and Dam No. 5 at Brownsville. The Corps of Engineers then turned to the task of demolishing the obsolete Brownsville facility.

A Brownsville *Telegraph* photograph published on June 8, 1967 showed preparations that were underway to destroy the dam at Brownsville.

"Shown above," the photo's caption read, "is a dredging boat of Dravo Corporation of Neville Island, which is clearing a channel from Lock No. 5 here to the Maxwell lock in preparation for removal of Lock 5. The local lock will be closed to navigation on July 10, and a demolition crew will blow a pass through the dam section to allow boat passage. The dredging boat has been working day and night here and will proceed up river clearing certain high points for proper navigation."

Before the dam could be breached however, it was necessary to raise the river level below the dam (Pool 4) and lower the river level above the dam (Pool 5). By July 10, 1967, the *Telegraph* reported that "Pool No. 4 has already been raised more than four feet. The river level in Pool 4 will be raised two more feet and the level in Pool 5 will be lowered the same distance."

That same evening, the last boat ever to pass through Lock No. 5 at Brownsville did so. The *Chartiers*, a U. S. Corps of Engineers towboat, made its way north through Lock No. 5 at 9:25 p.m. on July 10, 1967. Later that week would come the first step in removal of Locks and Dam No. 5, the dynamiting of the center section of the dam. Once the central channel was cleared, the locks would no longer be needed as a passageway.

On July 13, 1967, the *Telegraph* reported "the 'big blow' will come this afternoon. Sometime today between noon and four p.m., a 50-foot

section of the dam will be blown up. Officials from the Corps of Engineers office in Pittsburgh announced that the 'big blast' will come when equalization of the water level between Pool 4 and Pool 5 is reached.

In July 1967, the dam at Brownsville, a familiar sight to local residents for more than half a century, became history when it was dynamited by the Dravo Corporation. By the end of the month, river traffic had resumed and the remnants of the dam were removed. Today, only the lock wall, the esplanade, and a small concrete structure remain of the former Locks and Dam No. 5 at Brownsville.

"Two hundred forty six holes in the dam are filled with explosives and will be set off at one time. However, there won't be the big explosion that many folks around here anticipate. When the blast comes, according to the engineers and officials of the Dravo Corporation in charge of the project, there will be a dull underground explosion, the dam section will appear to lift up a foot or two and then settle down in fragments."

The blast came off without a hitch, and following the opening of the initial breach in the center of the dam, work continued to widen the

opening enough to allow navigation through it. By July 24, 1967, it was possible for boats to travel through the gap.

"History was made on the Monongahela River at 8:14 a.m. today," proclaimed the *Telegraph*, "when the motor vessel *Shannopin* went up the river through the center channel at Lock No. 5, the site of the former dam. The *Shannopin* led a parade of seven river boats, which followed each other at four-minute intervals. Following the *Shannopin* were the *Martin*, the *Lillian G., Jess B. Guttman, C. F. Hood, James E. Lose* and the *B. F. Fairless*."

The last remnants of the dam were finally cleared away later that month. On July 27, 1967, a *Telegraph* photographer captured the final blast with the photo's caption reading, "There goes the dam! Shown is the last explosion, and with it went the last vestige of the dam across the Monongahela river at Lock No. 5. With the demolition of the dam completed, crews of the Dravo Construction company are turning their attention to dismantling the locks themselves as dredging of the river channel on the dam site continues."

The dam and most of Lock No. 5 were removed by the end of the summer of 1967, but some parts of the locks remain today. The land wall is still easily seen along the Brownsville side of the river, and the esplanade is also still there. An esplanade is a paved or gravel-covered area placed on fill between the land wall and the river bank, providing a work area for the locktenders and maintenance personnel. Esplanades often had kiosks near the lock gates to shelter the operators and equipment, and one intact concrete control shelter for the lower gates at the down river end of the Lock No. 5 esplanade still exists. The poured concrete foundation of the former warehouse that once stood on the esplanade is also visible.

In 1999, PHMC surveyor Scott D. Heberling of Heberling Associates, Inc. evaluated the site of Lock No. 5 at Brownsville to determine its eligibility for placement on the National Register of Historic Places. The site, Heberling wrote, is "abandoned, with esplanade and landwall intact but overgrown and deteriorating. The lockkeepers' houses are privately owned and well maintained."

According to the PHMC report, the two locktenders' houses at 602 and 610 Water Street were sold as surplus government property after the abandonment of Locks and Dam No. 5. At the time the PHMC report was filed, both homes were used as single family rental units.

"They are in excellent condition," stated PHMC's researchers, "and possess strong integrity." By that statement PHMC was asserting that the houses should be included within the boundaries of the site that is nominated for inclusion on the National Register of Historic Places.

