

AMERICAN CANALS

BULLETIN OF
THE AMERICAN CANAL SOCIETY

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Dedicated to Historic Canal Research, Preservation, and Parks

Spring 2007

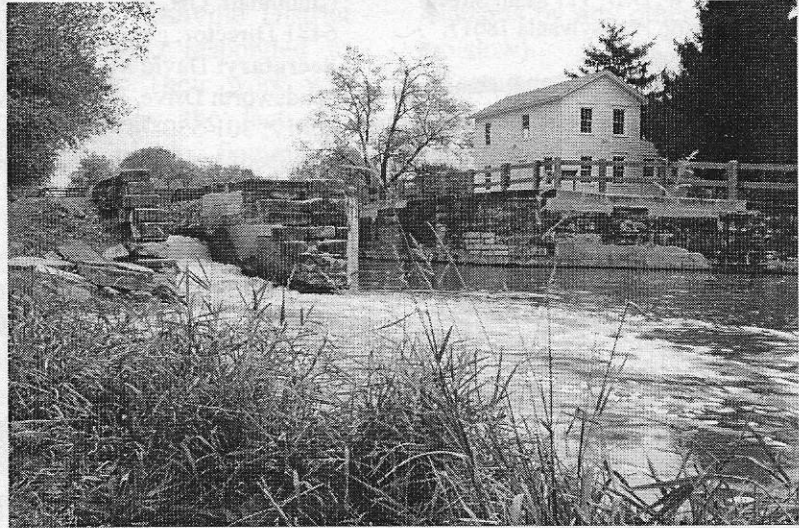
From the President

by David G. Barber

Last weekend, I had the opportunity to re hike the downstream 14 miles of the Lehigh Canal. This is the first section I hiked in the research for my Lehigh Canal guide, and I had not been back to most of it in 29 years. The changes that have occurred were most interesting, and I regret that a tour of the section could not have been part of the World Canals Conference last fall in Bethlehem, as it shows both the progress that has been made and the so far unrealized opportunities. The weekend before, the area had been hit by a severe late snow storm, but now the snow was gone.

On the first day, we started at Hope Road, at the west end and less known part of Easton's Hugh Moore Park. Hope Road descends a narrow stream valley from the adjacent plateau and ends at Hope Lock (#46). Silted in and unrestored, the lock is the eastern end of Section 7 of the Lehigh Canal. The section extends west to Dam 7 at Allentown. The site is interesting as there is a still-occupied lock house with outbuildings and a narrow masonry arch for the roadway under the abandoned grade of the Lehigh & Susquehanna Railroad (operated by the Central Railroad of New Jersey). The road at this point also provides access to the private Bethlehem Boating Club on the pool of Dam 8.

East of here the towpath changes sides. We found that it was cleared and in use to half way along Island Park, about 2 miles. Paralleling the canal on the north side, the closed, two-track railroad grade was now a dirt access road to a boat launch area and parking



Illinois & Michigan Canal Lock #8 and bypass channel, near Morris, Illinois. Check out the I&M story, beginning on page five.
Photo by Joseph Balynas

lot to the east. The boat launch gave public access to the pool of Dam 8. Also at this site, a paved rail trail ascended northwest up a former branch of the CNJ and then northeast into the western side of Easton. East of here the mainline railroad grade had one track used for a sewer line and the other for a paved rail trail to River Road, at which point there were athletic fields and ample parking. Crossing the river, Section 8 of the canal in Hugh Moore Park has been seen by many and often by me, but it was interesting to see it drained for the winter and without leaves on the adjacent vegetation. We saw many features that are normally invisible. We also got to see both Lock 47 and the Outlet Lock without water and appreciate the restoration work on both and the towpath between. Beyond, a paved towpath along the river's edge brought us to the river's mouth and the junction with the Delaware Canal.

On the second day, we hiked west

from Hope Road to Bethlehem. The first section to Freemansburg had been overgrown with washouts when I first saw it. Now it's an open, stone dust surfaced bike trail, with even a wayside with benches at Lock 45. Where the canal is paralleled by Farmersville Road, there was easy access to the towpath from two off-road parking areas. At Freemansburg, the canal is watered and landscaped with navigable height access bridges from the village. Cleared open dirt towpath continues past Bethlehem, but the locks are overgrown and without gates, and the watered parts of the prism have much floating trash and downed trees. This is a popular walking/jogging/biking area.

My point is that this part of the Lehigh Canal is an example of many other canals where there is much progress in preservation, restoration, and public use. But opportunity exists for further improvement and especially for the restoration of public navigation. I applaud the progress and hope for more.

American Canals

BULLETIN OF THE
AMERICAN CANAL SOCIETY

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Dangerous barge removed from Wilson Dam Lock

(from the US Army Corps of Engineers Engineer Update, January 2007)

When a barge filled with xylene became entangled in the Upper Gate of the Main Lock at Wilson Dam on Aug. 3, 2006, while the chamber was filling, it inflicted damage that backed up navigation traffic for miles on the Tennessee River. Repairing that damage and reopening the lock to traffic by Dec. 2 required a Herculean effort and cooperation among several agencies.

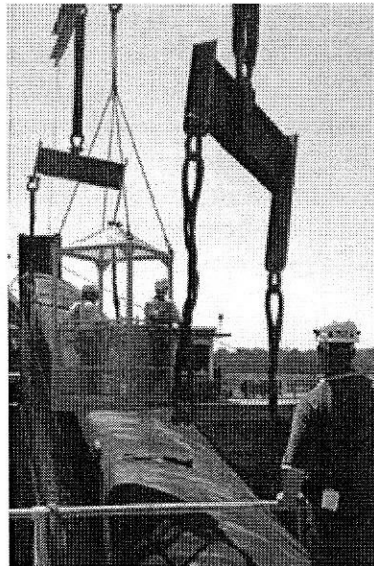
Xylene is a toxic, highly flammable petroleum product used as a solvent and in the printing, rubber, and leather industries. Members of Florence Fire Rescue responded within minutes and took immediate measures to stabilize the situation and ensure the safety of the crew of the Motor Vessel *Potomac* (the towboat pushing the barge), and U.S. Army Corps of Engineers employees on-site.

