

AMERICAN CANALS

BULLETIN OF
THE AMERICAN CANAL SOCIETY

BULLETIN NUMBER 80 Editorial Address—Rural Route 1, Box 87T, Savannah, TN 38372 FEBRUARY 1992

PRESIDENT'S MESSAGE

This year, 1992, marks the 20th anniversary of our canal society, which was officially founded on January 1st, 1972. At the time, Tom Hahn, Bill Shank, and I did not have the forethought to do this on a canal boat or in a lockhouse, so there will probably never be a historic plaque on Tom's dining room table in Fort Meade Maryland, where he was stationed then.

Our first board of directors was made up mainly of the presidents of several canal societies. They were: A.H. Barben (CSNYS), Smith Brookhart (C&O), Lt. Col. Wilbar M. Hoxie (MCA), Harry R. Rinker (PCS), Donald G. Ross (D&H), Clayton F. Smith (CSNJ), and William V. Wallace (CSO); also Frank B. Thompson of the Canal Museum in Syracuse. That was a long time ago.

In the first issue of *American Canals*, dated March 1972, Tom discussed the formation of the society. "We needed a national canal society to represent the interests of all Americans concerning the preservation and restoration of the canals of the United States. Most of us don't see the bulletin of other societies, don't know of their field trips, and sort of grope around when it comes to finding and interpreting their canals. Here was a gap waiting to be filled."

Today, twenty years later, *American Canals* is still going strong and its mission has been successful thanks to our editors, Tom Hahn, Bill Shank, and now David Ross, and to those of you who send in news and articles.

American Canals is our primary product, but we also have a number of committees which pursue canal projects on a national scale. For this work the sky's the limit, but it all depends on volunteers. We can't order anyone to do anything. If you see something that needs to be done, or done better, and if you would like to help, take it up with me or one of our committees to see what you can do. The pages of *American Canals* are for you to use, and so is the knowledge and help of our membership. It's up to you.

Speaking of anniversaries, the Brits are as usual a bit ahead of us. This time they had a birthday party for the Waterway Recovery Group (21 years old), and their publication, *Navvies* (25 years). Over a thousand workers showed up for the weekend to clear out 2½ miles of the Wilts & Berks Canal. Essentials included 4,000 teabags, a ton of milk, an important Member of Parliament, 2,000 sausages, 24,000 slices of bread, 300 bow saws, a 32-square-foot birthday cake with 500 candles, 117 bonfires, and who knows how many wellies, li-los, JCBs, Smalleys, Tifors, Fairy Liquids, Potty Toddy Tabs, and other mysterious things. We won't try this for the 20th birthday of A.C.S., but we do hope to have a cake at the world's first joint British, Canadian, and American canal society

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20TH ANNIVERSARY OF THE AMERICAN CANAL SOCIETY A Message From Tom Hahn



Tom and Nat Hahn in the cabin of an English Canal Boat, Summer 1975.

[Editor's note. Tom Hahn was the founding president of this society and the first editor of this bulletin. He was persuaded by Bill Shank to emerge from retirement long enough to prepare this anniversary greeting. We invite him to share his spirit and wisdom with us more frequently.]

On the 20th anniversary of the founding of the American Canal Society, it seems appropriate that we take note of both our modest beginnings and where we are today. For the former, what better place to start than with the lead article of Bulletin No. 1, of March 1972. (It was not until No. 2 that our quarterly newsletter became known as *American Canals*.)

In that article, we said, in part: "In the beginning the American Canal Society was an idea, a dream. We had just had enacted legislation for the Chesapeake and Ohio National Historical Park for which mostly local people, and some too few public officials, had worked for over a period of 17 years, first to protect the canal from destruction, then to ensure its preservation, and finally to carry out the restoration. The job is not finished

and it will take the time and energy of many to see that the job is done properly. But, those people should be all American people, not just members of the C&O Canal Association and other local organizations. A lesson learned of that experience was that we needed a national canal society to represent the interests of all Americans concerning the preservation and restoration of the canals of the United States

"In looking over the files of Bill Shank in York, Pennsylvania early last year [1971], I realized that all sorts of canal people in many states were working on all sorts of things, few of which were known to those outside those individual societies. Exceptions of course were joint ventures by the Canal Society of New York State and the Pennsylvania Canal Society. Most of us don't see the bulletins of other societies, don't know of their field trips, and sort of grope around when it comes to finding and interpreting their canals. So here was another gap waiting to be filled.

"Later in the year [1971] I began corresponding with canal people and organizations abroad and discovered rather quickly that there was little communication, save between a few enthusiastic individuals such as Bill Trout—another gap to be filled, this on both a national and international level.

"[Thus] the idea began to jell in the formation of the American Canal Society, and was proposed to Bill Shank and Bill Trout who immediately endorsed the proposal, which was then discussed in detail in the ensuing months. The result was the "official" founding of the A.C.S. on 1 January 1972, with Tom Hahn as President, Bill Shank as Vice President-Secretary, and Bill Trout Vice President-Treasurer. We appealed to each known canal society, knowing that without that support we could not and would not want to succeed. We turned to the Presidents of the major canal societies, asking them or their representatives to serve on our National Board of Directors to help guide our direction, represent their organizations, and to share with us their experience in canal matters

"The American Canal Society will be as strong as our individual members and the societies of which they may be a part. I am enthused about the American Canal Society and am looking forward to working with all of you. I just hope that you share my enthusiasm."

Not mentioned in the above "re-cap" was the fact that we first formed the International Canal Society, with the same officers, but that we put it on the back burner because of the immediate need for a national organization in the United

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American Canals

BULLETIN OF THE AMERICAN CANAL SOCIETY

Publisher: **William H. Shank, P.E.**, 809 Rathton Road, York, PA 17403. 717 843 4035.

Editor: **David F. Ross**, Rt. 1, Box 87T, Savannah, TN 38372. 901 925 0099.

