

AmericanCanals

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Dedicated to Historic Canal Research, Preservation, and Parks

Summer 2009

From the President

by David G. Barber

Often what you find on the internet is very interesting. Sometimes it can be quite surprising. If you look at the ACS Index pages for Texas on our web site, you will find one for the Trinity River dated 1981. Looking at it, shows that the river runs 501 miles on a twisty course from the Dallas-Fort Worth area to Galveston Bay.

In the early 1900s, the federal government began a program to improve the river with thirty-seven locks and dams. The locks were 50 feet wide by 140 feet long. The dams were of the moveable wicket type. The project was stopped by World War I after seven locks and dams were built and made operable. Some of these can be found on Google Earth.

In the 1960s, a new project was planned on a larger scale with 84' x 600' locks. The index page indicates that one lock was begun at Wallisville, Texas, at the downstream end, but was stopped by court order in 1981 with about 72% completed, due to environmental concerns. A view of the site a few years ago on TerraServer showed an incomplete lock with sector gates sitting on the east wall. The entire site was surrounded by spoil piles and water. You can still see this 1995 view on TerraServer USA.

Imagine my surprise when I happened to look at the same site on Google Earth and found a complete lock and nearby dam with buildings and parking lots with cars. A Google search on "Wallisville Dam" leads to a Galveston District,



A batteau emerging from the mud. See the story on page 5. Photo by Lyle Browning.

Corps of Engineers web page describing the project and area history. The original project, which would have created a large lake in the wetlands upstream, was transformed after dismissal of the court order into a salt water intrusion and tidal surge barrier. The lock also now serves as a harbor of refuge from gulf hurricanes. I will be interested to learn how this lock served during Hurricane Ike last year. What I do know is that the Corps of Engineers' Wallisville branch office, located at the lock, was in operation immediately after the storm, while the main Galveston office was closed for several weeks.

While the plan for more locks upriver has been abandoned, small boat navigation is possible up the river to Liberty, Texas.

At the Wallisville lock, there is also a visitor center. If you are passing through the area on I-10, this may be an interesting stop.

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American Canals

BULLETIN OF THE
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of the historical navigational canals of
the Americas; to save threatened canals;
and to provide an exchange of canal
information. Manuscripts and other
correspondence consistent with these
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CLEVELAND: HISTORY OF A CANAL CITY

By Larry Turner and Boone
Triplett

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Mistake by the Lake? Hardly. Anyone with knowledge of canal history knows that Cleveland was carefully selected as the northern terminus of the Ohio Canal. By the end of the Nineteenth Century, the small wilderness village at the mouth of the Cuyahoga River had expanded into the nation's seventh largest city, an international commercial center with a population of nearly a half million. This is the story of how Cleveland came into being, beginning as an isolated pioneer outpost on the edge of the American frontier and evolving into a mighty transportation crossroads thanks in large part to the Ohio Canal.

Since the mid-1600s, the Lake Erie region had been controlled by the French. It was a Frenchman, Louis Joliet in 1673, who first suggested the idea of a canal connecting the Great Lakes to the Ohio-Mississippi River system. Fur trading posts had been established all across the lakes by

the French, including one along the Cuyahoga River. (Cuyahoga is a Native American word for "crooked" or "place of the jaw-bone.") By 1753, the French began to assert their dominance on the interior of the North American continent by constructing a string of forts in the west to encircle the English colonies huddled along the Atlantic coast. It was up to a 21-year old major in the Virginia militia to inform the French to cease and desist. That man was George Washington.

Washington's message to the French was that vast territory west of the Alleghenies, the so-called Ohio Country, was claimed in large part by Virginia. The French not-so-respectfully disagreed. Less than a year later, the impetuous Washington would be responsible for starting the world's first truly global conflict by attacking a French scouting party in Pennsylvania. That campaign ended in a disastrous defeat for Washington at Fort Necessity. Washington then joined General Edward Braddock and his British regulars for an attack on Fort Duquesne at the strategic forks of the Ohio in 1755. It ended in yet another military fiasco for young Washington as well as the death of his commander.

The war turned as King George finally began to commit sufficient financial and manpower resources to this French & Indian War, called the Seven Years War in Europe. When General James Wolfe fell triumphant on the Plains of Abraham before the walled city of Quebec, the game was essentially over for the French.

After the Treaty of Paris was signed in 1763, the French empire in North America was completely lost, save for two small islands off the coast of Newfoundland. The Ohio Country was now firmly under British control.

None other than Benjamin Franklin first brought to the attention of Washington the importance of the real estate at the mouth of the Cuyahoga River in 1765. Recognizing this as the midway point between forts at Presque Isle (Erie, PA) and Detroit, Franklin believed that the site was of military importance. Washington's interests in the Ohio Country were more motivated by land speculation. As a reward for his service to the crown in the late French conflict, Washington was allowed in 1770 to claim thousands of acres of prime river bottomland along the Ohio, Great Kanawha, and Little Kanawha Rivers in what is today West Virginia. He was accompanied on this 1770 trip to the Ohio Country by William Crawford.

Before Washington could develop his vast holdings west of the Appalachian Mountains, a series of disagreements with the mother country led to a conflict known the world over as the American Revolution. Despite his somewhat lackluster list of martial achievements and primarily because he was a Virginian in what was being viewed by some as a New England conflict, Washington was placed in command of the Continental Army in 1775. More military setbacks would follow for George Washington, such as those at Long Island and Brandywine, but independence was finally won after nearly eight years of war. By



George Washington, 1772. Painting by
Charles Wilson Peale

1783, the Ohio Country belonged to the United States of America. Native Americans had the misfortune of siding against the British in the earlier conflict vs. the French and with the British in the lost war with the Americans.

George Washington delivered a farewell address to his soldiers in 1783 and immediately turned his attention to the trans-Appalachian region. It was his greatest fear that the Ohio Country would be "tipped" towards British Canada or Spanish Louisiana as all transportation avenues then led directly towards foreign interests. Convinced that a waterway must be opened from the Atlantic Ocean to both the Ohio River and Great Lakes, Washington spent more than a month in the saddle in 1784 personally scouting potential water routes up the Potomac Valley to tributaries of the Ohio. In his book *The Grand Idea: George Washington's Potomac and the Race to the West* (Simon & Schuster, 2004), Joel Achenbach places Washington's horseback ride through the wilderness in a contemporary context:

"Today, with the United States a geographically static nation, with the wilderness in the Midwest converted to farmland, with the technologies of transportation so advanced and commonplace that Americans routinely fly 7 miles above the Earth from New York to Los Angeles and never look out the window, it is hard to imagine how intoxicating, in 1784, was the existence, the sheer physical reality, of all that unsettled, fertile, lush, forested, seductive, "virgin" land. It's safe to say that no one today becomes atwitter at the mention of the physical existence of this thing out there called Ohio."

Lest the Pennsylvanians or "Yorkers" gain an advantage over his native Virginia, Washington envisioned navigation up the North Branch of the Potomac to a 22-mile portage road that he had blazed. This trail led to the headwaters of the Cheat River, a tributary of the Monongahela. Rather than having the navigation head down the Monongahela to the Forks of the Ohio (now Pittsburgh), Washington planned for another portage, a shorter one of nine miles, to the headwaters of the Little Kanawha River, thus keeping the whole line in Virginia. The termination would be at modern-day Parkersburg, West Virginia, where Washington owned copious amounts of land.

Virginia authorized the Patowmack Company in 1785 at Washington's urging to begin the necessary improvements but to satisfy tidewater politicians, the state approved two routes. The second line was to continue from Richmond up the James River, over the mountains, and down the Great Kanawha River. Washington did not mind the compromise since he also owned land at the confluence of the Great Kanawha and Ohio Rivers. Fittingly, Washington was named president of both companies.

So what does all of this about George Washington have to do with Cleveland? In a famous letter to Virginia Governor Benjamin Harrison, Washington would write:

"Mount Vernon, October 10, 1784.

Dear Sir:

Upon my return from the western Country a few days ago...I shall take the liberty

now, my dear sir, to suggest a matter, which would (if I am not too shortsighted a politician) mark your administration as an important era in the Annals of this Country, if it should be recommended by you, and adopted by the Assembly. It has been long my decided opinion that the shortest, easiest, and least expensive communication with the invaluable and extensive Country back of us, would be by one, or both of the rivers of this State which have their sources in the Apalachian mountains. Nor am I singular in this opinion. Evans, in his Map and Analysis of the middle Colonies which (considering the early period at which they were given to the public) are done with amazing exactness...I need not remark to you Sir, that the flanks and rear of the United States are possessed by other powers, and formidable ones too; nor how necessary it is to apply the cement of interest, to bind all parts of the Union together by indissoluble bonds, especially that part of it, which lies immediately west of us, with the middle States...

The preliminary steps to the attainment of this great object, would be attended with very little expence, and might, at the same time that it served to attract the attention of the Western Country, and to convince the wavering Inhabitants thereof of our disposition to connect ourselves with them, and to facilitate their commerce with us...These, in my opinion are; to appoint Commissioners...Let these Commissioners make an actual survey of James river and Potomack from tide-water to their respective sources...and the nearest and best Portages between these waters and the Streams capable of improve-

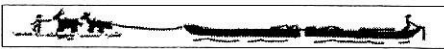
ment which run into the Ohio... The navigation of this river (i.e., the Ohio) being well known, they will have less to do in the examination of it; but nevertheless, let the courses and distances of it be taken to the mouth of the Muskingum, and up that river (notwithstanding it is in the ceded lands) to the carrying place with Cayahoga; down the Cayahoga to Lake Erie, and thence to Detroit. Let them do the same with big Bever creek, although part of it is in the State of Pennsylvania; and with the Scioto also. In a word, let the Waters East and West of the Ohio, which invite our notice by their proximity, and the ease with which Land transportation may be had between them and the Lakes on one side, and the rivers Potomac and James on the other, be explored, accurately delineated, and a correct and connected Map of the whole be presented to the public...

Lengthy as this letter is, I intended to have written a fuller and more digested one, upon this important subject, but have met with so many interruptions since my return home, as almost to have precluded my writing at all. What I now give is crude; but if you are in sentiment with me, I have said enough; if there is not an accordance of opinion I have said too much and all I pray in the latter case is, that you will do me the justice to believe my motives are pure, however erroneous my judgment may be on this matter, and that I am with the most perfect esteem etc."