Drivers and pedestrians who cross the old inter-county bridge from West Brownsville to Brownsville may notice, if they glance upriver to their right, that the river bank along the Brownsville side is lined by a solid concrete wall, painted in some spots with fading diagonal stripes. Those who are too young to remember may not realize that they are looking at all that remains of an impressive early twentieth century engineering feat – the U. S. Army Corps of Engineers Locks and Dam No. 5 at Brownsville.

Next, our series concludes with a closer look at the facility that has replaced both Locks and Dam No. 5 at Brownsville and Locks and Dam No. 6 at Rice's Landing – the Maxwell Locks and Dam.

MAXWELL LOCKS AND DAM ARE NEARING A HALF-CENTURY OF SERVICE

"Maxwell Locks and Dam are there to stay."

Tom Flynn left no doubt about that when I asked him about the future of the Mon River facility at Maxwell.

"There are no immediate plans for major rehabilitation of the facility at this time," Tom continued, "but as everything gets older, occasional repairs are necessary."

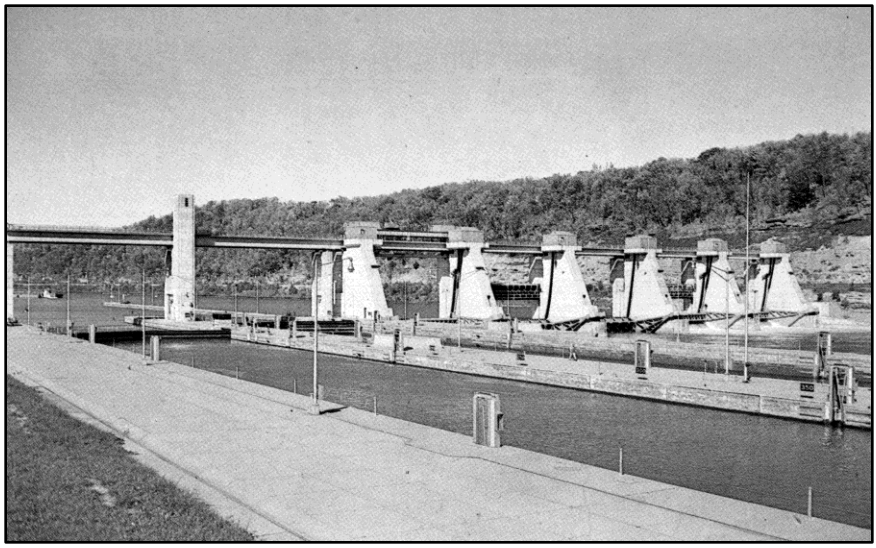
This article concludes our series on the history of this area's locks and dams. We will hear from Tom Flynn, Operations Project Manager for the Monongahela River for the U. S. Army Corps of Engineers, and from Bob Smith, Assistant Lockmaster at Maxwell Locks and Dam. Each man will share his insights about the $30 million facility at Maxwell, Pa.

Tom Flynn loves the Mon and he loves his job. As Operations Project Manager, Tom is responsible for all operations, maintenance, and personnel at the nine locks on the Monongahela River.

"I have worked on the Mon since I was twenty years old," Tom told me. "Now I am fifty-one, and I have loved every minute of those thirty-one years on the Mon."

Bob Smith is another man who enjoys his days working along the Monongahela River. Bob is Assistant Lockmaster at Maxwell Locks and Dam, where he and Lockmaster Todd W. Rankin lead a staff of sixteen employees.

"What is the biggest difference," I asked Bob, "between the



Maxwell Locks and Dam

technology that was used at old Locks and Dam No. 5 at Brownsville and that which is used at Maxwell?"

"I would say that the major difference between them," Bob replied, "is the way that power is supplied to operate the lock gates and the valves. Lock 5 at Brownsville used water power to operate. There were tunnels under the locks that supplied water to drive turbines, which in turn drove hydraulic pumps. Lock 5 even produced its own direct current electricity for its light plant. At some point they installed commercial electricity, but the water-driven turbines remained in place until the lock was demolished."

"So Lock No. 5 could have been self-sufficient if its source of commercially produced electricity had been cut off?"

"That's right. It needed no outside power to operate."

"How is that different from Maxwell?"

"Maxwell's source of energy is Allegheny Power. We have electrically powered hydraulic pumps, and they in turn supply the energy that operates the lock machinery."

How does the modern Maxwell facility compare in size with its two predecessors at Denbo and Brownsville? The Denbo facility featured a single 50-by-158-foot lock and a 620-foot-long dam made of timber cribs filled with stones. The Brownsville Locks and Dam No. 5 offered two 56-by-360-foot locks and a 555-foot-long concrete dam.

Compare those numbers to the dimensions of Maxwell's two locks,

each of them 84 feet wide and 720 feet long. Maxwell's 460-foot-long concrete and steel dam consists of five gated sections, each 84 feet wide, that allow the lockmaster to control the depth of the 24-mile-long navigational pool above the dam.