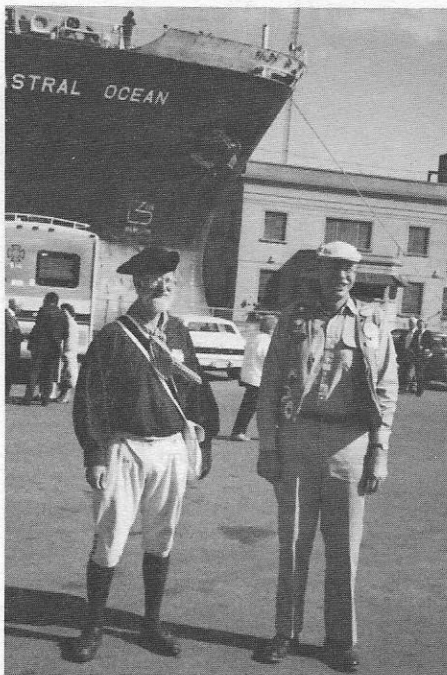
Contributing Editor: **Bruce J. Russell**, 240 Mt. Vernon Pl. (11-E), Newark, NJ 07106.

AMERICAN CANALS is issued quarterly by the American Canal Society, Inc. Objectives of the society are to encourage the preservation, restoration, interpretation, and use of the historic navigational canals of the Americas; to save threatened canals; and to provide an exchange of canal information.

Annual subscription to AMERICAN CANALS is automatic with A.C.S. membership. Send dues payment (\$14 minimum) to Sec'y/Treas. Charles W. Derr, 117 Main St., Freemansburg, PA 18017. Single copies may be purchased at \$3.00 from the publisher.

Manuscripts on subjects consistent with the objectives of the A.C.S. are welcome. They should be sent to the editor.

ALBERT F. CELLEY



Al Celley, on the right, discussing canal matters in Canada with Bill Trout.

Albert F. Celley died December 5th, 1991 at the age of 64. He was the editor of our sister publication, *Towpaths*, the bulletin of the Canal Society of Ohio. Dr. Celley was prominent in the business, academic, and philanthropic communities of the Toledo area, as well as in the narrow world of canal enthusiasts. He will be widely missed. He leaves a wife, a son, and three grandchildren, to all of whom we offer our sympathy in this untimely bereavement.

20TH ANNIVERSARY OF ACS

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meeting, in Buffalo on June 20th, mentioned elsewhere in this issue.

Lastly, a note about Russ Harding, who died a year ago leaving an impressive collection of Morris Canal postcards, photographs, and historical material, which needs a good home. Anyone seriously interested should write Mary E. Harding, 1 Hilton Rd., Wilmington DE 19810. Russ was also the first editor of the Virginia Canals and Navigations Society's quarterly, the *Tiller*, which carried an article about him in the spring 1991 issue. Copies are available at \$2 ppd. from R.A. Davis, VC&NS Sales, Rt. 2, Box 254, Lexington VA 24450.

—Bill Trout

As an ACS Past President and Publisher of AMERICAN CANALS I have seen our Society grow from a mere handful of canal buffs in 1972 to an international organization of 860 members today — whose advice and counsel is sought by individual canal researchers and historical agencies — worldwide.

The American Canal Society has assisted with, or co-sponsored, the formation of the Carroll County Wabash and Erie Canal group, the Illinois Canal Society, the Virginia Canals and Navigations Society, the Portage Canal Society, the Scioto Valley Canal Society, the Neversink Valley Area Museum, Sandy-Beaver Canal, Inc., the Indiana Canal Society and the Canadian Canal Society.

ACS has also co-sponsored a number of regional and international meetings and field trips in Canada and the United States, as well as several tours of the English Canals. Our Board was expanded, quite early, to include principals from state and regional canal societies throughout north-eastern United States. There are now a number of ACS standing committees who do important work in researching and cataloging historic canals throughout the country. Our phones ring frequently with inquiries from governmental, historical and broadcasting agencies in United States and overseas. The American Canal Society has indeed "come of age"!

Bill Shank

ERRATA

In the article by William Dzombak which appeared under this title in our November 1991 issue, the vector MB in Figure 10 on page 6 should have been defined as "drag force . . . exerted on [not by] the mule . . ." B, which may be illegible to some readers in the figure, is the point at which the rope is attached to the boat.

I hope you don't mind a small correction to your very good article in the November issue [Bill Shank, "Pennsylvania Canal Society Tours Paw-Paw Tunnel," pages 1 and 3]. The canal boat is located at North Branch—not Oldtown. The lock and lockhouse pictured are also at North Branch. I am the one responsible for the canal boat's construction, and I also am the main one who operates it as a historical exhibit and a feature of the canal boat festival held the second weekend in July each year.

I wish I had known that the Pennsylvania Canal Society was visiting this area, I would have been happy to join them and tell them about the canal boat.

John D. Millar
Cumberland, MD

(Concluded from Page One)

States. As far as I know, it is still on that back burner some place on our planet.

The objectives of the American Canal Society, (as stated in somewhat abbreviated form on page 2 of this bulletin,) remain essentially what they were 20 years ago. So does my sentiment that "I am enthused about the American Canal Society [and] I just hope that you share my enthusiasm."

I wish each of you the best in the coming years. As our secretary Charlie Derr says on his letterhead, "As you go along the towpath of life . . . PULL!!!"

Tom Hahn

AMERICAN CANAL SOCIETY

President: Dr. William E. Trout III, 35 Towana Rd., Richmond, VA 23226.
804 288 1334.

Vice Presidents: William E. Gerber, 16 Princess Ave., N. Chelmsford, MA 01863. 617 251 4971.

William J. McKelvey, Jr., 103 Dogwood Ln., Berkeley Hgts., NJ 07922.
201 464 9335.

Secretary/Treasurer: Charles W. Derr, 117 Main St., Freemansburg, PA 18017.
215 691 0956.

Directors: David G. Barber, 16 Ballou Rd., Hopedale, MA 01747.
Sidney W. Beyland, Star Rt., Peru, NY 12972.

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Thomas F. Hahn, Box 310, Shepherdstown, WV 25443.

T. Gibson Hobbs, Jr., 3204 Landon St., Lynchburg, VA 24503.

Frederica Kleist, 528 W. Cook St., Portage, WI 53901.

Keith W. Kroon, 2240 Ridgeway Ave., Rochester, NY 14626.

Dr. Brian M. Kutner, 211 Buck St., Box 584, Millville, NJ 08332.

John M. Lamb, 1109 Garfield St., Lockport, IL 60441.

Roger W. Squires, 46 Elephant Lane, Rotherhithe, London SE16 4JD, England.

Arthur W. Sweeton III, 6 Humphrey Rd., Canton Center, CT 06020.

Terry K. Woods, 6939 Eastham Cir., Canton, OH 44708.