Thus with this specific mention of "Cayahoga", Washington should receive a great deal of credit for envisioning the city of Cleveland and for recognizing the importance of transportation infra-

structure in the development of the new nation. Washington worked out the mileage: 784 miles from Alexandria to Detroit. His thoughts on the topic were shared with Thomas Jefferson who enthusiastically agreed. The correspondence between these two founding fathers on the topic is extensive. Washington was overjoyed when old war buddy Rufus Putnam established the first permanent settlement in the Northwest Territories at Marietta, stating in 1788 that "No colony in America was ever settled under such favorable auspices as that which has just commenced at the Muskingum. If I was a young man, just preparing to begin the world, or if advanced in life and had a family to make provision for, I know of no country where I should rather fix my habitation."

to be continued in the fall issue



RICHMOND CANAL BASIN DIG: THE MEN, THE BOATS, THE MUD

Written and Photos Contributed by
Lyle Browning
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and the Virginia Canals and Navigations
Society)

Note from the editor of *The Tiller*, the newsletter of the Virginia Canals and Navigations Society: *Lyle Browning has been a professional archaeologist for the past thirty years. He has studied excavation on both sides of the "pond," both in the US and in the United Kingdom. Mr. Browning returned to the USA in 1978, where he was hired by Virginia Department of Transportation as their first in-house archaeologist. He set up and ran their program from 1980-1988, formed a sideline business in archaeology in 1980, left to solo practice in 1988, and*

inherited Heite Consulting in Delaware in 2006.

It is impossible not to connect William "Bill" Trout, PhD., and canals. His work on canals is legendary, and his depth and breadth of knowledge is equally amazing. His sense of humor also makes it quite impossible to work with him at times because it is absolutely not possible to think and belly-laugh at the same time. Bill carried that fencing foil of his as a probe, and I can attest that his sense of humor is way sharper than that thing. You didn't know you'd been skewered for quite a while at times. This I found out when we worked together on the boats in the James Center. This was new terrain for both of us. Bill had the background information and was the walking encyclopedia of canal knowledge, and I brought stratigraphic skills and a "first principles" attitude to the mix. Neither of us had seen anything quite like this, standing at what was once twenty-three feet below the surface of the water to dig in the bottom of a hole in the sweltering heat of July, August and September. We would find something that caused us to pause, think about what it meant, come up with a hypothesis and literally spend the rest of the day tearing the idea apart, putting it back together, tearing it down again and finally, whatever was left standing was what we both agreed was the best approximation of the reality as we understood it. The next day something new caused that picture to be altered and we did it all over again. Both of us had skills the other didn't, and we functioned as a team under the gun to work out how to get what had to be done and then do it.

So when Bill Trout phoned me



A view from inside the Richmond Canal Basin dig.

one Friday in 1983 and said that I should be the first to know that canal boats had been discovered in the Great Basin in Richmond, I asked what did that mean? He went on to explain that the first block of the James Center was under construction and that the construction crews had dug down twenty-three feet below the street level. He and Jimmy Moore had gone into the hole after the workers had left and had found boats all across the bottom of the dig.

We organized an effort for that weekend. When we got there, maybe four boats had been located. However, the more we walked, the more we saw until basically, the bottom seemed to be filled with boats. The odd thing was that none of the ones we saw were intact. ALL of them were basically halves of boats as if some giant had picked them up, snapped them in half and dumped them into the basin. I called all three local TV channels about what we'd found, which served two purposes.

The first being that since we were essentially trespassing and

usually contractors and developers aren't exactly known for wanting to delay their work for archaeology, I would in essence make them be the bad guys and toss us off the site. TV, newspaper and radio coverage lit a tremendous fire in that the story went national. Interviews were done on what seemed to be a daily basis as more and more info came up. The second purpose was to showcase an archaeological excavation of a type of artifact for which there were no extant examples. Basically, we were breaking new ground on an artifact type that wasn't all that old, but which had nearly completely disappeared.

As it turned out, the developer, Henry Faison, had been quietly watching the progress of the dig and called me one afternoon. He said, "Hello, I'm Henry Faison and I guess you could call me the owner of your boats." I was in my VDOT office sitting at my prison-built oak desk on my prison-built oak chair with state-issued everything around me. He suggested a

meeting. I suggested we meet at the Marriott where he was. He wouldn't hear of it and came from 8th Street to my office on 14th Street in August heat after I finished my VDOT day at 5:15, where we sat down and we hashed out an agreement. The way the construction worked was that the basement had to be dug down to 23' below grade. They started in one corner and worked their way across. When that was done and there were several problems along the way, they would then need to dig caissons into the mud to hold up the building. It was our incredible luck to have that area from the corner to where they were digging basically free of construction needs until the caissons needed to be sunk. So as long as we kept out of the way of the equipment, we had a window in which to work. We agreed that if we would keep our folks corralled and out of reach of equipment, we could dig, but they were going to start the caissons on September 23 and we had to be out by then. He helped us and we abided by his end date. He also helped us with moving things and always was extremely good about the disruption we caused. He got free positive publicity out of it, so it was a win-win. One of the things he agreed to do was give us the rights to all of the artifacts in the basin that we got out.

The Great Basin was opened in 1800 and closed in 1882. The main river vessel for upland rivers was the batteau. The problem was that nobody knew what these things looked like, nor how they were built, nor basically anything about them as

there were no surviving examples apart from a few bits and pieces that Bill Trout and his intrepid river explorers had located over the years. There were drawings of them that ranged from Venetian gondolas to blunt ended canoes; however, the drawings had what may be termed artistic license with their actual appearance.

Word of mouth indicated they were 6-7 feet wide and up to 70 feet long with a tillerman at one end who tended an onboard campfire and a crew who pushed them upstream with poles. Covering the campfire was a Conestoga wagon-type canvas awning. Other than that, there were then no known photos. I did discover, however, one hiding in plain sight from the Alexander Gardner Civil War collection that showed the two canal boats filled full of furniture with the African-American crews and the famous headless captain with the Burnt District of Richmond silhouetted against the sky. In the background on the north bank was a batteau with an awning and sweep.

We got the Virginia Department of Transportation (VDOT) Photogrammetry Section to come and do their incredibly accurate to 1/200 of a foot work to get detailed and measured drawings of the boats. Fred Bales and Don Little took a \$50,000 glass plate camera (\$49,000 for the Zeiss lens and \$1,000 for the box) up into a cherry picker, developed the plates, put them into a Kelsh plotter and produced stereo images that could be drawn with incredible accuracy. This had to be done within the state bureaucracy with typical legerdemain.

Ryan Mitchell, the State Historic Preservation Officer at the Department of Historic Resources, had to

request VDOT to take the photos and various funds were moved around to provide the necessary coverage.

Down in the hole, the boats were coming out in profusion. The basin was also the repository for what turned out to be the biggest collection of work shoes from any dig anywhere. We found individual boots by the dozens and even a pair of boots in a bucket in the mud. The mud was unlike anything else encountered. While it was a fine silt, it was laid down in waves like any good waterborne system. But, when it slumped as it was dug into sideways as was done in the basin by the contractors, it became the thickest, stickiest, most miserable to move muck imaginable. It was hell to push a shovel into, it stuck to the shovel trying to get it out, and it stuck to the shovel trying to get the muck off the shovel. The late and great George Rawls figured out that we could use garden forks to get it out of the interior of the boats because the minute amount of sand in the bottom of the boat

allowed it to break off into foot-sized chunks which were manageable.

Boats, Boats, Boats in the Mud

We also discovered that we had what we termed "vampire boats." All of them had telephone-pole-sized pilings driven through them that held up the railroad that was placed over the infilled basin. When the construction trackhoes pulled up the pilings, they left a foot-diameter hole that was filled with water. We told all our volunteers not to walk in them and left it at that. One lunchtime, I watched out of the corner of my eye as a guy stepped back and slowly sank into the ground up to his hip. He had the most startled expression as it happened and he realized those little water circles were in fact quite deep. He couldn't get out on his own, and his leg was covered in creosote rich mud and water from the hole.

Bill had asked the construction guys if they'd seen any boats and they asked what they might look like. Well, the wooden ones were no problem, but when Bill asked



A picture of a hearth, which would be found on each end of the batteau.

about a metal-hulled boat, Joe "Diablo" Thomas said that he'd seen something like that over on the 9th street side (the walls had to be shored up all the way down to prevent the mud from collapsing into the hole). He said he had one "hell of a time" cutting through this metal sheet, but in the end "I got it." That turned out to be a stripped down half of a packet boat.

The basin had basically three flavors of boats in it. There were batteaux, freight boats, and packet boats. While there is currently one photo known of a batteau, there are several of freight boats from the 1865 Alexander Gardner series, and there are several of various packet boats, mostly at the end of the canal era in the late 1870s and up to 1882, when the canal boats were used to carry railroad ties (sort of like building your own gallows) for the railroad that was built on the towpath.

What totally baffled us about the batteaux was that we got only the one end and each end had a hearth in it. We wondered how on earth we got only the stern ends of these things until we got the only complete batteau in the second or third year of the dig. It turns out that they had hearths at both ends, providing the model for the much later double-ended diesel locomotives. And they had sweeps at both ends. Basically, they could turn on a dime, and if you wanted to go downstream, you moved the coffee pot to the upstream end and vice versa if you wanted to go upstream. Devastatingly simple. What did surprise us was the outside lining for the hearths. Most of the interiors were of brick or sandstone, but the edges tended to be pig iron. A valuable commodity was used to prevent

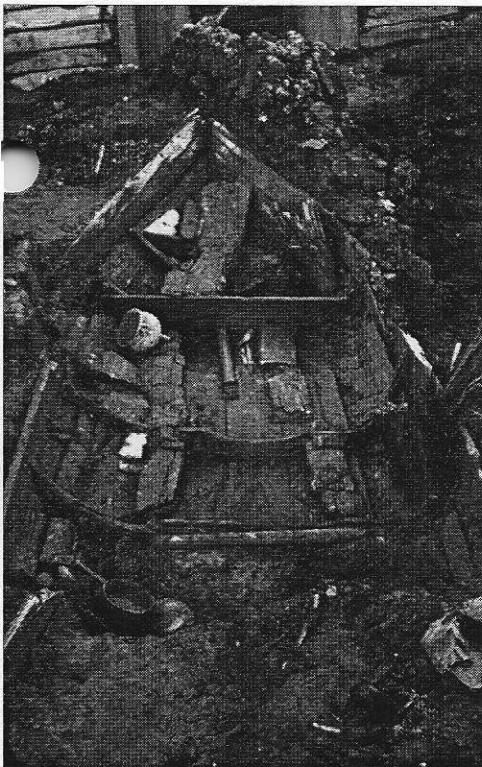


A view from inside the Richmond Canal Basin Dig.

onboard fires. But, as with everything else, some captains were more careful than others. We found innumerable scorched walk planks where embers had burned nearly through.