"They were prepared to evacuate all civilians within half a mile of the lock, a monumental effort that was ultimately unnecessary," said Mike Enschede, chief of Operations Division. The response of TVA (Tennessee Valley Authority) Police throughout the incident allowed recovery efforts to progress safely and without delay.

Corps officials immediately met with members of state and federal agencies to discuss the processes to remove the damaged upper lift gate. Members of TVA's Heavy Equipment Division, one of the first to arrive, remained on-site and provided valuable and timely assistance throughout the entire process of stabilizing the lift gate, clearing the damaged barge, and removing and transporting the gate for re-

pairs.

"Partnerships with those agencies all fell into place to deal with this potentially dangerous situation, and the towing industry, shippers, and riverside industry were continuously updated on our progress," said Jim Davis, operations manager, Middle Tennessee River Area. Nashville District employees also responded to the accident. Their work was complicated by the fact that xylene is highly flammable. Workers could not cut or weld in its proximity. Neither could they use a lot of electrical tools around the lock, including cell phones. "When the emergency calls were made, Corps employees started showing up like clockwork," said Davis. "They worked continuously in the dangerously hot weather, far above the normal shift hours and responsibilities. Every one of these employees embraced the priority to get this lock in a safe and stable condition without any injuries to the team."



Jeff Ross watches as Jeff Neeley and Carl Scott hook up the Wilson Main Lock gate for removal by the derrick boat *Henry M. Shreve*. (Photo by Steven Foshee, Nashville District)

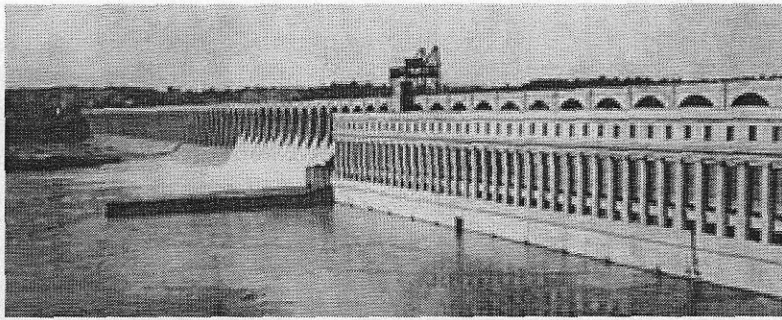
"Our first priority was securing the damaged upper lock gate," said Roy Joines, chief, Maintenance Section, Cumberland River Operations Center. "Supports were fabricated on site to stabilize the gate." (With one exception – the Corps sent a truck to Pennsylvania for the steel to fabricate one set of beams because transport to Alabama by any other means was too slow).

Fortunately, the damaged barge did not leak xylene, and it was successfully removed from the lock chamber on Aug. 5, only two-and-a-half days after the accident. Corps officials weighed several options for safe removal of the damaged gate, because the structure weighs 210 tons. They decided the best option was the *Henry M. Shreve*, a heavy lift floating derrick from Louisville District. Floating Plant Chief Lloyd Harlow delivered the huge derrick, capable of lifting 550 tons, and it successfully removed the upper lift gate on Aug. 16, thirteen days after the accident, and placed it onto a barge, after workers welded lifting points onto the canted steel structure. The damaged lift gate was then transported to a nearby TVA Fleet Services area for repairs.

"After the gate arrived at the Repair Facility, a preliminary investigation of the damage was completed and a clean blast of the complete upper gate allowed workers to inspect the gate for possible hidden problems," said Jeff Ross, chief, District Navigation Branch. "A scope of work was written and repairs began."

The Navigation Branch devised a plan that used a floating caisson at the upper end of the chamber as a temporary gate that allowed limited use of the main chamber to reduce the backlog of sixteen

Wilson Lock and Dam, on the Tennessee River, Florence, Alabama



tows and 130 barges. On the first day, ten employees volunteered to remain on duty and make the temporary gate work. The queue was cleared by Aug. 20, and each week since the accident the same procedure was used for that purpose.

On the date of the accident, five engineers and thirty-seven members of the repair party responded. Two days later, that number had grown to five and forty-eight, with augmentation by six more lock operators (the Wilson Auxiliary Lock takes a two-step process and three operators to make a lockage; nine operators are needed to work around the clock). The *Shreve* was augmented by two towboats, two derrick boats, a caisson, several small cranes, and a TVA barge.

Both TVA and the Corps worked hard to safely expedite the process to repair the gate. Initial cost estimates for repair work were soon exceeded, and here cooperation was also key.

"The estimated total cost to return the main lock to operation is \$5.8 million, not including additional overtime costs for extra operators to handle lockages through the auxiliary lock," said Ensch. "To cover the costs of the repair in FY06, funds were moved from other important projects, including a Kentucky lock dewatering that was deferred." More than \$3.5 million of that will go to TVA for critical work performed by that agency.

To return the main chamber to

normal operation, the upper gate had to be repaired, along with replacing a damaged lift gate chain, the operating machinery had to be inspected, and the gate slot and seal repaired. The upper gate received obvious damage on both ends and required a thorough inspection. To do this inspection properly, the entire paint system was removed. After the repairs were made, the gate was repainted and readied for reinstallation.