Committees:

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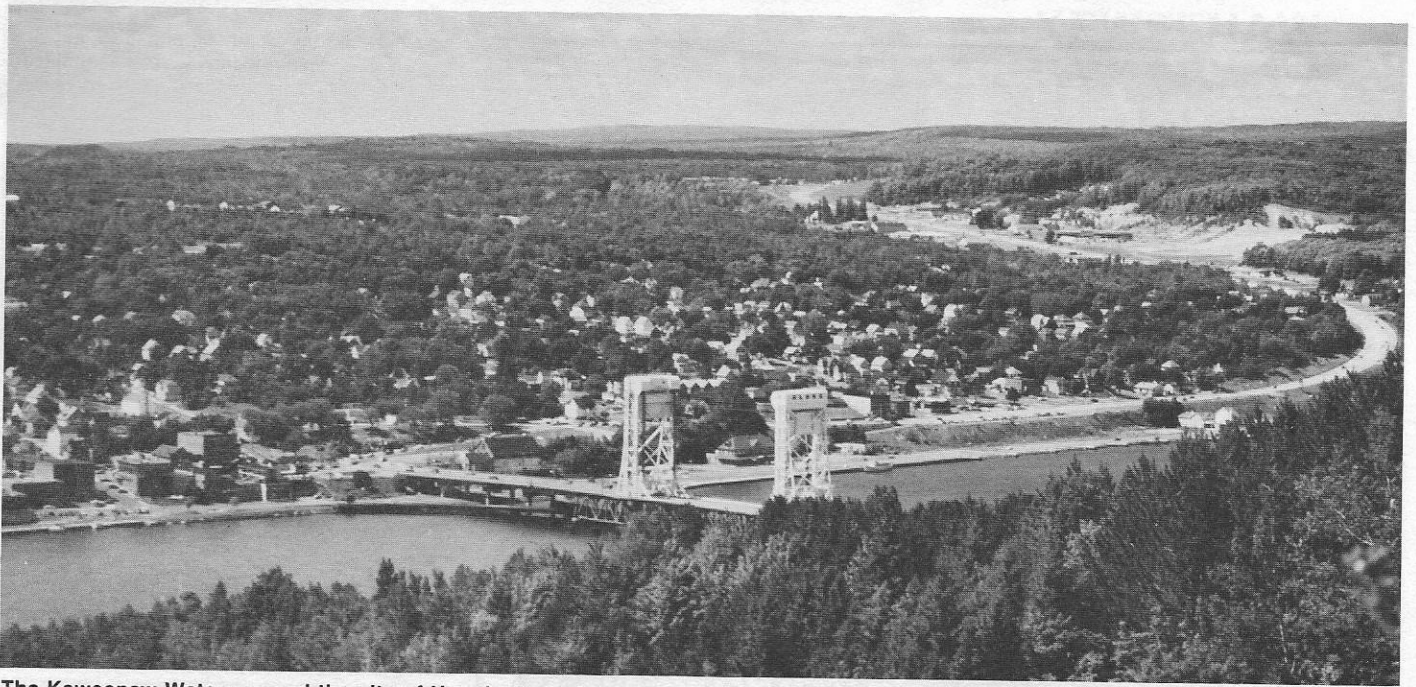
Other publications: *The Best from American Canals*,

William H. Shank, editor and publisher.

American Canal Guides,

William E. Trout III, editor and publisher.

THE KEWEENAW WATERWAY, THEN AND NOW



The Keweenaw Waterway and the city of Houghton as they appear today. Photograph by Tom Duchaine of Keweenaw Graphic Images.

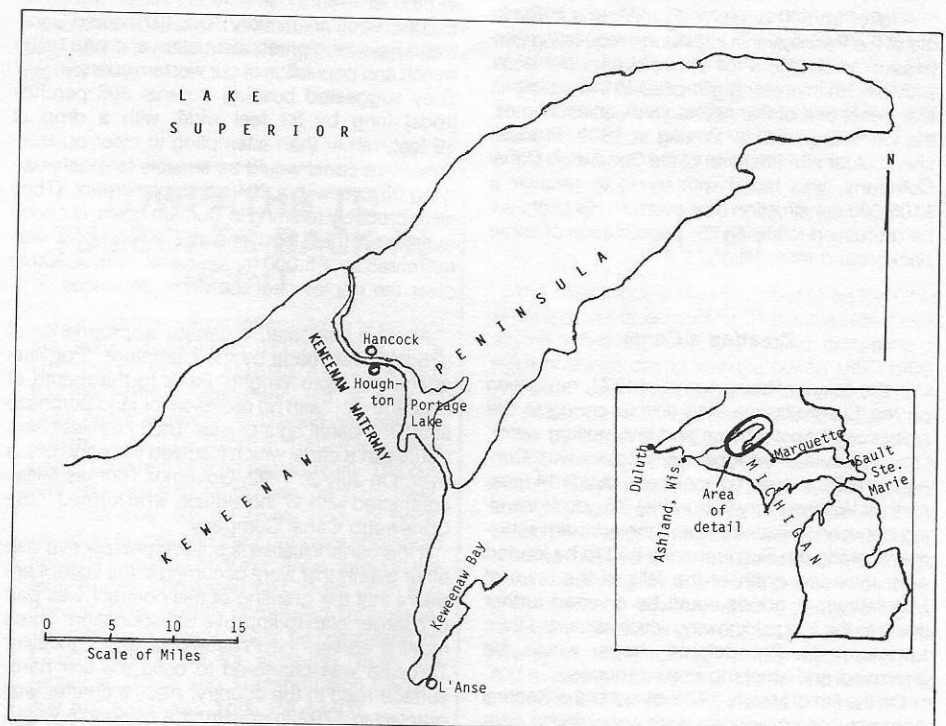
Michigan's Upper Peninsula is well known among canal enthusiasts as the site of the St. Marys Falls Canal, or Soo Canal, whose huge locks open Lake Superior to the shipping of the other Great Lakes, the St. Lawrence Seaway, and the world. There is another Upper Peninsula canal, however, of the same vintage as the Soo and, like the Soo, still in operation. This is the Keweenaw Waterway, which cuts across the Keweenaw Peninsula, the center of Michigan's copper country, where once "nuggets" of pure, metallic copper weighing from four to eight tons each were dug out of the ground. The Keweenaw Peninsula projects up into Lake Superior in a northeasterly direction; the Keweenaw Waterway cuts across it near its base. It appears to be a short-cut from one place to another but those are not the places between which shipping ordinarily goes. Shipping between Marquette, Michigan, and ports in Wisconsin and Minnesota can save up to about 25 miles using the waterway, but between the Soo and Duluth it is five miles longer than the open lake route. According to the Coast Guard, its main use by commercial vessels is as a harbor of refuge during the stormy months of October and November. It is a flat canal, like the Cape Cod and the Suez, so there are no locks to be maintained and operated. This probably helps to explain why it remains open despite its near redundancy.