We found that we had a very early batteau. One of the oddities of the Virginia James River batteau is that it was patented by

the Rucker Brothers in the 18th century, but when the Brits burned the Patent Office in the War of 1812, the drawings were lost. Thus an early batteau was an opportunity to see what form the boat had at inception. It had been cut half through by the construction crew as it lay at an angle on the bottom of the basin. It was made of pine



Batteau with utensils.

and oak and was built by a master carpenter. Long hull planks were tapered to fit the constriction at the bow. The lines were about as nooth as a racing skull. The workmanship on the ribs was exquisite.

What happened later in batteau construction was a typical mass production degradation of quality. The later batteaux had a separate nose-cone that was triangular. It was nailed to one rib by so many nails that it looked like a fakir's bed and one wonders how the rib didn't split. There was also no structural rigidity by putting planks so that they overlapped back onto the hull or forward of the rib either. The rigidity was provided by double or triple planking and overlapping at the gunwales. The crowsfoot bow bracing became far less graceful as well. But, they were probably cheaper and worked about as well, though their blunter cross-section at the bow must have increased drag considerably.

The freight boats grew out of the batteaux as slackwater systems came into being. The whitewater craft that was the batteau had a far more limited carrying capacity than did the freight boat. They had a two-mule-power engine, with the spares stowed in the front. These boats came in three variants: open, center open, and enclosed. The open ones had a cabin at the stern for the captain and crew. The center open ones had a captain's cabin at the stern and a crew cabin at the bow. The enclosed ones had the stern captain's cabin and bow crew cabin with a roofed and sided center compartment that took up about 80% of the length. It had side doors and was basically the first RORO type of vessel (that would be roll-on, roll-off).

The packet boats were a passenger and small cargo variant. These were apparently all metal-hulled, although the technology evolved over time. The stripped down version that Joe Thomas found was the bow. From historical accounts, it was known that there was a toilet at the bow. We found a 4" diameter copper pipe at the bow. The boat had been built using sheet metal from a rolling mill (probably Tredegar or Belle Isle) that was riveted together. The two sides were bent at 90° to be nailed to the oak keel in the stripped version. The boat had been stripped down to the ribs and hull and the business end of the women's toilet had been removed. We were able to document what we had, which wasn't much but it was the first one so documented.

Two other packet boats were eventually discovered. One lay

at the extreme eastern end of the basin at about 11.5 Street and was apparently lived in well into the 20th century by various folks who liked living rough. This boat survived well enough to provide an incredible amount of information about how the interior was arranged. We found pull-down doors under the bench seats for the passengers and found that there was a men's toilet at the rear. As history had been mute about the existence of such a device, we had assumed that the "usual" arrangements off the sides and rear were used. We also discovered an intact women's toilet compartment which was 18 inches wide.

Archaeology is all about information gathering and about problem solving. I wondered, given a compartment eighteen inches wide, how on earth the mechanics worked with hoop skirts. Later at some event, I encountered historical reenactors Mr. & Mrs. Richard Cheatham and asked Mrs. the delicate question. She gave me one of those looks that said "you poor man" and showed me how the hoops could be gathered on one side at the bottom and lifted, thereby allowing the lady to access narrow passages. I was able to fill in the blanks. Not having worn hoop skirts, it was far beyond my imagination to work out that puzzle. We also ascertained that the boat had been painted a nice shade of off-white, accented in peach one time and pale green another.

Volunteers and "Finders Keepers"

While we got positive press throughout, that coverage also brought others into the picture. We had about 2000 people a day along the fence looking at the dig as it

progressed and various folks came down and volunteered. These folks came in all shapes, sizes, genders, and occupations and were the backbone of the excavation. One of our stalwarts appeared the first time in a pair of bib overalls, with a 12" mason's trowel in her back pocket that was nearly as tall as she was.

We also attracted other folks. There is a long-standing tradition in the construction business that whatever is found while digging is "finder-keepers." This extended to bottles. I don't think we got one complete bottle as the construction guys were getting to them far before we did. One fine day, a van rolled up in a cloud of dust. It was festooned with various pithy relic hunter bumper stickers. Out of it jumped a bunch of the most snaggle-toothed, scratchy-bearded, sawn-off blue-jeaned folks you ever saw. It was their right, the lead man intoned, to get materials for their club and they were going to do so.

Fortunately, I had already met with the developer, who had agreed to let us keep all the relics, in return for staying out of the way of his construction crew and finishing by September 23rd, so when this fellow intoned his right to basically rob the dig of relics, I said it wasn't going to happen. He argued, cajoled and blustered. Then he did a curious thing after glancing over his shoulder. He started moving to his left and if I wanted to face him, I had to move. What that did was turn my back to the dig. After a minute more, I looked over my shoulder to confirm what was going on and that was his crew heading off down into the hole. Long story short, he and his motley crew got tossed out. Other folks were a bit sneak-

ier. One fellow who worked for the City of Richmond Gas spent most of his on-duty working hours relic hunting before we got the ownership cleared up and was none too happy not to be able to continue. On the other end of the spectrum, Ray Grubbs came with his metal detector and asked if he could help. We put him to work with instructions to mark where he found items. At the end of the day, he looked like the Michelin Man with bulging pockets full of the most amazing stuff that Bill Trout then piece-plotted so we could see where it came from.

The preservation of the wood in the boats was outstanding. The mud covered the boats and left them in anaerobic conditions. There was some degradation that appeared entirely random. Some wood was so tough that it dulled ceramic saws and others could be smushed between your fingers. That also meant that whatever went overboard was in the mud. We found a bale of leather, various parasols, and evidence of diet for the stevedores. Chicken bones and watermelon seeds vied with hardboiled eggshells for the most common dietary indicators. Oddly enough, catfish skeletons that had started turning blue with vivianite were a fairly common find.

Then Came Kittiewan and the JRBF

At the end of the three seasons, we had an incredible number of artifacts, the largest collection of canal boat parts in the country, information on what they looked like for the first time, how they were built, and a host of other good info. But, we

have had nowhere to store them, analyze them, display them or basically do anything at all to complete the dig. Now, twenty-five years later, we are still moving the boats around and will be trying to raise funds to do the analysis. We have a place to work on them at the barn at Kittiewan Plantation in Charles City County that the Archeological Society of Virginia was willed. We had two Open House Canal Days on August 9th and 23rd, 2008.

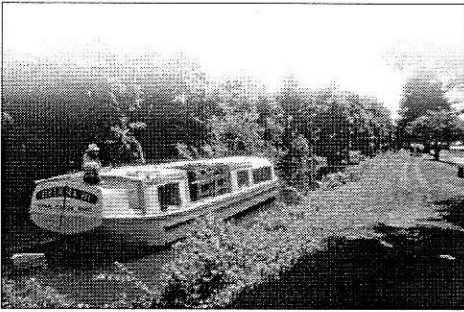
Luckily, Joe Ayres took it upon himself to build the *Batteau Columbia*, which spawned the now-annual James River Batteau Festival. From that, the boats have had a new life, including an article in the National Geographic with Joe's boat on the front cover. There's a higher awareness of canal boats than there was and although there have been losses of places that have had boats due to construction, the information from the Great Basin boats will hopefully soon be out in published format. Thanks to a group of people from all walks of life, we were able to do what most folks thought impossible and that was to excavate those boats in the muck of the Great Basin and get the important ones out for posterity. Due to the positive PR, we got donations of virtually everything we needed to get the boats out, pickle them in preservatives and move them to safe locations over the years.



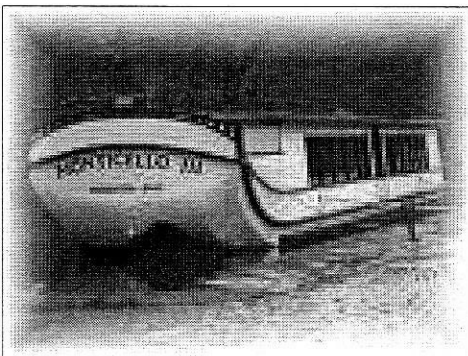
CANAL BOAT RIDES IN THE U.S.

If you will be traveling around the eastern half of the United States, you might want to visit one of the many canal boat concessions. Here is a partial list of the many choices:

OHIO

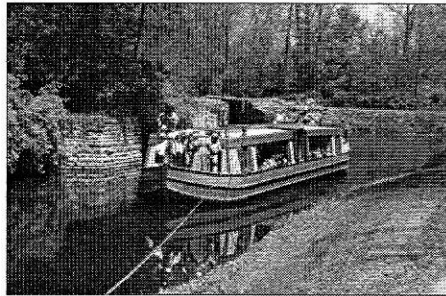


The Canal Fulton Heritage Society operates the *St. Helena III* canal boat rides in May, weekends only; June through September, daily, Tuesday – Sundays, 1, 2, & 3 pm, weather permitting. School & group charters also available. Adults, \$7; seniors, \$6, children 5-12, \$5; children 4 & under, free. Old Canal Days Museum tour also available for a small additional fee. For more information, please call 330-854-3808 or 800-Helena3, or visit our website, www.DiscoverCanalFulton.com.

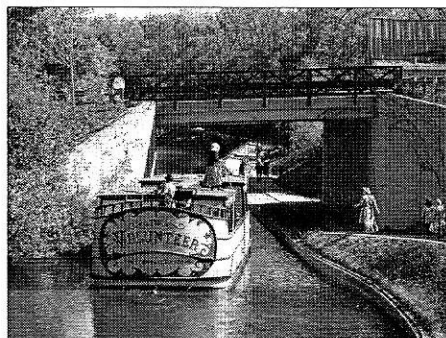


A relaxing cruise on the canal boat *Monticello III* makes a visit to **Roscoe Village** complete. This 1-1/2 mile, 45-minute, horse-drawn ride allows passengers to experience this early mode of transportation. The captain provides insight into life on the canal during its 1800s heyday. Group rates and special charters available. 23253 State Route 83, Coshocton, OH 43812-9601; 740-622-7528; 740-622-3415 or 800-877-1830.