Gate repairs were completed at the end of November and the refurbished structure was put back in service on Dec. 2, four days ahead of schedule and just in time to reopen the river to navigation. Another accident on Nov. 28 had closed the auxiliary lock, which had been operating around the clock. Final repairs were completed Dec. 5.

"We hope we never have to respond to accidents like this but, unfortunately, they're part of the territory," said Ensch. "I believe the response of our folks to this accident epitomizes both the capability and dedication we have to respond quickly and capably. Our response also demonstrates the many resources we have available at our disposal, including the resources of other districts and TVA – people, equipment, facilities, and materials."

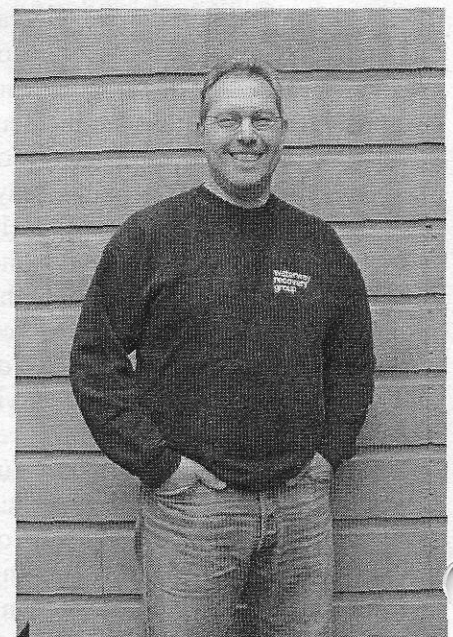
The Operations Chief knows how the work was accomplished. "I'm extremely proud of how the Corps team pulled together and responded to this accident and of the many personal sacrifices they made to stay at the site during this extended period," said Ensch. "The Corps and TVA had crews working 24 hours a day starting on the day of the accident until the lock was operational again."

WRG SWEATSHIRT TRUMPS US SECURITY!

by Jeremy G. Frankel

As a number of you know, I have been living in the United States for the past eighteen years. Ever since that fateful day, September 11, 2001, this country has been living under a heightened threat of potential terrorist activity. There are many more CCTVs observing our every move, and of course, many, many more security officers on patrol.

During the first two weeks of April 2006, I traveled from Berkeley, California, where I live, to St. Louis to work on a professional genealogy project. While I was



Jeremy Frankel with his WRG sweatshirt.

there I took some time out to see the Mississippi River and the newest lock just north of St. Louis, at Alton - a 1200-foot monster; it took ten years to build and a billion dollars worth of concrete and rebar!

After touring the lock, two friends and I drove down the Illinois side of the river (east bank), heading back to St. Louis. We stopped opposite the downtown area so I could get a photograph across the river of the famous Eads Bridge, which had recently re-opened with a light rail running across the lower deck.

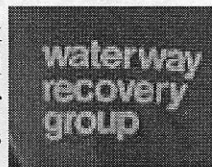
I jumped out of the car, ran across two barely-used railroad tracks, ducked under a yellow caution tape and up onto a wooden platform that surmounted the concrete levee wall. I snapped a couple of shots, and as I clambered back down, there, waiting on the road was a security van and two beefy guys loaded down with their typical security paraphernalia; dark glasses, walkie-talkie radios, handguns, flashlights, etc.

One of them approached me with the obvious intention of either arresting me or giving me a right dressing-down. Just then a light breeze caused the front of my jacket to flap open revealing the magic phrase "Waterway Recovery Group" on my nice blue sweatshirt. His searing glare glanced down to read those silver words.

All of a sudden the security officer's demeanor shifted several gears from one of hostility to that of "Gee, well, if only you had called us ahead of time, we would have taken you around!"

Naturally I pulled out my best British accent and with profuse apologies and bucketfuls of assurance that I would certainly contact them the next time I was in town,

I jumped back into the car and the driver floored the gas pedal.



So let this be a moral to ya all! Always pack a WRG sweat-shirt, 'cuz you'll never know when it'll come in handy!

Jeremy G. Frankel; jfrankel@lmi.net.
To order a shirt, visit www.wrg.org.uk.
From the menu, choose WRG Wear.

THE ILLINOIS AND MICHIGAN CANAL

by Joseph Balynas

With the opening of the Illinois and Michigan Canal in April of 1848, a dream envisioned 175 years before by Louis Joliet was now a reality. On their way back to Canada after a mission to find the mouth of the Mississippi River, Joliet and his traveling partner, Father Jacques Marquette, were shown a shorter way to Lake Michigan, via the Illinois River, by a band of friendly Illinois Indians. Paddling up the Illinois, they entered one of its main tributaries, the Des Plaines River. Exiting the Des Plaines near the present day village of Lyons, they portaged their canoes across a low, swampy region later to be known as Mud Lake. Dragging his equipment over a low rise, Joliet understood that he was crossing a Continental Divide, and soon reached the South Branch of the Chicago River, which then emptied into the lake.