It was a very different story, however, when the Keweenaw Waterway first became available as a shipping route. We have recently come across an account of the opening of one end of the waterway, and the impact of this development on the region. Any of our readers who may be familiar with the history of the other end are invited to contribute the rest of the story. The present waterway as a single unit dates from the federal government's purchase in 1891 of two canals: the Portage Lake and River Improvement Company Canal, from Portage Lake southeast to Keweenaw Bay; and the Lake Superior Ship Canal Railway and Iron Company Canal (a name only slightly shorter than the canal itself) from Portage Lake northwest to Lake Superior. It was the Portage Lake and River canal that was built first, and it is of its inauguration that we have an account.

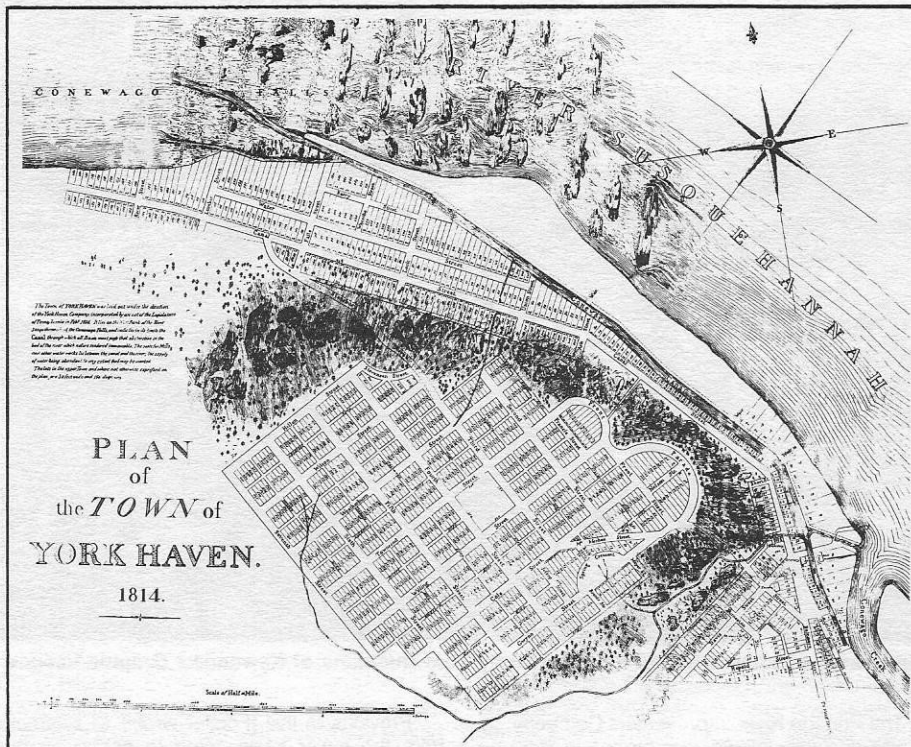
The Portage River Improvement Company, as it was originally known, was formed in 1859 by some of the copper mining companies and two leading citizens of the copper country, Ransom Sheldon and his brother-in-law, C.C. Douglass. They hired a contractor, W.W. Williams of New York, and an engineer, John Harris Forster. Fortunately for us, Forster was a prolific writer. He kept journals, wrote articles for engineering journals, and contributed to the proceedings of the Michigan Pioneer and Historical Society. It was at the annual meeting of the latter group, in June 1885, that he discussed the opening of the new canal that was to become the lower half of the Keweenaw Waterway.

"Previous to this [Forster wrote] all steamers from the lower lakes came to anchor in the roadstead off the mouth of Portage river. Freight was discharged into scows, which were towed into the river and up to the mines by small tugs. During the season of storms, several days were sometimes required to discharge a steamer, for, if a storm arose, the steamer was obliged to cut and run for L'Anse for shelter, returning after the storm had subsided. The cost, delay, and damage occasioned by this transfer was enormous and became intolerable to businessmen. Hence came the Portage River Improvement. Passengers were

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THE CONEWAGO CANAL



An 1814 map of York Haven, showing the Conewago Canal. The map is the property of, and is reproduced through the courtesy of, The Historical Society of York County.

by George Thomas

[This report is based on an 1802 "Letter to William Penrose, Esq. Chairman of the Committee to Whom was Referred the Petition of Thomas W. Francis for a Toll on the Conewago Canal and Locks on the River Susquehanna." The letter was discovered by the author in the microfilm files of the Stanford University library.]

A letter from Thomas W. Francis to a committee of the Pennsylvania legislature, requesting permission to charge a toll of two dollars per boat, provides an interesting glimpse into the problems that beset one of Pennsylvania's earliest canals, the Conewago Canal. Writing in 1802, Francis, shareholder and treasurer of the Conewago Canal Company, was faced with trying to recover a \$105,000 construction cost overrun. His plight will be discussed following the presentation of some background information.

Creating a Canal

In the colonial Pennsylvania of 1771, navigation on the Susquehanna was difficult owing to the presence of obstructions and fast moving water. One particularly treacherous location was Conewago Falls, a stretch of rocks and rapids 14 miles north of Wrights Ferry (Columbia). All goods traveling between Philadelphia and the northern settlements along the Susquehanna had to be loaded and unloaded north of the falls in the town of Middletown. If goods could be diverted further south to the Kings Highway, which stretched from Lancaster to Philadelphia, trade would be improved and shipping costs reduced.

On the 9th of March, 1771, by act of the General Assembly, commissioners were appointed to clear

obstructions from the Susquehanna north of Wrights Ferry. Upon examination, however, the job proved too challenging, and the funds appropriated were spent on other improvements. Efforts were renewed after the Revolution, and in 1789 a meeting was held with 26 leading Pennsylvanians, resulting in the appointment of three commissioners "to view and explore the Susquehanna and Juniata rivers, and ascertain the expence, in their opinion, necessary for removing the different obstructions in said rivers."