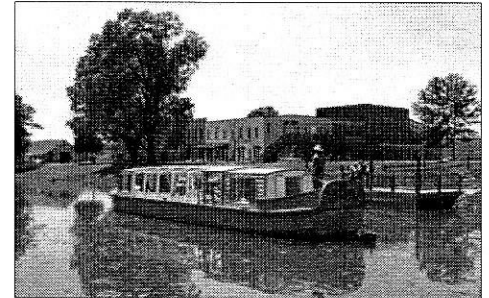
Ride the *General Harrison* at the **Piqua Historical Area**, 9845 Hardin Rd, Piqua, Ohio. Season is April through October, Wed-Sun. Rides with crew in period clothing. Three interpreter-led rides daily, 12:30, 2:30 & 4. \$7/adults, \$3/students, 5 and under free. 800-752-2619. www.ohiohistory.org/places/piqua



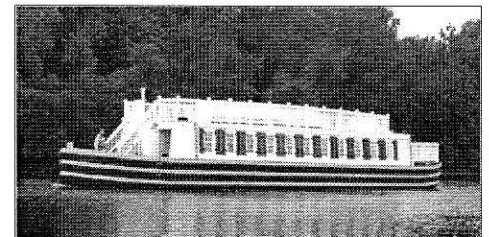
All aboard the *Volunteer* at Ohio's **Providence Metropark** in Grand Rapids, near Toledo. During the 45-minute trip, which includes passage through an original lock, living history characters tell educational and entertaining stories about life in the late 1800s. June 3 through September 3: Wednesday - Friday 11 a.m. to 4 p.m. Saturdays noon to 4 p.m. September 3 through November 1: Wednesday - Friday 10 a.m. to 2 p.m. Saturdays noon to 4 p.m. Canal boat tickets: \$6 adults, \$5 seniors (60 and over), \$4 children (3 to 12), ages two and under free. Tours of the Isaac Ludwig Mill, free. 13827 US 24 West (at SR 578), opposite Grand Rapids on the Maumee River.



INDIANA AND ILLINOIS

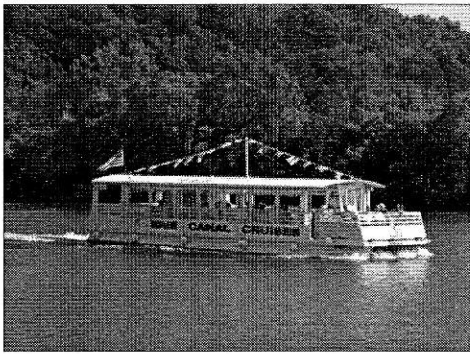


Step aboard the *Delphi* for a trip down the **Wabash & Erie Canal** in Delphi, Indiana. Saturday, 11 am and 2 pm; Sunday, 2 pm, through Labor Day; charter on all weekdays, \$100 per hour and \$50 for an additional hour. 11 and 2. Tickets: adults, \$5; seniors and school-aged kids, \$4; pre-school kids, free. Buy tickets at the interpretive center. Boat and onboard restroom are wheel-chair accessible. 1030 West Washington St., Delphi, IN; 765-564-2870.

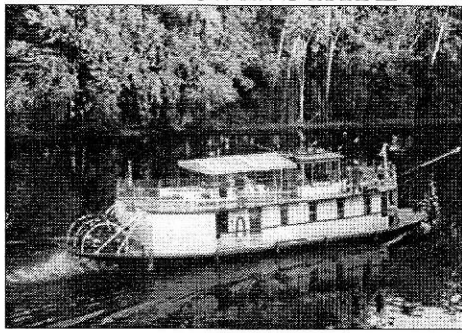


The *Volunteer* at LaSalle, Illinois, takes you on a one-hour journey on the **Illinois & Michigan Canal**, the same hand-dug waterway that 19th century pioneers traveled. Your guides, dressed as canal-era crew and passengers, will take you back in time to life on the American frontier and the Illinois prairie. Daily 10:00, 11:15, 1:00, 2:15, 3:30 pm. Buy your tickets at 754 1st St.; 815-223-1851. Adults: \$12; Seniors (65+): \$10; Youth 16 and under: \$6; Children under 3: Free; Family - 2 adults with 2 children under 16: \$33. The LaSalle Canal Boat is wheelchair accessible.

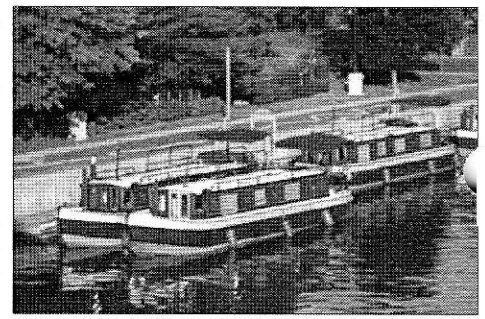
NEW YORK STATE



1-1/2 hour **Erie Canal Cruises** on *Lil' Diamond II*, Herkimer, NY. Fully-narrated historical cruise through a lock. A must for the history buff. Discounted rates for private groups. Public cruises mid-May through mid-October. Twice daily, 1 and 3 p.m. Adults, \$18; children 3-10, \$12. 315-717-0350; www.eriecanalcruises.com.



Champlain Canal Tours is open May through October, with regularly scheduled boat rides from 1 to 3 hours, day trips and overnight excursions. See rivers, canals and waterfalls on the Hudson River and Champlain Canal. Canal House, PO Box 9, Schuylerville, NY 12871; 518-695-5609; 518-695-5496, ticket office (in season).



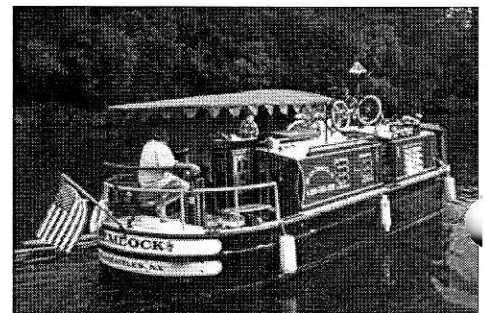
Erie-Champlain Canal Boat Co. offers lock tours of the **Erie or Champlain canals**, family and educationally oriented, departing from the Waterford Harbor Visitor Center at Waterford, NY. Self-captained boats are also available for hire by the day or the week (May thru October). For more information, please call 518-432-6094 or visit our website at www.eccboating.com.

PENNSYLVANIA

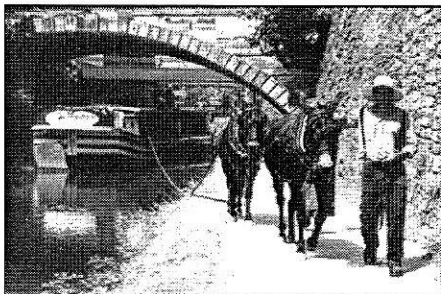


Josiah White II operates on the **Lehigh Canal** in Hugh Moore Park, Easton, PA. Open Memorial Day through Labor Day and weekends in May and September. Closed Mondays, except holidays. 40-minute rides begin at 11:30 AM. Last ride at 4 pm. Sunday rides start at 1 pm. Adults \$7, children \$5, under 3 free. Admission includes the Emrick Technology Center. 610-515-8000. www.canals.org

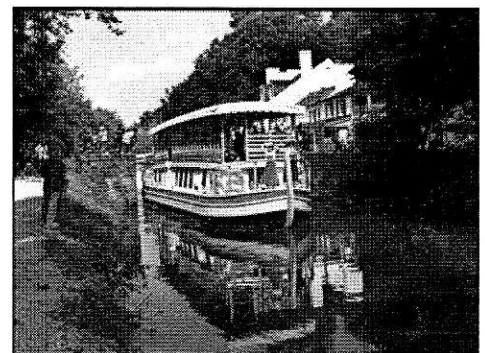
Mid-Lakes Navigation offers one-week or half-week charters on its Lockmaster. You pilot your narrowboat along the **Erie Canal**. Or take the *Emita II* and let someone else do the driving. Contact: 11 Jordan St., PO Box 61, Skaneateles, NY 13152; 315-685-8500; 800-545-4318; info@midlakesnav.com
www.midlakesnav.com



WASHINGTON, D.C. AND MARYLAND



Ride the National Park Service's mule-drawn freighter *Georgetown* on the **Chesapeake & Ohio Canal** NHP, 1057 Thomas Jefferson St NW, Washington, DC 20007. Apr: Wed & Sun and May-Oct: Wed-Sun. Ranger-led, 1-hour rides @ 11, 1:30 & 3. \$5 for everyone aged 4 and over. Reserve space for 10 or more @ 301-767-3714 or (after April 1) 202-653-5190. www.nps.gov/choh



Ride the National Park Service's mule-drawn excursion boat *Charles F. Mercer*, **Chesapeake and Ohio Canal** NHP, 11710 MacArthur Blvd, Potomac MD 20854, near Great Falls. Apr: Thu-Sat and May-Oct: Wed-Sun. Ranger-led, 1-hour rides @ 11, 1:30 & 3. \$5 for everyone aged 4 and over. To reserve space for 10 or more, call 301-767-3714. www.nps.gov/choh

ELEVEN-CANAL ADVENTURE IN UPSTATE NEW YORK

by S. David Phraner

(This is the fourth in a series about the Canal Society of NJ's trip to the New York State canals in 2007. We continue on the Black River Canal.)

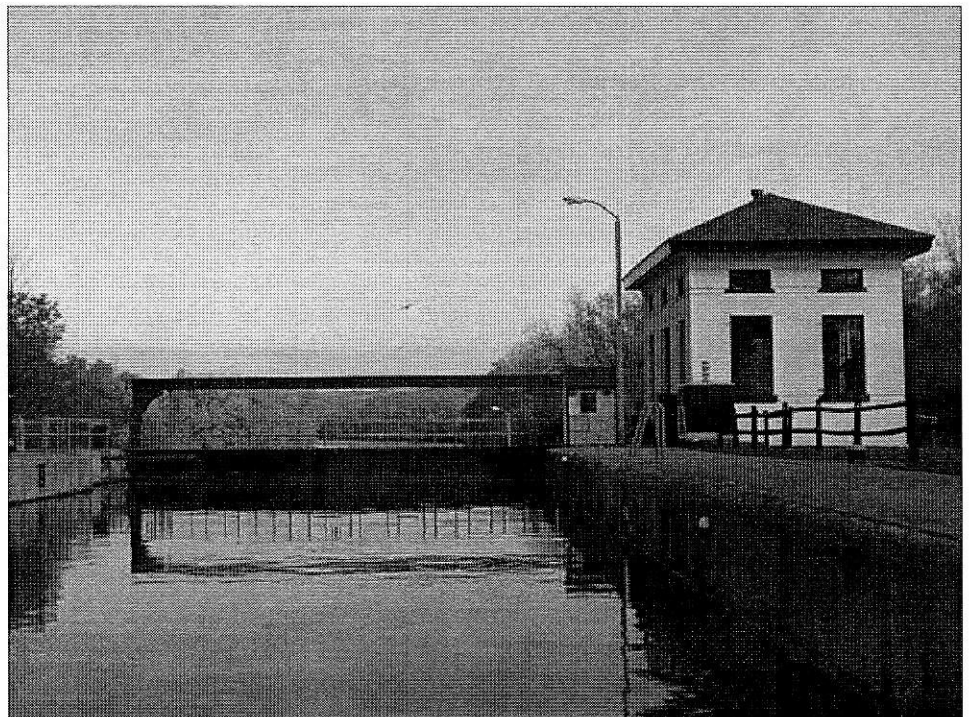
Following lunch we reboarded Minnie for a short side trip farther north on Route 12. Our purpose was to inspect the flight of three locks descending from the canal's summit level. This historic site is located about half the distance between Boonville and the next place of note on the canal, Port Leyden. At this point, the highway lanes are divided by a very wide median. Whether by design or intention to save the remains of the canal locks, the effect is dramatic. The large cut block limestone flight of locks dominates the site. Parking is available at the base of the locks for both northbound and southbound motorists.