Upon reaching Canada, Joliet let it be known that by "cutting through but half a league of prairie," it would be possible to sail a "bark" from Canada to Florida on a continuous waterway. The

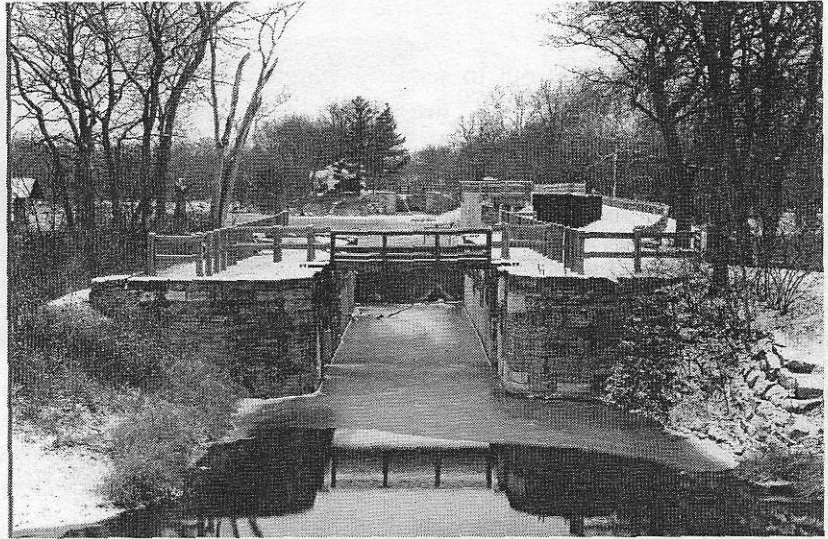
route between the Des Plaines and Chicago Rivers came to be called the Chicago portage, and was heavily used by Native Americans and fur traders plying their trade, especially after 1700, when trade restrictions were lifted due to British challenges of French authority. By 1763, the British had control of the fur trade, and, along with the Iroquois Indians, control of the entire region. The year 1783 saw the region fall under American rule, and in 1795 the Treaty of Greenville took away Indian control of the mouth of the Chicago River and gave it to the United States. In 1803, the U.S. government built Fort Dearborn there, on land that was destined to become the city of Chicago.

Although Joliet had suggested a canal through the portage in 1673, it wasn't until 1810 that Peter B. Porter brought the idea to Congress. The Erie Canal was also being debated, and it was that project which received the most attention. The War of 1812, during which Fort Dearborn was raided and burned, brought some renewed interest in a canal, mostly for strategic purposes. As a result of their defeat in the war, the Indians ceded a corridor of land twenty miles wide, from the mouth of the Chicago River to the upper Illinois River, which was to be surveyed for the route of the proposed canal. With this news, but before being admitted as a state, Illinois moved its northern border roughly fifty miles north, so that no part of the new canal would fall outside of the new state's borders. The financial windfall that a canal would bring was obvious, and Illinois wanted it all for itself.

Admitted to the Union in 1818, the State of Illinois waited until 1822 to draft a proposal to Con-

gress to build a canal. Various commissions and even a private company had been formed, but none succeeded in raising the capital needed to begin construction. In 1827, Illinois representative Daniel Cook proposed that the federal government grant the state alternating sections of canal land extending five miles out from each side of the canal; this plan was accepted. Now, the state could sell the land to raise the funds needed. But in two years, less than \$19,000 had been raised. In 1833, with the prospect of a canal fading, the federal government gave Illinois a choice of using the capital raised through land sales to build either a canal or a railroad. Leaning towards the tried and true method of canals, the vote barely passed in favor of the waterway.

In 1832, Black Hawk, an Indian Chief who had fought in the War of 1812, began a small uprising to reclaim land near the Chicago River, land that he claimed was taken unfairly, as he had never signed the land secession treaty. The cost to him and his tribe was total. Defeated and half starving, the tribe was in retreat when they were overtaken at the Bad Axe River by federal troops. Much of the tribe was massacred, including women and children. Now the U.S. government demanded all Indian land east of the Mississippi River as the final solution to the "Indian Problem." This encouraged new settlers, who began arriving in the canal corridor, drawn by the promise of good farming and plentiful land. Land speculation took off, and a new canal commission was formed. This commission was able to borrow money, and secured a \$500,000 bond from the state. On the renewed promise of a canal, land prices skyrocketed, and when 375



The I&M Canal, Lock #7, looking across the DuPage River to Lock 6.
Photo by Joseph Balynas

lots were sold in Chicago for almost \$1,400,000 net, it was time to move ahead. Ground was broken on July 4, 1836. William Gooding, who had worked on the Erie Canal, was hired as canal superintendent.

Louis Joliet's original vision imagined a canal connecting the Chicago River and the Des Plaines River. He must have passed through during a high water period, as the subsequent surveys showed both the Des Plaines and upper Illinois rivers to be unnavigable for most of the year. In fact, LaSalle noted that point in 1680, writing that a "canal would be useless because the Divine (Illinois) River is unnavigable for 40 leagues." So, instead of a "canal of but half a league," the Illinois and Michigan would run for 97 miles from Chicago to LaSalle-Peru, connecting at a bend in the Illinois River.

Gooding planned to dig the canal at lake level, thereby supplying it with water from Lake Michigan. The canal would drop 141 feet from lake level to the level of the Illinois River. Fifteen locks were needed, each 110 feet long by 18 feet wide,

with wood miter gates. Lift varied from about seven to fourteen feet. The canal was to have four aqueducts, the longest being the Fox River aqueduct, at 464 feet. Twenty-five bridges, numerous culverts to carry streams under the canal, homes for the lock tenders, and two toll collection houses had to be built. Barns or stables were located near each lock, or at twelve-fifteen mile intervals, to house the mules and horses needed to pull the packet boats and barges. The canal measured sixty feet wide at the top, and thirty-six feet wide at the bottom. Several widewaters were strategically located along the route as well. At the western canal terminus in LaSalle, a basin, 640 by 280 feet, was to be dug just west of Lock 14 for off-season storage of the boats. Lock 15 connected the canal boat basin with the steamboat basin, where steamboats docked to transfer cargo and/or passengers to canal barges or packet boats. The steamboat basin continued west for about one mile to the connection to the Illinois River. At the eastern terminus, a "y" shaped extension functioned as a slip, again for loading/unloading purposes.