Their report on January 30th, 1790 called Conewago Falls "the great obstruction and barr to the wealth and population of our western country . . ." They suggested building a canal 306 perches [rods] long by 33 feet wide, with a drop of 19 feet, rather than attempting to clear obstructions. This canal would be suitable for boats carrying 35 tons with a 20-inch displacement. (They were probably referring to Durham boats, but have overstated their load capacity.) Total cost was estimated at £5,000 for the canal, plus £300 to clear the ripples near the canal entrances.

About a year later, a general appropriation of £5,250 was made by the legislature "For Susquehanna, from Wrights Ferry to the mouth of Swatara, . . ." with no provision for land purchase along the canal right-of-way. The commissioners visualized a canal which followed the edge of the river. On July 3, 1792, Governor Thomas Mifflin contracted with 17 individuals, who formed "The Conewago Canal Company."

If this canal initiative is put into perspective with other events that were occurring in the state, it appears that the granting of this contract was part of a larger plan to improve transportation. Three months earlier, the Philadelphia and Lancaster Turnpike was chartered to build the first hard-surface road in the country. Also, a charter was granted in 1792 to construct a navigable water-

way between the Schuylkill and Susquehanna rivers. This undertaking was a short-lived predecessor to the Union Canal, which completed the connection in 1828.

Governor Mifflin inspected the finished Conewago Canal on November 22, 1797, in the company of James Brindley, engineer and superintendent of the works, and other canal company representatives. An appointee, charged with assessing whether the contract had been properly executed, described the weather as particularly severe that day, with ice on the canal and snow in the air. He continued with a description of the ceremonies.

Preceding the official tour of the canal, a quick trip was made by several rafts and a boat up and down the canal to break up the ice. The first locks raised the boat nine feet in eight minutes and subsequently the second lock was passed in two-and-one-half minutes. The difference in time was attributed to unbroken ice in the first lock. The boat was poled through the canal by five people in 17 minutes, three minutes to pass the regulating lock, and five more minutes to make the river entrance above the falls. The official party descended back to the double locks, where the governor landed to a gathering of 500 people. No less than three times, the governor was saluted by the canal workmen, who bored "their artillery out of the hardest rocks" and fired salvos as he passed on the canal. [Since the canal workmen did not have a cannon or other means of making a loud noise to commemorate the visit by the governor, they bored holes in the rocks above the canal, loaded them with powder, and detonated them.]

The following physical description of the canal is included: It is just short of one mile long; it is 40 feet wide at the bottom; it is four feet deep when filled to within 20 inches of the top; The locks are constructed mostly of brick and stone; Each of the lower double locks is 80 feet long by 12 feet wide.

The appointee mentions the cost overrun in his report and advises the governor to consider the canal completed as contracted for £5,000.

The \$100,000 Misunderstanding

The plight of Mr. Francis and his associates may now be considered. The financial problems of the Conewago Canal began with the original survey in 1789 by commissioners who had no experience in canal construction. Their £5,000 proposal was to dig a sluice canal around the falls and let the water run through the channel unchecked. The only technical research they did was to ask local boatmen, who assured them that a 19-foot drop would present no problems. When work began on the canal, this approach was considered impractical because the water velocity would have undermined the canal wall and made navigation nearly impossible. The maximum practical descent according to authorities of the day was 500:1 in the length to the drop, or 10.1 feet in 306 perches. The Conewago Falls descent was nearly double that limit. Applying hydraulic principles as recommended by Mr. Francis (although he never did the calculation) suggests the water velocity would be 24 miles per hour. Actual measurements by the canal engineer, Mr. Brindley, show a speed of 12-15 miles per hour, based on the timed descent of a raft at five minutes and of large logs at four-and-one-half minutes.

Considering the reverse case of taking a boat against the current developed in the proposed sluice canal, Mr. Francis proposed using the prin-

THE KEWEENAW WATERWAY

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Site of double locks looking southeast; this is currently a drainage ditch.

subject to like detentions. There were no means of communicating with the entry only by small boat or tug. On land a dense wilderness of trees and swamps intervened. The date of the arrival or departure of steamers from the lower lakes was uncertain. So the Houghton man had to go at a venture; when he arrived at the entry there was often no boat, or one had just departed. He was in for several days' waiting. His only shelter was a log house, his food of the roughest kind, his bed a pair of blankets spread on a floor, in the midst of filth and vermin. The mosquitoes and black flies tormented him day and night. His only amusement was playing cards and drinking bad whiskey with his unfortunate fellow travelers."

Small wonder, then, that the opening of the canal was an occasion for celebration. The first ship, a small steamer named "Detroit," and originating in that city, arrived at the wharves of Houghton and Hancock in June 1860. "Great was the rejoicing of the inhabitants; fierce and loud the shrieking of stamp mills whistles, as the boat hove in sight. It was a gala day at Portage; a new era was inaugurated. Mr. S.L. Smith, now of Lansing, made the speech of welcome."

Fortunately or otherwise, we do not have the text of the speech of welcome delivered by Mr. S.L. Smith. Since he went on to Lansing, the state capital, it may be assumed that it was eloquent and stirring. The passing of the author and his words into obscurity testifies not to their inferiority but to the evanescence of even the worthiest of human efforts. In the case of the engineer Forster, however, both the words and the works have survived. The copper is long gone, except for some mining of the slag piles, and the cities of Houghton and Hancock no longer depend for their prosperity upon the commerce carried from Detroit and elsewhere via the Keweenaw Waterway. Tourism is now the leading industry of the Upper Peninsula, and recreational boating, the principal summertime use of the waterway, is only a minor component of tourism. During the autumnal "season of storms," however, it is still necessary for Lake Superior shipping "to cut and run . . . for shelter." The rejoicing then at the existence of the Keweenaw may not be as public as it was in June 1860, but it is surely just as heartfelt.

—D.F.R.

principle of the inclined plane to calculate how many 180-pound men would be needed. The inclined plane does not seem to be the correct analysis for the situation, but again he offers two analogies based on actual experience:

To bring an empty boat up the Schuylkill Falls, which is three-and-one-half feet in 30 perches (495 feet), requires an hour's hard work by 12 to 15 men. The cost was \$2-3 in drink, with no mention of wages.

The few times a boat was brought up the Conewago, 30-40 men were required for most of a day and cost £5-6. The process required the men to jump from rock to rock, pulling the boat. The actions must have been humorous to the local people, since the men were referred to as "blackbirds." Apparently, horses could not be used because of the rocks and uneven shoreline.