Finally, we viewed a video on the Black River Canal, whilst on board the coach. Part of the video includes narration by Michael Doyle, the author of a book published a few years back called *The Forestport Breaks*. It dealt with a series of breaks, or as we call them, washouts or "breaches" on the Forestport Feeder. That strategic waterway derived its importance mainly in its transport of water rather than goods, and it was (and still is) critical to the Black River and the Erie Canal navigations. As the economy (timber and pulp) of the area went bad, the entire population of the village of Forestport from the local officials to the lowliest citizen was found to have intentionally sabotaged the feeder canal in order to create jobs and improve the local economy. Suspicions were aroused

by repeated breaches. The canal corporation hired the Pinkerton Detective Agency to investigate. Pinkerton uncovered the plot and the village almost in its entirety was brought to justice.

Our next stop of the day was back in Herkimer for a ride on the barge canal. For Elaine and me, this was a return trip. We had ridden the entire barge canal main line over two trips previously: one from Syracuse (Liverpool) to North Tonawanda, the other between Syracuse (Brewerton) and Troy. On our previous trip, the *Emita II* had docked at the canal corporation terminal at Herkimer where we stayed in a local hotel. We had walked across the bridge to Mohawk to see where the NYS/Utica and Mohawk Valley Ry. and Southern NY Ry. interurban cars once entered the city. The West Shore RR is no more in Mohawk, but the station remains as a restaurant. The canal freight terminal at that time consisted of two buildings. It still does, but one of the buildings

now is new, replacing an old freight terminal building. It contains a restaurant (Waterfront Grill), a large regional visitor center, marine supply store, over sixty concession stands of local products and crafts, and a gift shop. It is also the homeport for Erie Canal Cruises which provides short, local, sightseeing trips on the canal. The original canal freight building was never actually used as a freight terminal but has been adopted by the canal maintenance forces. It may end up being one of the only original barge canal freight terminal buildings to survive, as it is planned to be rehabilitated and adapted as a canal museum. This entire historic canal complex is accessible with easy off and on from the Thruway. They have a display with a fiberglass runabout boat mounted on the sign, visible from the eastbound lanes of the I-90. The Herkimer canal terminal complex is a fine example of how the canal is being converted from a commercial waterway into a



Lock 18 on the Erie Canal, near Herkimer. Photo by Jakob Franke.

recreation linear greenway/park, with its freight terminals being a readapted as a focus for economic development, commerce, leisure, marine services, and tourism.

Erie Canal Cruises promises much with its glossy brochure and impressive logo, showing an ocean liner profile. Their boats, however, make no pretensions to any size, authenticity or grandeur. We rode in their newest and only active craft, *The Lil' Diamond II*, a large pontoon boat propelled by two 4-stroke, 35 hp. Honda outboards. They recently retired their first boat, a mono-hull fiberglass launch type with a capacity of about 20-25, called *Lil' Diamond*. It took me a while to figure out the origin and significance of the boats' names. Principally, the names derived from the famous Herkimer diamonds, nothing more than polished quartz promoted as an attraction for a Mohawk River town down on it luck. We were to visit the diamond mine later. Whether intentional or not, the boats' names are also a play on words since inverting the title

reminds one of "Diamond Lil," an entertainer of some note way back. The whole complex and the ride turned out to exceed expectations. The visitors' center adds to the eponymous misconduct with its own colorful website, www.gemsalongthemohawk.com, with apologies to James Fennimore Cooper's Natty Bumppo.

Finally, Herkimer is the county seat for the county of the same name. Herkimer County (named after the Revolutionary War hero who saved the day at Fort Stanwix but lost his life in the process) demonstrates a strange, irrational configured geography, almost like a lunatic gerrymandered its borders.

The county is long and thin, oriented north-south with its south margin at Otsego County near Richfield Springs. Its most populous southern region includes the agricultural areas south of the Mohawk River, the former industrial base along the river and the mining area immediately north

of the river. Further north, near its midsection, the county is totally vacant. No roads, no settlements, no nothing. At its midsection, Herkimer County is in the center of the Adirondack resort and recreation region, centered on the Fulton Chain of Lakes and Eagle Bay, NY. Farther north the region is mostly uninhabited (except for Beaver River settlement, inaccessible by any roads on Stillwater Reservoir) and then nothing again till its border with St. Lawrence County. A resident of the county in Inlet having jury duty they must travel west out of the county, through two other counties south to Utica, then east to Herkimer. It's impossible to travel between the north and south regions of the county without hiking and a lot of carries (portaging).

Despite the schmaltz, our visit to Herkimer was enjoyable. The boat arrived from the previous tour time, and we departed after a short safety lecture and enjoinder by the captain to tip the single deckhand and beverage server, a poor college student. From the port of Herkimer, we headed east on the river/canal, passing a guard gate to and through Lock #18 at Jacksonburg. The narration was almost non-stop and highly informative, covering the local history, canal features, geography and economy, local notables and architecture, human interest stuff and a short briefing on the history of Erie Canal Cruises enterprise.

This cruise company is a partnership of two retirees who ran a large (5-plus) excursion boat service in Florida. They sold out and came north, noting that there was a lack of any local sightseeing cruise opportunities east of Syracuse and west of Cohoes.



NY State Canal Corporation tug, Erie Canal near Herkimer. Photo by Jakob Franke

They started with the first small boat and have graduated to the *Lil' Diamond II*, a boat with a capacity of about sixty. The tour narrative was partly recorded, since I doubt that the captain's voice would have held out for the entire duration of the trip. He also successfully attempted to tailor the cruise for those particularly interested in the canal works and history. In contrast to the dour presence of the captain of the *Caldwell Belle*, the master of the *Lil' Diamond II* was a talker and had a good line.

Of particular interest is a part of the canal that leaves the Mohawk River at Herkimer and follows south of the Mohawk to Lock 18 where it rejoins the river. The natural river is not navigable between these points, and the canal parallels at a higher elevation, forming an island of sorts between the manmade canal prism and the Mohawk River. This arrangement has caused chronic problems with the north bank of the canal leaking and breaching. We noted that there was a good deal of riprap on that north bank of the canal. Much of it was being enlarged and replaced by the canal corporation's heavy equipment on barges along the bank repairing the damage. Bow wake from passing boats including ours creates a turbulence and wash along the banks that surely contributes to the erosion and failure of the berm holding the canal.

Just upstream of the lock is a temporary maintenance base for the canal company contractors and force account staff. Several tugs and old flat deck barges are tied up there. We descended Lock 18 and continued east in the combined channel of the canal and river past the point where they converge. After navigating a short distance we turned midstream and returned and

traversed the lock. We returned to the Herkimer canal terminal after a very satisfying, scenic and informative excursion.

Our plans for dinner included a visit to the "diamond" mine north of Herkimer. The diamond mine was closed, but the large and well-presented, museum-grade exhibit hall (and gift shop) was kept open for us. I am not particularly keen on metallurgy, minerals and gemology, so the museum was of only passing interest. For those interested in such subjects, the museum is quite informative. I'm sure that some could spend an entire day in the museum and mine. Dinner was at an adjacent restaurant (the Crystal Chandelier) that was pleasant and one of our better meals on the trip. I chose the prime rib and the experience was rewarding, but required some selectivity with knife and fork that characterizes this cut of meat. After a very full day, we return to the Rome Quality Inn for sparsely attended but fascinating lecture by Diane Van Slyke, President of the Chenango Canal Association. This talk prepped us for what we were to experience the next day. We turned in for a good night's sleep.

to be concluded in the fall issue

FLOATING TOWPATH COMPLETED IN OHIO

The floating towpath of the Ohio & Erie Canal extends 1645 feet from the shore nearly 500 feet into the south end of Akron's Summit Lake. Fourteen feet wide, it is supported by polyethylene-filled floats and is anchored securely to the lake bottom. Sitting 16-18 inches above the water, the towpath is decked with a hardwood from

**From the (Doylestown, PA)
Intelligencer, March 25, 2009**

Mule Drivers Need Security Clearance ("Terrorism on the Canals" or "Your Government at Work")

Score one for the bureaucracy. Mule drivers at an eastern Pennsylvania park need the same federal security clearance as port workers. The Homeland Security Department has refused to grant an exemption to workers who operate a mule-pulled boat at the National Canal Museum in Easton. The decision means the small museum will have to pay \$420 for four transportation worker identification credentials.

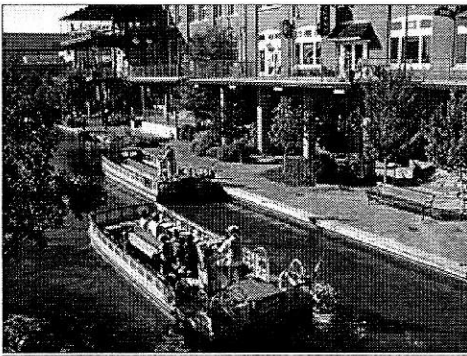
A federal anti-terror law requires the clearance for workers who need unescorted access to secure areas of ports and ships. Congressman Charles Dent says he's disappointed. He sent a letter to Homeland Security Secretary Janet Napolitano, asking her to reconsider. He calls it a case of "a bureaucracy not paying attention to common sense." The museum says it might increase ticket prices for a canal ride.

Readers may send their comments to Secretary Janet Napolitano, U.S. Department of Homeland Security, Washington, DC 20528. The Citizen Comment Line number is 202-282-8495.

Brazil and has 4½-foot-high railings with mesh fencing below. The trail was built in 20-foot sections and then floated into place.

This unique section of the Ohio & Erie Canal Towpath Trail recreates the original floating

(continued on page twenty)



The Bricktown Canal was built one floor below street level. Restaurants on the canal are actually in the basements of their respective buildings.

BRICKTOWN CANAL HOSTS ENTERTAINMENT DISTRICT

by Don Whitney

What was once a warehouse neighborhood and the original site of Oklahoma City has been restored, becoming the destination for Oklahomans looking for fun and entertainment. With restaurants, nightclubs, shopping, sports facilities and a canal, Bricktown is Oklahoma's entertainment district.