Labor was initially in short supply, but heavy advertising in the East brought a steady supply of workers. Most were Irish immigrants, willing to work up to sixteen hours a day in terrible conditions for one dollar and a gill (4 oz.) of whiskey, which they believed kept illness at bay. Nonetheless, disease still claimed over 1000 canal workers, many buried in unmarked graves along the route. Even with all this, there were only a few instances of labor unrest, most solved quickly. Gooding was a poet of sorts and penned verses showing his compassion for the laborers. This was, no doubt, a factor in keeping things relatively stable. Cash flow, however, was not. A financial panic in 1837 was weathered, but by 1841, workers were being paid in scrip, redeemable at face value towards the purchase of canal lands. Finally, in 1841, the State of Illinois was broke, and work on the canal stopped. In 1842, Governor Thomas Ford was able to get a loan of \$1.6 million, backed by European and American investors. Work resumed in 1845, and the canal was finally finished three years later, but with some modification of the original plans.

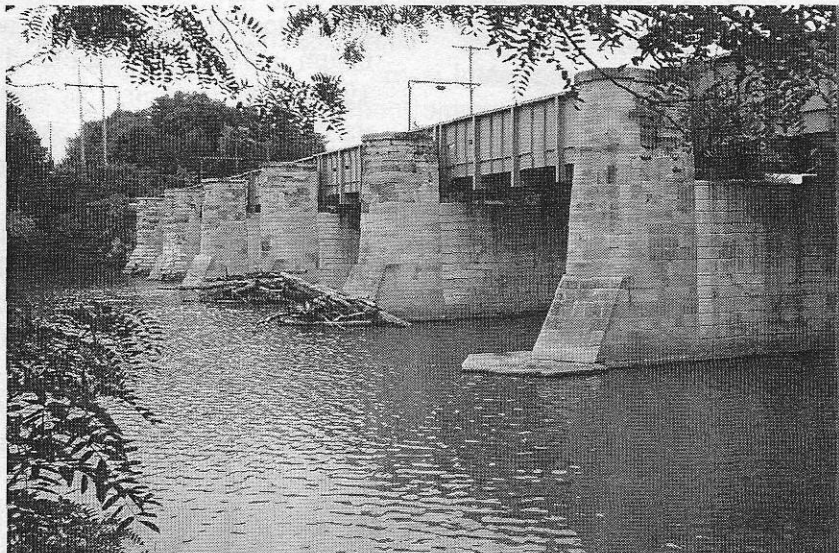
As said earlier, the canal was to be dug at lake level, through the summit. But as workers reached the summit, they encountered solid rock, and it became clear that to cut through it would take time and money, both in short supply. Gooding devised a solution: build a lock and pumping station at the eastern terminus at Canalport (soon to be renamed Bridgeport). The pump brought water from the Chicago River into the canal, while the lock raised boats 8 feet to the summit level. This level was then maintained to the town of Romeo, where a sec-

ond summit level lock lowered boats to the level of water in Lockport, where the first official lock was to be located. Because of the loss of a continuous supply of lake water, four feeder canals were dug to supply the lower reaches of the canal with water. In 1871, due to rising concerns over the poor sanitary conditions in Chicago, the original "deep cut" plan was carried out in an effort to reverse the flow of the Chicago River, until then nothing but an open sewer emptying into the lake, contaminating Chicago's supply of drinking water. Both summit locks were removed, and the people of the city watched as the river began to flow "backward" and the water began to cleanse itself. But this turned out to be only a temporary solution, as repeated flooding of the Des Plaines River caused the Chicago River to once again flow into the lake. Sanitation engineers then recommended that a second canal be dug, this time so wide and deep that the flow of the Chicago River would be permanently reversed. Work on this canal was begun in 1892 and

completed in 1900.

The I&M Canal needed four aqueducts to cross rivers or creeks too large to be diverted through culverts, but in the case of the Des Plaines River in Joliet and the Du Page River at Channahon a different method was used. Because of the water levels in each river, an aqueduct was not practical. At each location, a dam was built downstream of the crossing to create a still pool of water; then a bridge was built to carry the tow-path across the river. Locks were located at each end of the river crossing. This can still be seen today at Channahon, but not at Joliet, where the canal was obliterated in 1932 when the Des Plaines River was dammed and deepened as part of the Illinois Waterway project.

Another engineering feat along the canal is Split Rock, located just west of the town of Utica. This was a solid plug of sandstone that was directly in the path of the canal. Engineers had no way around, so workers had to cut a water gap straight through. This cut exposed a geological feature known as the LaSalle Anticline, where layers of rock are folded as



The Fox River Aqueduct, Ottawa, Illinois

Photo by Joseph Balynas.

a result of the collisions that formed the Appalachian Mountains.

For the first six years after its opening, the I&M Canal had no competition, and revenue from tolls and packet service increased each year. When the Chicago and Rock Island Railroad began service in 1854, on track laid mostly in the canal's right of way, packet service nearly dried up overnight. Initially proposed to run as an extension of the canal from La Salle to Rock Island, the route was changed to run to Chicago, as Chicago's growing importance as a center of trade could not be ignored. Competition was good for awhile, because costs were lowered as the railroad and canal tried to outdo each other to attract more business. Tolls continued on an upward trend until 1865, with a record gross that year of \$300,000. But the railroads kept taking more and more business away from the canal, and toll income began to drop each year, most notably between 1869 and 1878. By this time, traffic on the canal was reduced to mostly bulk goods such as stone, coal, and lumber. The year 1882 saw a record tonnage shipped, but the canal still lost money.