With this justification, the canal company rejected the sluice canal concept, as well as one running farther inland which would have required extra digging. The only acceptable alternative was to build a level canal with the total drop taken out with locks. The company chose to build on the west side of the river because it had more water flow and fewer rocks. They agreed that "digging a canal on either side will be a great and expensive work, probably far exceeding the sum allowed by the public . . ."

The final accounting of the canal expenses follows:

Ground purchase and cutting of canal	\$56,726
Locks and regulating gates	45,274
Miscellaneous	17,000
Total cost	\$119,000
Amount received from legislature	-14,000
Cost overrun	\$105,000

This concludes Mr. Francis's plea for more money. It appears from the outset that the canal company expected to overspend the allotted sum of £5,250. The fact that construction continued must have been due to the enthusiasm and/or significant borrowing power of the shareholders. Since this was one of the first canals in the country, investors were probably not wary of the cost overruns that would plague subsequent canal projects. The amount of the overrun can be seen in its true light when it is compared to the salary of the lockkeeper that was set in the same report at \$200 per year.

The Outcome

Mr. Francis was only partially successful with his petition. According to the *History of Lancaster County* (1883), the legislature authorized a fee of 50 cents per boat for passing through the canal. The company continued to operate the canal at least up to 1814, building a flour mill and operating a ferry next to the canal. The Conewago Canal became less important when the Schuylkill was connected to the Susquehanna at Middletown in 1828, but the last year of canal operation is unknown. In 1886, the *History of York County* reported a papermill was being constructed from the excellent-quality bricks taken from the canal.

Currently, the site of the canal is occupied by a park next to the Pennsylvania Power and Light Company hydro-electric plant. Part of the original canal right-of-way has been lost to railroad tracks and to the water backed up by the power plant dam, but some of the original bed can still be traced. The location of the two lower locks is a ditch used to direct water from a large drain pipe back into the river.

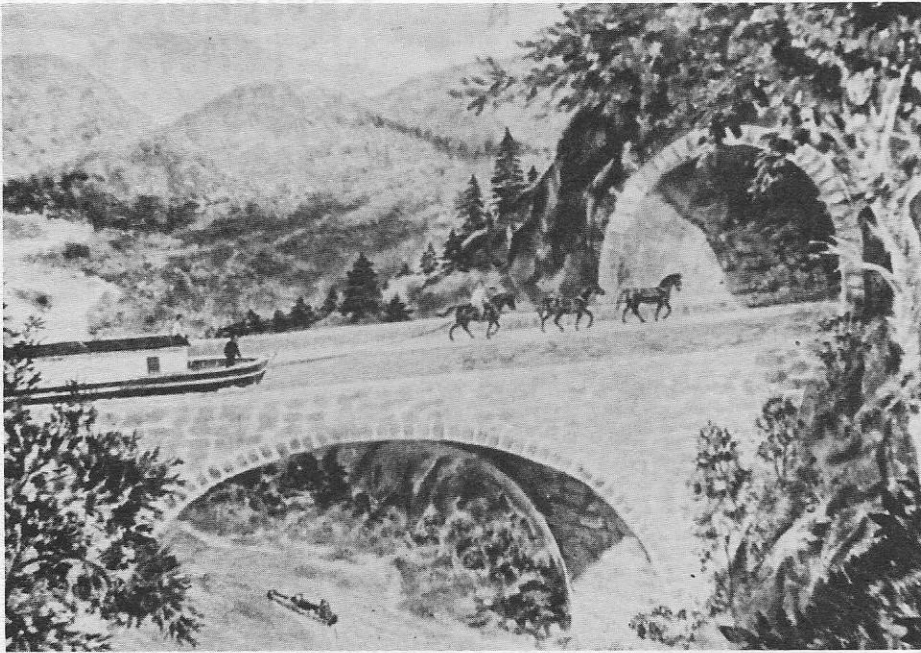
TOWPATHS TO TUGBOATS BACK IN PRINT

Our readers will be interested to learn that the book TOWPATHS TO TUGBOATS, A HISTORY OF AMERICAN CANAL ENGINEERING, temporarily out of print, is once again available. Published originally by a team of ACS Directors in 1982 it has been revised and republished several times. The current issue is the fourth printing, January 1992. This has been an extremely popular book, covering canals and their principal engineers from the Canal du Midi in France, through the early English and American Canals, up to and including the recently completed Tennessee-Tombigbee Waterway. It can be purchased for \$7.00, plus \$1.50 for shipping, from the American Canal and Transportation Center, 809 Rathton Road, York, PA 17403.

ALERT!

The Merrill lock station (number 6) on the Ohio River is at risk of demolition. This is the oldest lock station remaining intact on the Ohio, consisting of three buildings dating from the period 1890-1906. A picture and description are on p. 22 of *The American Canal Guide*, part 4. We have been advised by Roger A. Weaver, an architect of Harmony, Pennsylvania, that the owner is going through bankruptcy and the property is to be auctioned by court order. There is concern that it will be purchased by a barge company for a terminal, and that the purchaser may demolish the buildings before applying for a terminal permit in order to circumvent the environmental-impact provisions of the permit-granting process. Mr. Weaver has offered to assist with any preservation effort by A.C.S. members or others. He can be reached at 233 Mercer St., Harmony PA 16037, phone 412 452 5740.

LAND ACQUIRED FOR CANAL PARK



Artist's drawing of the Western portal of the canal tunnel at Tunnelton. Going east, the canal boats crossed the Conemaugh River on this masonry aqueduct, entered the tunnel, and emerged in "slack water" on the east side of the hill.

By William Dzombak

Indiana County, Pennsylvania, recently accepted the donation of 10 acres of land bordering the Conemaugh River immediately downstream from the flood-control dam operated by the U.S. Army Corps of Engineers at Bow Ridge, near Tunnelton. The parcel of land includes a section of canal and towpath 800 feet in length—long enough for visitors to the projected park to gain some appreciation of what a canal looked like. The canal segment preserved by this transfer of ownership is one of the few remaining fragments of the Western Division of the Pennsylvania Main Line—the canal that ran from Pitts-

burgh to Johnstown, where the Allegheny Portage Railroad began. Because the county canal-park property abuts the federal dam site, visitors to the park will benefit from the resources and facilities provided by the Corps of Engineers—a visitor center, picnic area, and other support amenities, as well as from the opportunity for an instructive tour of the large flood-control dam.