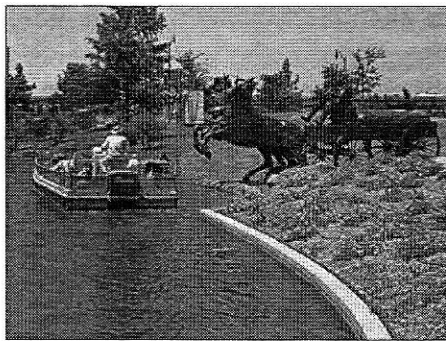
The man-made waterfall is the highlight of the canal in the new retail area below Bricktown.

It could be argued that the canal, only one mile long, is the center piece of Bricktown and the major factor in the redevelopment of the downtown area.

In 1993, Oklahoma City

voters approved the Metropolitan Area Projects (MAPS). Funded with a one percent addition to the sales tax for five years, the program added major attractions to the downtown area, including new or improved fair grounds, library, performing arts center, art museum, ball park, the canal, and riverwalk.

The vision for the canal may have been the Paseo del Rio in San Antonio, Texas. For OKC, however, it required a total conversion of dusty brick



A water taxi cruises past the first sculpture in the massive Land Run monument, which will extend across the canal upon completion.

streets that were excavated down thirty feet; then a channel was created and landscaped.

Now, Bricktown is the place to be in Oklahoma City. Canal boat rides pass numerous new restaurants and night spots, a movie theater, and a monumental sculpture to celebrate the founding Land Runs. With turn-of-the-century charm, Bricktown provides a spot where Oklahomans can stroll along the canal, enjoy live music, cheer on their favorite sports team, sit down for some fine dining, or dance the night away.

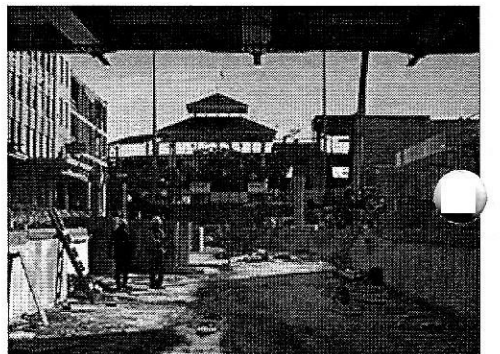
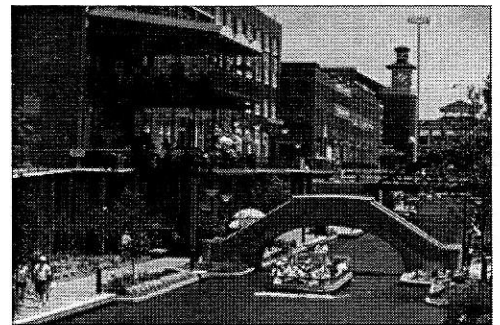
This 1999 public works photo shows construction workers in the empty canal. ▶

MORE INFORMATION:

The mile-long Bricktown Canal links downtown, Bricktown, and the river.

The north segment extends east from the Santa Fe railroad, past restaurants and entertainment venues to the Bricktown Ballpark. As the canal turns south toward the river, it is highlighted by hiking and bicycle trails, water features, and landscaped park areas. Various public and private development projects are in progress along the canal, which is maintained by the Parks and Recreation Department.

A company called Water Taxi runs a continual service along the canal. All Water Taxi Ambassadors narrate points of interest along the way. A round trip takes about forty minutes. During the regular season, guests can board a Water Taxi vessel every 10-15 minutes at the landing on the Bricktown Riverwalk. The company also provides narrated canal cruises, private charters for tours & dinner, cocktail cruises, and more.



The Story Of James Brindley – U.S. Canal Engineer – 1745-1820—Part III in a series

by Yvonne E. Long and Gordon Brindley, B.A. (January 2003)

Know that James was manager of the Susquehanna Canal Company for several years and was responsible for providing navigation improvements to the Susquehanna River up to the state line. In March 1786, Washington wrote:

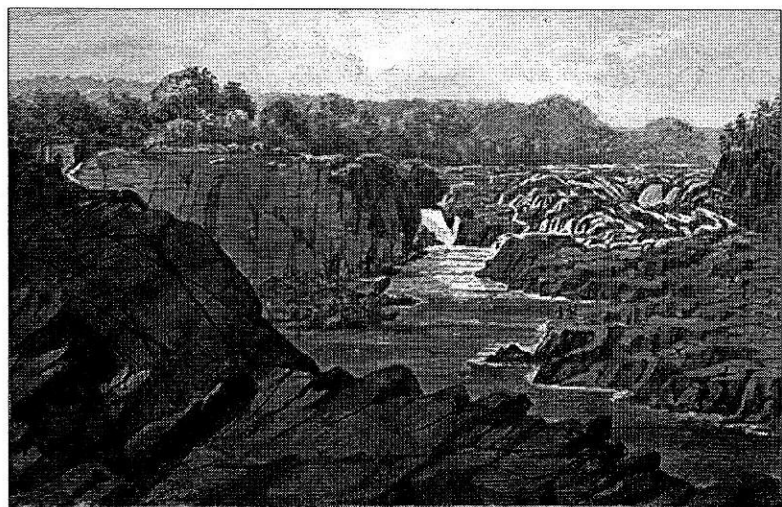
"In the afternoon a Mr. Brindley, manager of the Susquehanna canal and Mr. Hanes manager of the James River Navigation came in and stayed all night. James Brindley was a nephew of James Brindley 1716 – 1772, the talented Englishman who had initiated the dry-land canal era in England in the 1760s under the auspices of the Duke of Bridgewater. Coming from the Susquehanna canal works Brindley and Harris took the great Falls in their way down, & both approve of the present line for our Canal," adding that, "no person in this country has more practical knowledge than Mr. Brindley."

Earlier the same month, Samuel Purviance wrote:

*"I flatter myself that if the Susquehanna Canal is once completed, it will unite the views of Pennsylvania and Maryland in opening a communication between the waters of Susquehanna and the Allegeny, which is generally thought very practicable – The Secretary of our Corporation of the Susqa Canal is now here, and informs me that Mr Brindley our engineer is **now completed about two miles of the upper end of the canal, in which distance were included all the principal difficulties of that undertaking, and of which three Quarters of a mile were one continued & solid body of rock, thro part of which they had to cut about sixteen feet deep** – This being got over, there seems not a remaining doubt of our being able to effect the residue of our undertaking, most of which is not supposed to be not more difficult than an ordinary Mill race – I shall be glad to learn that you find equal hopes of Success in the Potomack Scheme".*

In conducting his survey of the Great Falls, James was said to be travelling with his "son-in-law" and it is believed this man may be Peter Hanson, the husband of stepdaughter Mary Ogle. Having only wed seven years earlier, James's own children would have been too young to be married. Mary Ogle and Peter Hanson were married at White Clay Creek, New Castle, Delaware.

Despite the fact that James surveyed The Falls at Washington's request, and made meaningful recommendations, there is no evidence that the Potomac Company ever hired James other than as a consultant. It is likely that they tried, but his full-time obligations to the Susquehanna Company hardly allowed him to spend much time elsewhere.



We know James was in Charleston consulting on the Santee project and creating detailed plans during the winter of 1786-1787. In a letter to George Washington, William Moultrie writes:

“Many of the Gentlemen who compose the Board of Directors for carrying the plan into execution, having the honour of being personally acquainted with you are induced to recommend that, endeavour be made to obtain Mr Brindley to superintend it (Santee Canal), if in your opinion you judged him capable of the undertaking – it is said Mr Brindley was constantly with his Brother, while carrying out the Duke of Bridgewater’s Works & possessed great knowledge and abilities – to begin right, is all in all with us – the practicality of bringing it to perfection cannot admit of a doubt”.

“However, the engagements that Mr Brindley may now have of the same kind, may possibly prevent him entering into a New One, yet if he could be spared only to inspect into the situation and to give his opinion and directions how to proceed, it may at least prevent us from beginning wrong, and we may be going on until he, or some equal be procured: the Board of Directors will cheerfully pay every expense that Mr. Brindley may be at, by coming here, exclusive of compensation.”

As James arrived in Charlestown in December and left on March 17th 1787, it can only be assumed that he had spent his time creating engineering specifications for the Santee. Considered one of the crowning engineering achievements and economic development projects of its day, it was America’s **first summit canal**. Moultrie’s letter refers to the fact that James had other commitments but is still seeking his help, if only to *“inspect the situation and to give his opinion and directions as to how to proceed”*. However, actual work on the canal was delayed until six years later in 1793 and it is unclear which engineering plan was actually used for the work.

Eventually, a highly unpopular Swede (dubbed dour and unfriendly) named John Christian Senf (1753-1806) completed the project. To construct, it took seven years with 700 free and slave labourers working by hand with picks and shovels, and apparently, with white labourers dying “like flies” in the feverish Carolina summers. The finished canal permitted free movement of trade in and out of Charlestown and it was concluded at a cost of \$650,667.14. When complete the canal was 22 miles long, 35 feet wide, and 5.6 feet deep.

In February 1791, James conducted a survey of the Tulpehocken-Swatara route on behalf of the Society for the Improvement of Roads and Internal Navigation, but what transpired on this project is unclear.

In 1794, Congress approved a bill “for the erecting and repairing of Arsenals and Magazines” which was proposed by president George Washington. Washington was firmly committed to removing the production of arms from the private sector and eliminating the need to import arms from Europe, therefore the legislature allocated \$81,865 for the creation of as many as four armories and gave the president full control over the project. From the very beginning, Washington wanted to establish one large arsenal at Harpers Ferry, which would essentially become *“The Mother Arsenal.”*

Between 1794 and 1798, there was much controversy surrounding the selection of Harpers Ferry as a production site. The arguments were too many and too long-drawn out to describe here in detail; fundamentally, there were four key issues:

- (1) There was concern that Washington himself as first president of the “Patowmack” Company and one of the major land speculators in the region had much to gain from commercial development at Harpers Ferry.
- (2) Harpers Ferry was remote; raw materials and goods had to be hauled overland from towns such as Philadelphia and Baltimore, being transported by five-horse wagons. These journeys depended on the weather and could take anywhere between three to thirteen days when transport crews could be found. Even essential commodities such as bar and pig iron had to be transported from furnaces and forges over a hundred miles away.
- (3) Harpers Ferry was a rural frontier-like “trading post” with few skilled workers, and townspeople maintained a very insular and parochial community, caring for little other than their own local interests and protecting their rustic way of life.
- (4) The amount of money allocated to build at Harpers Ferry could have been used to repair other existing, but smaller arsenals in more convenient locations.