That the canal was successful is beyond doubt. In 1871, the same year that the deep cut was completed, canal commissioners managed to pay off the entire debt on the nearly \$6,500,000 construction cost. But in the previous year, the canal's death warrant had been virtually signed. The state had ratified a new constitution, and it did not provide finances for the continued upkeep of the canal. As the canal began to silt up, more and more boats took their business to the Illinois River. Sporadic pleas to deepen and widen the ca-



The I&M National Heritage Corridor has installed striking silhouettes along the waterway.
Photo by Joseph Balynas

nal fell upon deaf ears. Businesses that used the canal went bankrupt or turned to the railroads for their shipping needs. The city the canal built, Chicago, became the railroad capital of the world, its needs far beyond what a sixty-foot wide canal could provide. When the aforementioned Sanitary and Ship Canal, completed in 1900, was extended to Joliet in 1906, it essentially replaced the I&M Canal for shipping between Chicago and Joliet. A second waterway, the Cal-Sag Channel, was begun in 1911 and completed in 1922. Near Lemont, just before its confluence with the Sanitary and Ship Canal, the Cal-Sag cuts the I&M in half.

After 1914, the I&M Canal was virtually abandoned. In Chicago, it was suggested that the canal be filled in, and a grand boulevard built from Chicago to LaSalle. Forty-five years later that idea was partly realized when the Stevenson expressway was built on the first seven miles of the canal bed. Between Joliet and LaSalle, the canal was used

by pleasure boats, but was quickly becoming derelict, and in 1933, upon completion of the Illinois Deep Waterway, it was officially closed to traffic. Cities such as Marseilles and Ottawa let the canal dry up. Locks continued to crumble, and the once proud waterway that was built with pickaxe and shovel had become an embarrassment. Depression era squatters and bums lived in crudely built shanties along the banks, and what water there was became filled with trash and junk.

In 1936, the Civilian Conservation Corps (CCC) began work to refurbish the old waterway. They stabilized lock walls, cleared the towpath, replaced lock doors, built picnic shelters, and did a myriad other tasks in preparation for a planned canal parkway. An old canal boat, the *City of Pekin*, was found and brought to Channahon in the hope of restoring it to its former stature. In 1941 the vessel burned to the waterline, and its remains lie underwater just northeast of Lock 6. During hot, dry summers, the canal dries up enough to expose the remains.

World War II cut this work short, and, sadly, it was not resumed after the war.

The I&M Canal again fell into disrepair, and without the efforts of a dedicated group of volunteers, probably would have been completely forgotten. They did their best to re-water sections of the canal, created a 61.5-mile multi-use trail between Joliet and LaSalle-Peru, and even raised funds to refurbish Lock 14, complete with gates. In 1984, the entire canal corridor became the nation's first National Heritage Corridor, preserving its blend of history and nature for all time. Cities and towns throughout the corridor are working to preserve their unique historical sites. Old buildings are being, or have been, restored, and the canal is now seen in a positive light. To walk the towpath is to walk in the footsteps of the people who made it happen almost 160 years ago. Here's to another 160 years!

The author, Joseph Balynas, lives near the portage site and, six years ago, found a book, *Prairie Passage*, that was interesting from a photographic standpoint. Two years later, on a long bicycle ride, he passed the Aux Sable aqueduct. Stopping to read the signage, Joe was totally intrigued by such an engineering feat. Remembering the book, he read it cover to cover and was amazed that he lived so close to such an important piece of Illinois history, yet had no idea the canal existed.

Joe began photographing the canal, and its history kept pulling him in deeper and deeper. He decided to photograph the entire canal as a kind of visual remembrance. Walking the towpath, touching stone cut by hand 170 years ago, uncovering small remnants of the canal bank brought out a flood of emotions that he was at a loss to explain. So his connection to the canal is an emotional one, and he feels that, given the right exposure, the I&M can regain its place in history, and in the hearts and minds of the public as well. (You can contact Joe at balynas@aol.com.)

BY CANAL BOAT, CABLE TRAM, AND STEAM TRAIN THROUGH ENGLAND AND NORTHERN WALES

(Part 2 of a series)

by Bruce J. Russell

One difference between British and American canals was that those in the United States had lock chambers of at least fourteen-foot width, while in England seven feet was the standard dimension. Use of the smaller size was done both to save construction costs and to minimize loss of water during lock operations. A fourteen-foot wide lock uses twice as much water as a seven-foot one. As we cruised through the English canals, we spotted many former horse stables. In the US few can be found.

The usage of canals for recreational purposes in Britain dates from 1944. Five years earlier, aboard the narrowboat *Cressy*, L.T.C. Rolt made a year-long journey on those canals that were still open and still carrying some freight traffic. Rolt was fascinated by what he saw as he made his way from one canal to another, passing through urban and rural areas. He later recorded his experiences in a book called *Narrow Boat*. Many read it and decided to follow in his footsteps. At first they used former freight handling vessels, stripping the hulls and installing passenger accommodations. In subsequent years companies began building and selling boats suitable for inland waterway cruising. They were fitted out with bunk beds, kitchen, shower, and toilet. Meanwhile, the Inland Waterways Association was formed, due in large part to the

impact of *Narrow Boat*. The IWA was, and is, dedicated to the preservation and maintenance of Britain's surviving canals. Since the publication of Rolt's book, the IWA has lobbied the government for money to keep the canals open. Today the British Waterways Board has the responsibility of running and maintaining most of the canals, and it is their employees who repair the locks, erect the metal bank walls to prevent erosion, and dredge to maintain a uniform five-foot depth. As we traveled about, we spotted several of their work boats painted blue and lettered BWB.