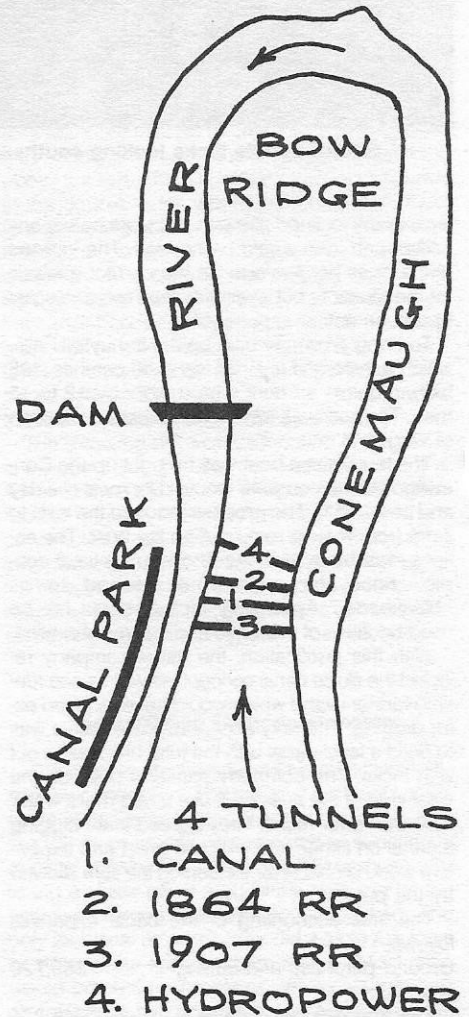
The canal-park land was obtained by the county from the Pennsylvania Power and Light Company, owner of the coal mine property on which the canal corridor is located. When the historical value of the piece of land was brought to the attention of Robert Shovlin, president of P.P.&L., Mr. Shovlin at once volunteered to release ownership of the land so that the public could gain access to the canal and so be made aware of that part of the transportation history of the region, the state, and the nation.

Bow Ridge is a finger of land confined within an oxbow of the Conemaugh River. Four tunnels have been bored through the narrow neck of land between the open arms of the oxbow—two railroad tunnels (1864 and 1907), one tunnel to feed reservoir water into a hydroelectric power station (1989), and a canal tunnel, built in 1838, that was only the third tunnel ever dug in America (by Alonzo Livermore, canal engineer). Boats exiting the western end of the canal tunnel immediately entered an aqueduct that spanned the river and led into the section of canal that has just been acquired by Indiana County. The Bow Ridge site is close to a village named Tunnelton, known as Tunnelview in 1828.

A "Trail of Transportation History" will be established, in the linear park, to conduct walkers to several overlooks, from which it will be possible to view the tunnel portals and the remains of the aqueduct—merely the foundations of four piers that once supported its stone arches. Park plans call for reconstruction of a towpath bridge, under which will be a reconstructed waste weir that will be used to illustrate how depth of water in the canal was regulated. The presence of the waste weir will occasion explanation of how water supply for canals was managed; this in turn will involve reference to the summit-level canal reservoir on

Allegheny Mountain, the failure of whose dam in 1889 caused the cataclysmic Johnstown flood.

At the present time, access to the canal tunnel is by crawling through a metal drain culvert that passes under a road that was built on fill that now buries the mouth of the tunnel. It is hoped that it may be possible, some day, to replace the corrugated metal culvert with a more substantial, human-size passage under the road and to the mouth of the canal tunnel, where there could be a viewing sidewalk and safety fence the width of the canal tunnel portal (22 feet). For now, though, the modest county park, perhaps to be named Tunnelview Park, will provide an opportunity to acquaint the public with the history of the Pennsylvania Main Line, and so awaken awareness and some appreciation of our nation's canal heritage.



One of the portals of the Main Line Canal Tunnel as it looked about 1970. (Photo by Bill Shank)

LUXURY CRUISING IN FRANCE

We have been asked to advise our readers of a fleet of deluxe barges available for charter on French inland waterways. The cost works out to between \$550 and \$775 per person per day, depending on the particular vessel and the length of the cruise, but there is the possibility of negotiating lower off-season rates. Interested canal societies or other groups may obtain detailed information by inquiring of Gerard Morgan-Grenville, Charterbarge, Manoir de l'Eglise, 14400 Bayeux, Sully, France.

BRITISH, CANADIAN, AND AMERICAN CANAL SOCIETIES JOINT MEETING

Britain's Inland Waterways Association is firming up details for a month-long grand tour of American canals in June, and has set aside Saturday, June 20th, for a joint meeting with the American and Canadian canal societies in Buffalo, New York. The meeting is still in the planning stages, but we'd like to see it as an occasion to get together socially and to discuss the state of canal research, preservation, and restoration in our respective countries. So put June 20th on your calendar, and keep an eye on this space for fur-

ther details!

Many A.C.S. members will also have the opportunity to meet the British contingent as they travel around the country. The tour, organized by Ron Oakley, will take nearly a month, from June 9th through the 30th. The latest version of the itinerary takes the group to Boston, the Blackstone, Lowell, Kingston, High Falls, Easton, Bethlehem, Waterloo Village, Philadelphia, Washington D.C., Johnstown, Pittsburgh, Cleveland, Buffalo, the Welland Canal, and a cruise along the entire Erie

Canal from Buffalo to Albany. A number of A.C.S. members are helping out, including V-P Bill Gerber, V-P Bill McKelvey, Lou Cahill, ACS Canadian Director and Jeremy Frankel.

When the tour comes your way, take the time to say Hello! It would also be a good time to inform your local newspaper that a tour group has come 5,000 miles to visit your local canal, so it must be worth saving!

—Bill Trout

CANAL CALENDAR

March 1. First installment of \$500 is due from prospective participants in the Canal Society of New Jersey's two-week cruise in southern France, summer 1993. For details make contact with Captain Bill McKelvey, 103 Dogwood Lane, Berkeley Heights NJ 07922, 908 464 9335.

March 8. Historic Perspective Walk #1, 1:30 p.m., beginning at 705 Main St., Freemansburg PA. Free.

March 10. Friends of the Delaware Canal present a slide show: An Armchair Tour of the Delaware Canal, narrated by Will Rivinus. 8 p.m. at the Stover Mill, River Rd., Erwinna PA.