Disagreements over Harpers Ferry continued for some time, but in the interim, Washington surrendered his

presidency to John Adams and retired to his home at Mount Vernon. In 1798, the threat of a war with France became imminent and once again Washington returned to public service; this time as commander-in-chief of the specially created "provisional army." Harpers Ferry quickly returned to the forefront of discussion.

Although new president John Adams still had concerns about the location and the expense of construction, Washington was under intense pressure and decided to leave the final choice to his Secretary of War, James McHenry. In 1798, McHenry announced a plan to move ahead at full speed with building a full-sized armory and manufacturing facility at Harpers Ferry.

Around the same time as this announcement was made, McHenry engaged James Brindley to carry out an inspection and produce technical plans for the dam and canal that would be needed to power the manufacturing processes. In August 1798, James travelled to Harpers Ferry with Joseph Perkin, a fellow Englishman from Birmingham and expert gun maker.

James was already very familiar with the area, having worked near Harpers Ferry as early as 1786 and on this occasion he spent around two weeks conducting his study with Perkin. Both agreed that the best place for the waterworks lay on the Potomac side of the settlement and shortly afterwards they returned to Philadelphia to discuss their findings with McHenry. Included in James's recommendations was that the war department employ an experienced engineer to build the armory canal and middle-dam.

Unfortunately, the war department had already appointed an inept social climber named John Mackey as Paymaster to Harpers Ferry, and he, knowing nothing about canal construction, objected to the expense of hiring professionals, being convinced that the armory required nothing elaborate by way of its design and structure. However, he could not object to a qualified engineer building the framework of the dam above Harpers Ferry, or to a formal survey of the canal. Unknown to Mackey at the time, McHenry had already engaged James to do just that.

Interestingly, Benjamin Latrobe offered his services to design and supervise the construction of the factory and outbuildings and although both he and Perkin were enthusiastic about working together on the project, Mackey despised both Englishmen and vetoed Latrobe's involvement. History would prove that placing Mackey in charge of Harpers Ferry was a costly error of judgment.

Despite urgent requests from the War Department to make the trip as soon as possible, prior commitments in the east delayed James's arrival at Harpers Ferry until April 28th 1799. Once there he "*fulfilled his obligations in a relatively short period of time*" and "*finished staking out the limits of the armory canal within ten days*" before leaving again for Philadelphia.

James returned to Harpers Ferry on August 9th and began laying the foundation for the Potomac Dam. With the help of a small work crew, he completed the partial masonry structure in sixty-four days. On October 22nd, he returned to Philadelphia for the last time. His work for the War Department was over and it was viewed as a complete success. Mackey alone was now in charge of managing the canal construction.



The "Mother Arsenal" — Harpers Ferry — 1801

Note: Stay tuned for the further adventures of James Brindley in the fall issue of *American Canals*. Our thanks to Yvonne Long and Gordon Brindley for permission to publish this biography of an important figure in U.S. canal history.

A CANAL PARK IN BUENOS AIRES, ARGENTINA

Bill Trout sends word that the June 2009 issue of *Smithsonian*, on p. 68-69, has a dramatic aerial view of parklike water in Buenos Aires, Argentina. Sure enough, it's the harbor, and ACS has an information sheet about it that you can see on our web page.

The harbor, built in 1887-1898, is like a canal, two miles long and 500' wide, crossed by three road bridges, with a 65 by 600' lock at each end, to keep the water up during low tide in the River Plata. The photo shows road crossings, not a lock, but thanks to the internet, you can see both locks on Google Earth.

On www.puertosdeargentina.ar, he found that the harbor between the locks is called Port Madero and, like many historic canals around the world, it has become a recreation area and a major tourist attraction, complete with restaurants, a floating casino, and moorings for the Club Nautical.

On the web site, click on "English Pages," scroll down to "Buenos Aires Port," under the heading, "River Plate."

NOTE: If you sail there in your yacht, watch out for Basin F, which is somewhere near Port Madero. The web site says, "This Basin is only used by fluvial ships, those of overseas don't consider access to her for its soaked one." (Some translations are better than others.)

C&O CANAL ASSOCIATION DONATES \$40,000 TO NATIONAL PARK FOR BIG SLACKWATER

The C&O Canal Association presented the Chesapeake and Ohio Canal National Historical Park with a \$40,000 donation to help fund the cost of an environmental assessment for the Big Slackwater repair project. This brings the C&O Canal Association's donations to this project to \$80,000.

"Restoration of the Big Slackwater towpath will enhance visitor safety and encourage heritage tourism that will enhance local and regional economies," said Rachel Stewart, President of the C&O Canal Association. "Slackwater is the priority project for the Association."

Superintendent Kevin Brandt recognized the association for its support of the park and the Big Slackwater project and called the donation "...an important step in bringing the project to fruition."

With the assistance of the C&O Canal Association and other partners, the C&O Canal National Historical Park has completed the 30% design plans for the repair of Big Slackwater, which is the only break in the 185-mile historic canal towpath that connects Cumberland to Washington, DC. The next phase of the project is the environmental assessment. The repair of Big Slackwater is the park's highest priority repair project. It is being considered for funding through the American Reinvestment and Recovery Act.

The Big Slackwater section of the towpath is just west of Dam #4. It was destroyed during the Hurricane Agnes flood of 1972 and damaged again during the floods of 1996. Pedestrians and cyclists have been forced to use a nearly five-mile detour on a narrow county roadway, by-pass this closure. Over thirty people have been injured in accidents on this detour in the last five years.

The C&O Canal Association is a citizens' association concerned with the conservation of the natural and historical environment of the C&O Canal and the Potomac River Basin. The association supports the National Park Service in its efforts to preserve and promote the 184-mile towpath and the open spaces within the C&O Canal National Historical Park.

You may contact the C&O Canal Association at P.O. Box 366, Glen Echo, MD 20812-0366; 301-983-0825; inquiries@candocanal.org; www.candocanal.org.

FLOATING TOWPATH (continued from page fifteen)

boardwalk that the mules used along the Ohio & Erie Canal during the 1800s. The section through downtown Akron is an important linkage along the 101-mile Ohio & Erie Canal Towpath Trail, linking Cleveland, Akron, Barberton, Canal Fulton, Massillon, Bolivar, Dover, and New Philadelphia. This section of the Towpath Trail was developed in partnership with the City of Akron, Metro Parks, serving Summit County, Summit County government, the Ohio Department of Natural Resources, and the Ohio & Erie Canalway Coalition.

A TALE OF TWO CANAL BOATS

by Linda J. Barth

NEW CANAL BOAT LAUNCHED AT WABASH & ERIE CANAL PARK First boat on canal in 133 years

"Hip, hip, hooray! Hip, hip, hooray! Hip, hip, hooray!" As the crowd cheered and the cannon thundered across the canal, *The Delphi* glided silently away from the dock at the Wabash & Erie Canal Park in Delphi, Indiana.

Members of the Vintage Brass, attired in 19th-century dress, complete with top hats, entertained with "The Erie Canal Song" and "The Star-Spangled Banner." Emcee Dan McCain, president of the Carroll County Wabash & Erie Canal Association, introduced the distinguished guests and thanked all of the people who had helped in creating the park and its many amenities. Representatives of the American Canal Society, Bob and I were privileged to be invited to take the inaugural ride.

Other ACS members from across the U.S. flocked to Delphi to ride the newest canal boat in the country: Jim and Barbara Guest from Canal Fulton, Ohio; Don and Bobbe Whitney from Oklahoma City, Oklahoma; and Val Stegemoen and Martha Walrath from the Blackstone Canal National Heritage Area in Massachusetts.

The vessel, fifty-four-feet long and two-thirds scale, was built by Scarano Boat Building in Albany, New York. (Bob had attended the sea trials on the Hudson River in May.) Powered by an electric motor in the stern, the boat has bow thrusters, an elevator and a wheelchair-accessible bathroom.

Our captain expertly guided us through the Washington Street stone-arch bridge. Because the

arch of this historic structure was the limiting factor in the size of *The Delphi*, the park's volunteers had gone to great lengths to ensure safe passage. While the waterway was dewatered, they installed Jersey barriers under water to guide the vessel directly through the center of the arch.

The museum at the Wabash & Erie Canal Conference & Interpretive Center, opened in 2003, features local and national canal history as well as natural history. The unique canal boat cabin exhibit gives the feeling of floating, due to the clever use of truck airbags underneath. A series of stern views shows the names of many of the original vessels that plied the waterway.

The center's conference area, which seats up to 300, is a main source of funding for the canal park. As we were leaving, a wedding reception was about to begin.

The second-longest canal in the world, the Wabash and Erie Canal extended from Toledo, Ohio, on Lake Erie to Evansville, Indiana, on the Ohio River. At 468 miles in length, it was the largest fabricated structure in the United States.

The waterway reached Delphi in 1840, Terre Haute in 1848, and Evansville in 1853. Only two canal systems were completed in Indiana: the 101-mile Whitewater Canal from Hagerstown to Cincinnati and the Wabash & Erie Canal.

www.wabashanderiecanal.org

CANALING BACK INTO HISTORY LaSalle boat brings I&M Canal to life

As Moe, the mule, leaned into his harness, we headed smoothly down the Illinois & Michigan Canal in LaSalle, Illinois. A highlight of the I&M National Heritage Corridor, this ride takes visitors for a peaceful cruise next to the Illinois River.

Built by Scarano Boat Building in Albany, New York, the vessel is 76 feet long and 15.5 feet wide. It draws 12-18 inches and has an aluminum hull and wooden superstructure.

The I&M hosted three types of boats. Freight boats carried coal and dolomite and were pulled by up to five mules. Line boats took passengers and freight, while packet boats carried only passengers. I learned that the name derived from the packets of mail that were also transported.

Bob chatted with Captain Chris Cowan while we slowly cruised down the canal. As we approached the aqueduct, Moe was unhitched and walked back to the dock with the muletender. The vessel is not yet allowed to pass over the aqueduct because the Illinois Department of Natural Resources has requested that an engineer certify that it is structurally sound. The aqueduct is twenty years old and made of steel.

Since the *Volunteer* cannot cross the aqueduct, it cannot reach the wide waters where it could turn around. As a result, the captain guides the vessel backwards, using the two 4-hp electric motors.

www.lasallecanalboat.org

**The Farmington Canal in the Farmington Valley
Program, Lunch, and Bus Tour
Saturday, October 24 9:30 AM-5:00 PM**

“The Farmington Canal in the Farmington Valley—Program, Lunch and Bus Tour” is a collaboration between Canton Public Library and Canton Historical Museum. The program presentation by Carl Walter and Ruth Hummel, from 9:30 AM to 11:15 AM at the Canton Public Library, is free. The lunch, supplied by LaSalle Market, and the coach tour, led by Carl and Ruth, cost \$30.00 per person. Checks for the lunch and tour should be made out to “Canton Historical Museum” and may be dropped off at the library or the museum or mailed to Canton Historical Museum, 11 Front Street, Collinsville, CT 06019.