In recent years, the Waterways Recovery Group has come into existence. Its purpose is to coordinate the provision of voluntary labor to assist the canal societies in the restoration of canals. While WRG does much physical work, its role is to set an example of what is possible and to encourage larger funding and major construction efforts by contractors. The WRG wants to restore once abandoned canals to active use. Over the years, it has experienced great success in this area, bringing back closed waterways to active navigation. Frequently, this work has meant clearing out accumulated garbage and refuse, restoring crumbling lock chambers, and making bridges again movable to permit the passage of vessels. Our tour included visits to two recently "brought back to life" canals, the Huddersfield Narrow and the Montgomery, and it was truly awe-inspiring to see what these dedicated canallers have accomplished, often with very little government assistance.

In Britain there are multiple enthusiasts' magazines devoted to every possible hobby from railroads to airplanes to ships to

canals. One that covers the canal scene in an excellent manner is *Waterways World*. It not only describes peoples' canal voyages, but also provides updates on what's being restored. Likewise, the history of various canals is presented in a lively way, illustrated with old photographs. Few are aware that commercial traffic didn't cease on the British inland waterway network until about 1960, when what little business remained, mostly bulk cargo like coal, petroleum, gravel, and sand, went to trucks that could deliver it faster and cheaper.

One interesting story I read in a back issue of *Waterways World* described the last years of commercial usage on the Birmingham-to-London Grand Union Canal, and how companies existed to move freight from one point to another on it. One of them was Fellows, Morton, and Clayton, which ran a fleet of freight boats until the mid-1950s. A person could bring a parcel to its Birmingham terminal and fill out a shipment tag for London. After weighing, the item would be loaded onto a boat; a couple of days later the package arrived at the firm's London facility. Then a clerk would call up the consignee and tell him, "Your package has arrived. Come get it." Or, they could put it on one of their delivery trucks and take it directly to the individual. And this as late as the 1950s! As the article explained, while canal carriage was slow, it was cheaper than using the railways for less than carload or "LCL" freight, so people resorted to it. When Fellows, Morton, and Clayton finally went out of business, many of their freight boats were bought by canal buffs and restored to nearly new condition. As we cruised the

waterways on this trip, several old freighters belonging to FM&C were spotted. Often, they operated in a two-boat tandem arrangement. One vessel had an engine plus a crew cabin, in addition to its cargo space; the other, without power, had a small cabin, but mainly held cargo. The second boat was called a *butty*, which means "friend." When this two-boat tandem got to locks, each vessel would be taken through separately and then recombined. In a wide canal with fourteen-foot locks, both entered the chamber side by side, resulting in a tremendous time saving.

England's first long distance canal was built by the Duke of Bridgewater in 1761 to transport coal from his mines to major markets near Manchester. He had earlier visited France where he saw the then century-old Canal du Midi and realized what an improvement it was over wagon roads. He engaged the services of James Brindley to do the surveying and engineering work for his proposed forty-mile canal. One of the requirements

was an aqueduct over the River Irwell. Once completed, the Bridgewater Canal was a tremendous success and inspired the planning and construction of inland waterways throughout Britain. (The American counterpart to the Duke is considered by most historians to be DeWitt Clinton, the NY governor most responsible for the digging of the Erie Canal.)

Britain's canal age witnessed impressive feats of engineering, such as the erection of enormous stone aqueducts spanning valleys and the driving of tunnels beneath hills and even mountains, such as the Pennines. During our journey we saw many of these. Often American canal builders visited England and Wales to obtain practical knowledge of how to embark upon these projects. The building of canals went on from 1780 until the 1830s when railroads began to enter the picture. The last canal in England was finished in 1856, well into the railroad era. Although canals couldn't compete with railways for speed, they were able to offer favorable prices for transport of bulk items. By the late 1800s many of the English canals



One of the restored freight boats. This one is lettered, "Fellows, Morton, and Clayton," one of the largest freight-carrying companies in Britain. Photo by Bruce Russell

had been bought by the railways, but in most cases were permitted to still operate. One reason was that they had on line customers who could not be served by rail. Frequently it was impossible to lay a track to a factory or warehouse or coal yard, especially in built up, urban areas; hence, the use of water transport. It was only beginning in the 1920s that these railroads began shutting down their canal subsidiaries. Nevertheless, many of the canalside factories and warehouses remain, and on our trip we encountered a great number. Some retain lifting hooks to take cargo directly from the boats moored adjacent to them.

TO BE CONTINUED

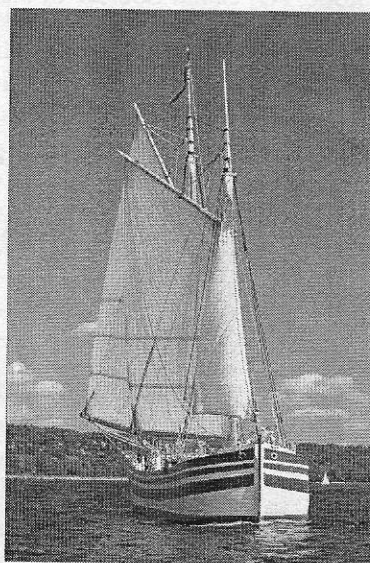
Lake Champlain Maritime Museum Announces "Grand Canal Journey" of Schooner *Lois McClure*
 Summer 2007, Through New York State's Erie Canalway:
 1000 miles...100 days...25 ports of call

The Lake Champlain Maritime Museum is pleased to announce that the replica canal schooner *Lois McClure* and her companion tugboat *C. L. Churchill* will embark on an exciting "Grand Canal Journey" this summer. The schooner will travel over 1000 miles in 100 days, as she sails from her home port on Lake Champlain to visit 25 historic ports-of-call along the historic and scenic Erie Canal and the New York State Canal System. The *McClure* is a full-scale working replica of an 1862 canal schooner, a unique example of working vessels that carried goods throughout northeastern waterways during the 19th century.