"How does the Maxwell dam help to control flooding in the Brownsville area?" I asked Tom Flynn.

"Maxwell dam does not control flooding," Tom replied emphatically. "It is a flow control dam, not a flood control dam. The new dam at Stonewall Jackson, built in 1986, helps control flooding in that area."

"The system of locks and dams on the Monongahela River is not intended for flood control," concurred Bob Smith. "We have very little flood prevention capability. The dams are there to provide a navigable channel for commercial navigation for the entire length of the river from above Fairmont, where the river begins, to the 'Point' in Pittsburgh where the river ends. If not for those locks and dams, the river would be very similar in appearance and depth to the Youghiogheny River."

I visited the Maxwell facility this past summer and was surprised by the complexity of the works and the number of full-time personnel required to keep it operating.

"There are quite a few people working at Maxwell," I commented.

"There are sixteen employees working there," Tom Flynn replied. "Todd Rankin is the Lockmaster, Bob Smith is his assistant. We have three maintenance positions, five shift foremen, and six shift operators."

"The maintenance and management crews work Monday through Friday," added Bob, "but the locks are staffed and operate 24 hours a day, 7 days a week."

"What kind of cargoes most commonly pass through Maxwell locks?"

"Mostly coal," Bob replied. "About 800,000 tons per month. There is a small amount of gasoline and limestone that passes through."

I had been told by several longtime area residents that during World War I and World War II, guards were placed on the inter-county bridge at Brownsville and on the locks to prevent acts of sabotage. In view of the September 11 terrorist attack, I wondered what security precautions had been added at Maxwell and at other locks and dams on the Mon.

"Tom is in charge of security for all of the locks on the river," Bob said. "The security plans are then implemented by each facility's lockmaster."

"We have a security officer in Pittsburgh who directs all phases of our security," Tom Flynn informed me. "Right now, we are at a High Level of security. There is only one level higher. No packages are being

accepted for boats as had been previously permitted. Everyone must have ID before being admitted to the area, and all gates are locked with all lights on."

"At Maxwell," Bob Smith added, "we have halted the practice of allowing commercial boat companies to change crews at the facility. The companies are not allowed to put groceries on board at the locks either. We have also stopped allowing boat crew members to leave the vessel during lockage. As Tom said, we have even stopped accepting packages from family members of the boat crews."

"I know you had tours of the locks in the past . . ."

"All tours have been halted for the time being."

The subject turned from security to the future of the Monongahela navigation system. There are currently nine locks and dams on the Mon. Three of the dams, Opekiska, Hildebrand, and Morgantown, are in West Virginia. The other six are in Pennsylvania at Point Marion, Grays Landing, Maxwell, Charleroi, Elizabeth and Braddock. Soon the number of dams will be reduced by one.

"The focus on the Monongahela River right now," explained Bob, "is on the lower Mon. The renovation of Lock 2 at Braddock, where a new high lift dam is being constructed, will permit the elimination of Lock 3 in Elizabeth and the total rehabilitation of Lock 4 in Charleroi."

The new gated dam at Braddock will replace the old fixed-crest dam near there, and the new facility will be named Braddock Locks and Dam. The Corps of Engineers is phasing out the practice of numbering the locks, instead assigning a specific name to each facility. That is why the Maxwell Locks and Dam is not called Locks and Dam No. 5.

The new Braddock dam will raise Pool 2 by five feet, allowing the locks and dam at Elizabeth to be removed. At Locks and Dam No. 4, larger chambers will be built and the name will be changed to Charleroi Locks and Dam.

"As for our own facility, there is no major rehabilitation in the works for Maxwell," Bob concluded, "and there are no long range plans to replace Maxwell. As Tom said, 'Maxwell is there to stay.'"

When all of these changes are complete, eight dams, all constructed after World War II, will have replaced the fifteen that once existed on the river. The aim of those eight facilities is to maintain a channel depth of at least nine feet as the Monongahela River drops 138 feet in elevation during its descent from Opekiska to Braddock.

Some of those eight locks and dams will be much busier than others. According to the Pennsylvania Historical and Museum Commission's study of the Monongahela navigation system, "The coal trade continues to drive the renovation and construction of the

Monongahela River locks and dams in Pennsylvania. Thirty million tons of coal hauled annually on the river constitute the largest and most important commodity on the lower section. The shipping of West Virginia coal with its higher sulfur content has declined dramatically however, leaving the upper Monongahela locks and dams with comparatively little industrial traffic."

We tend to take the Monongahela River for granted, but its waters are the lifeblood of this region. It is for that reason that the federal government continues to upgrade, maintain, and in these troubled times, protect the Monongahela's locks and dams.

We commend the men and women who work at these facilities. They are rendering a service that is vital to the commerce and security of our region and our nation.