The tour will take place “rain or shine.” The bus is a commercial coach with toilet facilities. The tour involves some walking, including gentle inclines. Participants should wear comfortable shoes. The bus will leave from the Canton Public Library promptly at 12:00 noon. Early registration for the lunch and tour is recommended. Questions? Call Carl Walter at 860-653-2673.

Registration Form for the Farmington Canal in the Farmington Valley—Program, Lunch, and Bus Tour, October 24, 2009 9:30 AM-5:00 PM

Name _____

Address _____

Phone Number _____ Email _____

ACS Sales

If you haven't checked the ACS website lately, you might not know that the society has the following items for sale:

Best from American Canals #2	published 1984	\$4
Best from American Canals #5	published 1991	\$4
Best from American Canals #6	published 1993	\$5
Best from American Canals #7	published 1996	\$5
Best from American Canals #8	published 1998	\$6
American Canal Guide #1: West Coast	published 1974	\$1
American Canal Guide #2: South, NC to FL	published 1975	\$2 (Copies Only)
American Canal Guide #3: Lower MS & Gulf	published 1979	\$3
American Canal Guide #4: WV, KY, Ohio River	published 1988	\$3 (Copies Only)
American Canal Guide #5: DE, MD, VA	published 1992	\$3
20 year American Canals Index 1972-1992	published 1992	\$2
Canal Boat Construction Index (12 pages)	published 1992	\$2
Canal Terminology (100 pages) Hahn & Kemp	published 1998	\$15
A Picture-Journey Along the Penn. Main Line Canal	published 1993	\$10
ACS Burgee (blue on white cloth)		\$15
ACS cloth sew on patch (2"x3" red, white & blue)		\$3
"Save Your Local Canal" bumper sticker		\$1

Shipping and handling: first two items \$4; each additional item \$1

Checks payable to: American Canal Society. Send orders to: Robert H. Barth, 214 N. Bridge Street, Somerville, NJ 08876; 908-722-7428; barths@att.net. Please call or email with questions.

THE OHIO & ERIE CANAL

1832 – 1913

175th Anniversary Edition

By: The Scioto County Canal Society

Reviewed by: David G. Barber

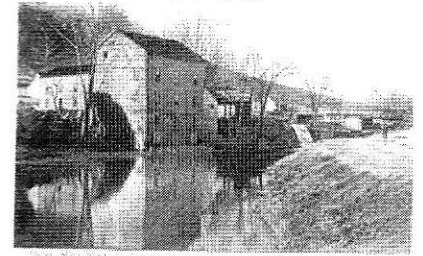
One of the many local and relatively unknown canal societies is the Scioto County Canal Society in Portsmouth, Ohio. This organization was founded in 2004 and is dedicated to the history of the Ohio & Erie Canal in Scioto County, the canal's southern end. The organization is a successor to the Scioto Valley Canal Society which ended in 1987.

In honor of the 175th anniversary of the Ohio & Erie Canal, the Scioto County Canal Society is publishing a series of six booklets (42–48 pages each) on the canal in southern Ohio. Each of the first five includes a reprint of a booklet originally published by the earlier society plus additional material and sponsorship ads. So far, three have been published and the fourth is in process. Books 5 and 6 will follow. These are not the usual canal scholarly books, but are interesting collections of local canal history with many photos. Volume I includes a reprint of the 1978 booklet, "Memories Along the Ol' Canal," plus other items. Volume II includes a reprint of the 1979 booklet, "Life Along the Towpath," plus information on the telegraph and canal packets, Ohio canal packets and stage coach lines, and Ohio & Erie Canal in Pike County tidbits. Volume III focuses on Washington Township in Scioto County.

The first three booklets are available from the society at P.O. Box 1894, Portsmouth, OH 45662, at \$15.00 each plus shipping and handling (\$1.85/ea.) and sales tax for Ohio addresses. Orders may be placed by phone or mail. For further information on total costs and for other SCCS items (T-shirts, totes, etc.) contact the society or phone Judy Ross at 740-353-8435.

THE OHIO & ERIE CANAL

1832 – 1913



175th ANNIVERSARY
EDITION

1832 - 2007

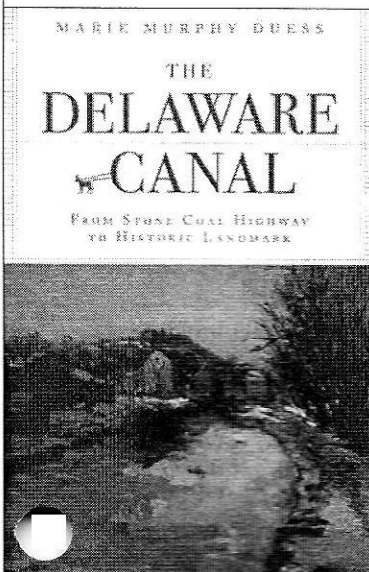
THE SCIOTO COUNTY CANAL SOCIETY
BOOK I

THE DELAWARE CANAL

From Stone Coal Highway to Historic Landmark

By Marie Murphy Duess

Reviewed by: David G. Barber



This very thorough history of the Delaware Canal begins with a history of canals in general and of anthracite coal mining. It then discusses the waterways of Josiah White, including the Lehigh Canal and, in greater detail, the Delaware Canal. Sections are included on the canal itself, the boats, the people, mules, the valley through which it passes, and many other related topics. Finally, the book discusses the floods the canal has endured and the recent efforts to protect, preserve, and restore it.

Also included is a map of the Delaware Canal and many photographs of the waterway and adjacent scenes. There is also a very complete bibliography of the other books about the canal.

This is a very thorough and readable discussion of this 60 mile canal in 159 pages.

The book is available from the National Canal Museum (www.canals.org) at \$19.95 plus shipping and handling or on the internet from Barnes and Noble or Amazon.

CANALENDER

August 22—Wharton (NJ) Canal Day. Boat rides on the Morris Canal. Boat rides, canal lecture and tour, vendors. 908-722-9556; www.canalsocietynj.org.

August 30—D&R Canal's 175th anniversary picnic at Prallsville Mills, near Stockton, New Jersey; 609-397-3586.

September 12-13—South Bound Brook (NJ) Canal Days on the D&R Canal. Boat rides, lectures, Abe Lincoln, and much more. www.staatshouse.org; 732-469-5836; info@staatshouse.org.

September 24—Farmington Canal tour, 9:30-5. See story on page 22.

September 23-25—World Canals Conference, Belgrade, Serbia. Pre-conference trip, Sept 21-22; post-conference trip, Sept. 26-27. Contact: www.worldcanalsconference.org.

October 7-12—Thru-hike, C&O Canal; reservations required; Tom Perry, 301-223-7010.

October 16-18—Pennsylvania Canal Society tour of northern half of Delaware Division. Contact: 610-926-5314; gaw31@frontiernet.net.

October 16—ACS meeting, St. Marys, Ohio, 3:00 pm. For details, contact Dave Barber, 508-478-4918; dgbarber@cs.com.

October 16-18—Canal Society of Indiana's fall tour will explore the Miami & Erie Canal, St Marys to Piqua. 260-432-0279; indcanal@aol.com.

October 16-18—Canal Society of NYS, Aqueducts of Central NY, focusing on the Camillus restored aqueduct. 315-730-4495; www.canalsnys.org

October 24—"Farmington Canal in the Farmington Valley" Program, Lunch, and Bus Tour, 9:30-5:00 pm. Information, call Carl Walter, 860-653-2673.

Spring 2010—Canal Society of New York State will tour sections of the Champlain Canal. Check the web, www.canalsnys.org for updates.

September 19-24, 2010—World Canals Conference, Rochester, NY. www.worldcanalsconference.org.

October 1-16, 2010—Study tour of south German waterways. Contact www.canalsnys.org.

VIRGINIA'S HISTORIC CANAL & RIVER ATLASES

Over the last two decades the Virginia Canals & Navigations Society has published a series of some sixteen canal and river atlases, designed for canal buffs, canoeists, preservationists, historians and corridor and recreation planners. These are volunteer projects, covering historically-navigated rivers and canals in detail, with a history of each, and annotated strip maps at the standard 7-1/2' topo scale, noting remains of canals, locks, dams, mills, wing dams, batteau sluices, furnaces, bridge piers, boat wrecks, ferry sites - anything of interest to river users. The maps have a kilometer-square grid for pinpointing sites using a GPS and a river mileage system (marked every 0.1 mile) as a tool for thinking linearly like the river, and for use by emergency medical teams.

The historic sites are reported to the state Historic Resources Department and have site numbers. The pages are legal size, to show ten miles or more of river on a two-page spread. We explore the rivers at low water to see what's there, make simple site sketches, and use books and records to try to re-discover what was going on. Sometimes we find that the history books need to be corrected a little bit! Our atlases are works in progress, so we encourage our readers to discover new sites and information. We'd like to see the material used by novelists and for gee-whiz canal books, and maybe that will happen.

Now, thanks to our webmaster, Holt Messerly, these atlases

are available on the society's web site at www.batteau.org and can be paid for online using PayPal. This has suddenly boosted our sales so we recommend it to other canal societies. We've almost completed our atlas coverage of Virginia and are getting into North Carolina and West Virginia. At the moment we're working on the Cape Fear; the Holston, Clinch, and Powell's rivers (in SW VA); the Chickahominy, and the Potomac. An index to the rivers already covered is on the ACS web site at www.americancanals.org.

PRESERVING CANAL EXHIBITS

Often we learn too late about a canal exhibit or art show that is too far away for us to visit.

Bill Trout has a suggestion that might help with this situation. He says, "It's easier to say than to do, but perhaps ACS could encourage people who take so much time and energy to set up good canal exhibits, especially temporary ones, to thoroughly photograph everything with a digital camera close-up so one can read the text and see the artifacts, and to sell the resulting CDs hopefully at a reasonable price. This will preserve all that work and make exhibits available forever (sort of) and available to those of us who don't happen to live nearby. Museums like to have rotating exhibits, but we miss almost all of them, and there are plenty of more permanent canal exhibits which we will never see because they're too far away. Museums and societies could reach a wider audience and make a little profit thanks to the magic of digital cameras and CDs. More could be put on a CD than on a web site, and a CD would be more permanent and archivable, at least as long as our computers can read them. And thanks to the email list and *American Canals*, canal buffs can be notified when new CDs are available.

Nancy and Bill Trout
417 Phillips Street, Edenton NC 27932
252-482-5946, Bill@vacanals.org