One of the many lift bridges under which we passed. One of the crew disembarks, runs ahead, and cranks the bridge open.
 Photo by Bruce Russell

The expedition is made possible by a partnership between the Lake Champlain Maritime Museum, Erie Canalway National Heritage Corridor, and the New York State Canal Corporation. Major sponsorship support for the journey is also being provided by longtime partners the farm families that own Cabot Creamery and McCadam Cheese, and by Brookfield Power. The museum and its partners and sponsors have joined together to provide the public an opportunity to gain perspective



on the historic and present significance of the New York State Canal System and its communities. The Grand Canal Journey will spotlight the canal system's ongoing roles in transportation, recreation, and tourism. Canalside communities will celebrate their distinct contributions to canal culture by creating their own events to embrace the arrival of the *Lois McClure* at their ports. Tours of the boat and interpretive presentations, wayside exhibits, and educational materials will be provided free to the public at each stop.

"The Lake Champlain Maritime Museum is looking ahead to the 2007 Grand Canal Journey with great expectations as an opportunity to fulfill its mission of connecting the public to the significant collection of shipwrecks found in the waterways of our region. Lake Champlain, the Hudson River, the Finger Lakes, Lakes Ontario and Erie, all hold vast collections of intact wooden ships that reflect on all eras of human history," commented Art Cohn, Executive Director of the Lake Champlain Maritime

Museum. "We are looking forward to hosting the public aboard the *Lois McClure* and traveling back in time along the historically significant *Erie Canal Corridor*, with our interpreters engaging our visitors in a discussion of the extraordinary history and archaeology of our regions."

The "Grand Canal Journey" planning team will work with groups at LCMM's Basin Harbor campus in May. The Grand Canal Tour begins in mid-June, departing from Vermont for Albany, the Finger Lakes region, Buffalo, and back—a voyage of over 1000 miles in 100 days with stops at 25 ports. The itinerary of the "Grand Canal Journey" is as follows:

July 2-3	Ithaca, NY
July 7-8	Seneca Falls
July 10-11	Geneva
July 14	Lyons
July 17-18	Pittsford
July 21-22	Medina
July 24-25	Lockport
July 28-29	Buffalo
July 31-Aug. 1	Tonawanda
Aug. 4-5	Brockport
Aug. 7-8	Rochester
Aug. 11-12	Palmyra
Aug. 17-18	Syracuse

"Selecting the ports was a challenge, as we wanted the schooner to hit every port within the corridor. But ultimately, ports-of-call were based on accessibility, convenience of location, safety, and the ability of ports to accommodate the prized vessel and its companion boat the tug *Churchill*," said Lori Duell, Project Manager. The team will work with canal communities to plan events to accompany the summer 2007 voyage. "This voyage is a wonderful opportunity to work

with communities and organizations across New York to build upon our shared canal heritage." Duell continued.

For more information on the *Lois McClure* Grand Canal Journey or sponsorship opportunities, please contact Helena VanVoorst, (802) 475-2022 or www.lcmm.org.

CANALENDER

May 18-20—Albany to Rexford, Canal Society of New York State's spring field trip. Base: Schenectady. For more info, call 315-730-4495.

June 9-10—Heritage Days Festival, Cumberland, Md. Sat, 10-6; Sun, 11-5; Maryland & Victorian Washington St. (Exit 43 off I-68); free. replica canal boat; guided tours. Sat, 1-4; Sun, 1-4, donation. Canal Place Exhibit, Western Maryland Station. Free.

June 13-15—World Canals Conference, Crowne Plaza, Liverpool, UK. For details, visit www.wcc2007.co.uk.

June 30—Waterloo Canal Day, Waterloo Village, Stanhope, NJ. Canal Society of NJ. Boat ride, museum, walking tours. Info: 908-561-1250; hamill-123@comcast.net.

June 30, 2007 – Guided Nature and Historical Walk of the North Park Trail. Free. About one hour. Meet at the Lock House of the Susquehanna Museum, 10 am.

July 7-8—Canal Days Festival, parade; children's games; food; crafts; canal boat, carriage, trolley rides; narrated hikes; music; spinning, weaving, tatting; and paper making. Canal Park,

Delphi, Indiana. Contact: Dan McCain, 765-412-4308 or mccain@carlnet.org.

August 25-26—Canal Days, Williamsport, MD. Contact Tom or Linda Perry, 301-223-7010.

Sept. 8-9—South Bound Brook (NJ) Canal Days, Tour historic Abraham Staats House on the D&R Canal; lectures; Civil War re-enactors; quilt making; exhibits. Special guest Abraham Lincoln will address visitors on Saturday. Free boat ride; house tour/exhibits: \$2. Info: 732-469-5836; www.staatshouse.com or bfaulks@aol.com.

Sept. 11-26—CSNYS tour of sites in Germany. Call 315-730-4495 or for details.

October 5-8—Tour of Eastern New York State Canals

Canal Society of New Jersey hosts a 4-day bus tour of canals in eastern New York State. Sites: D&H outlet lock on Rondout Creek; boat ride; lock powerhouse on the Champlain Canal; Glens Falls Feeder; Rome; Black River and Chenango canals, Waterford, and High Falls.

Cost approx. \$600. Send \$100 deposit, payable to CSNJ, to Jakob Franke, 424 Tappan Road, Northvale, NJ 07647. Questions? 201-768-3612 (h), 212-342-0178 (w), or jf31@columbia.edu.

CSNJ membership required (\$25/yr). Send your membership check to Marilyn Craine, 464 Prospect Street, Nutley, NJ 07110.

October 19-21—Bob Keintz will lead the Pennsylvania Canal Society tour of the lower end of the North Branch Canal to Northumberland and the West Branch Canal beyond Williamsport. For more details, call 570-538-3206.