March 14: 11th annual Canal History and Technology Symposium. William Simon Center, Lafayette College, Easton PA. Topics include: the Huber Breaker; the Delaware Canal; the Bethlehem, Midvale, and the Lehigh Coal and Navigation Company's Hacklebernie mine. For information and registration: Hugh Moore Historical Park and Museums, P.O. Box 877, Easton PA 18044-0877.

March 19. Spring lecture at the Canal Museum, Hugh Moore Park, Easton, PA. Mitchel Dakelman: "Transportation and Industrial History." 8:00 p.m.

March 20. March meeting of the Canal Society of New Jersey. Bierce Riley will speak on "The Abandonment of the Morris Canal," and the film "Famous Killer Sharks," about Morris Canal boat captains and other canal personnel and their families will be presented. Auditorium of Allied-Signal, Inc., Columbia Rd. and Park Ave., Morris Township NJ, 7:10 p.m. Parking in the rear lot.

March 21. Symposium on "Moving toward an N.J. Transportation Museum," Science Hall, Drew University, Madison NJ, all day. For details, check with Bill McKelvey (see March 1 entry, above).

March 25. Guided discovery walking tour of the Old Santee Canal State Park. Meet at the Interpretive Center at 1:45. Tour ends 3:30-4:00. Bring binoculars if possible. Highway 52 bypass in Moncks Corner, phone 803 899 5200.

April 3. Spring tour of the Canal Society of Ohio. The Pennsylvania and Ohio Canal in Portage County: Kent, Revenna, and east. Contact: Larry Turner, Tour Committee chairman, 11619 Frazee Rd., Doylestown OH 44230.

April 4. D.&R. Canal Watch 5K run. Titusville NJ. For information, call Doug Jung, 609 737 8660.

April 5. Historic Perspective Walk #2—see March 8, above, for details.

April 9. Exhibit and lecture by Robert Janosov, "Concrete City: A Delaware, Lackawanna and Western Anthracite Mining Community." Canal Museum, Hugh Moore Park, Easton PA, 8:00 p.m.

April 11 (rain date April 12). Annual batteau and van tour of the Upper Appomattox Canal. Chesterfield County Parks and Recreation dept. Reservations required: phone 804 748 1127.

April 12. Delaware and Raritan Canal walk, 5.5 miles starting at the D.&R. Canal Park, led by Bill McKelvey and Linda House. For details, write Linda House at 214 N. Bridge St., Somerville NJ 08876 or call 908 722 7428.

April 16. Spring lecture at the Canal Museum, Hugh Moore Park, Easton PA. Christine Ussler: "Historic Iron Bridges of Pennsylvania and New Jersey." 8:00 p.m.

April 23. Exhibit and lecture by Larry Lowenthal and Bill Greenberg on "The Delaware, Lackawanna and Western Railroad in Northwest New Jersey." Canal Museum, Hugh Moore Park, Easton PA, 8:00 p.m.

April 24-26. Spring field trip of the Canal Society of New Jersey, Wilmington, Delaware area. Includes river, canal, rail, and bus travel, museums, meals, hotel stays, et cetera. Estimated cost: \$210 to \$240. Deposit of \$125 to Linda House (see April 12 entry, above).

April 25-26. Spring tour of the Canal Society of Indiana. Includes a bus tour of the route of the Wabash & Erie Canal from Fort Wayne to Defiance, Ohio, including Gronauer Lock and the junction with the Miami & Erie Canal. \$20 (\$15 for C.S.I. members) includes bus tour, Saturday lunch, and Sunday breakfast. For registration and further details: Canal Society of Indiana, 302 E. Berry, Ft. Wayne IN 46802.

April 29. Guided discovery walking tour of Old Santee Canal State Park. See March 25, above, for details.

May 1-2. Pennsylvania Canal Society spring field trip: The Schuylkill Navigation and the Union Canal. For details: Charles Derr, 117 Main St. Freemansburg PA 18017.

May 2-3. Virginia Canals & Navigation Society annual meeting. On the Roanoke Canal in Roanoke Rapids, North Carolina, featuring the new Roanoke Canal Trail and the 1823 aqueduct. Phone: Wyn Price, V.C.&N.S. president, 804 358 3067.

May 3. Historic Perspective Walk #3—see March 8, above, for details.

May 7. Exhibit and lecture, "The Legacy of the Delaware, Lackawanna and Western Preserved: The Steamtown National Historic Park at Scranton, Pennsylvania." Canal Museum, Hugh Moore Park, Easton PA, 8:00 p.m.

May 9. Annual canoe tour of the Upper Appomattox Canal, including a batteau sluice, lock, and mill. Chesterfield County Parks & Recreation dept. Reservations required: phone 804 748 1127.

May 15-17. Spring tour of the Canadian Canal Society: the Rideau Canal and Smith's Falls, featuring the new museum complex. For details: Robert Voaden, Sec'y, C.C.S., P.O. Box 1652, St. Catharines, Ontario L2R 7K1, Canada.

May 16. Canal Day on the Patowmack Canal at Great Falls Park, Virginia, featuring the Lord Chesterfield batteau.

May 21. Spring lecture at the Canal Museum, Hugh Moore Park, Easton, PA. Richard Stratford, "Cornwall Iron Furnace State Historic Site." 8:00 p.m.

May 27. Guided discovery walking tour of the Old Santee Canal State Park. See March 25, above, for details.

June 7. Historic Perspective Walk #4—see March 8, above, for details.

June 9-30. U.S. Canal Tour of the British Inland Waterways Association (details elsewhere in this issue).

June 13-14. Canal Film Festival Weekend. Old Santee Canal State Park, 10 to 5 each day, Saturday and Sunday. No fee. At the Interpretive Center. 900 Stony Landing Rd, Moncks Corner SC 29461, phone 803 899 5200.

June 13-20. Annual James River Batteau Festival, 140 miles from Lynchburg almost to Richmond, with festivals every evening at river towns. Write for flyer to J.R.B.F., P.O. Box 790, Columbia VA 23038.

June 20-21. Old Market Day festival of the Old Freemansburg Association. Banks of the Lehigh Canal near the lockhouse in Freemansburg, 9 to 5 each day. Arts and crafts, historic exhibits, demonstrations, refreshments, musical entertainment, and children's games.

June 20. Joint meeting of the American Canal Society with the Inland Waterways Association (British) and the Canadian Canal Society. Buffalo, New York. Details elsewhere in this issue.

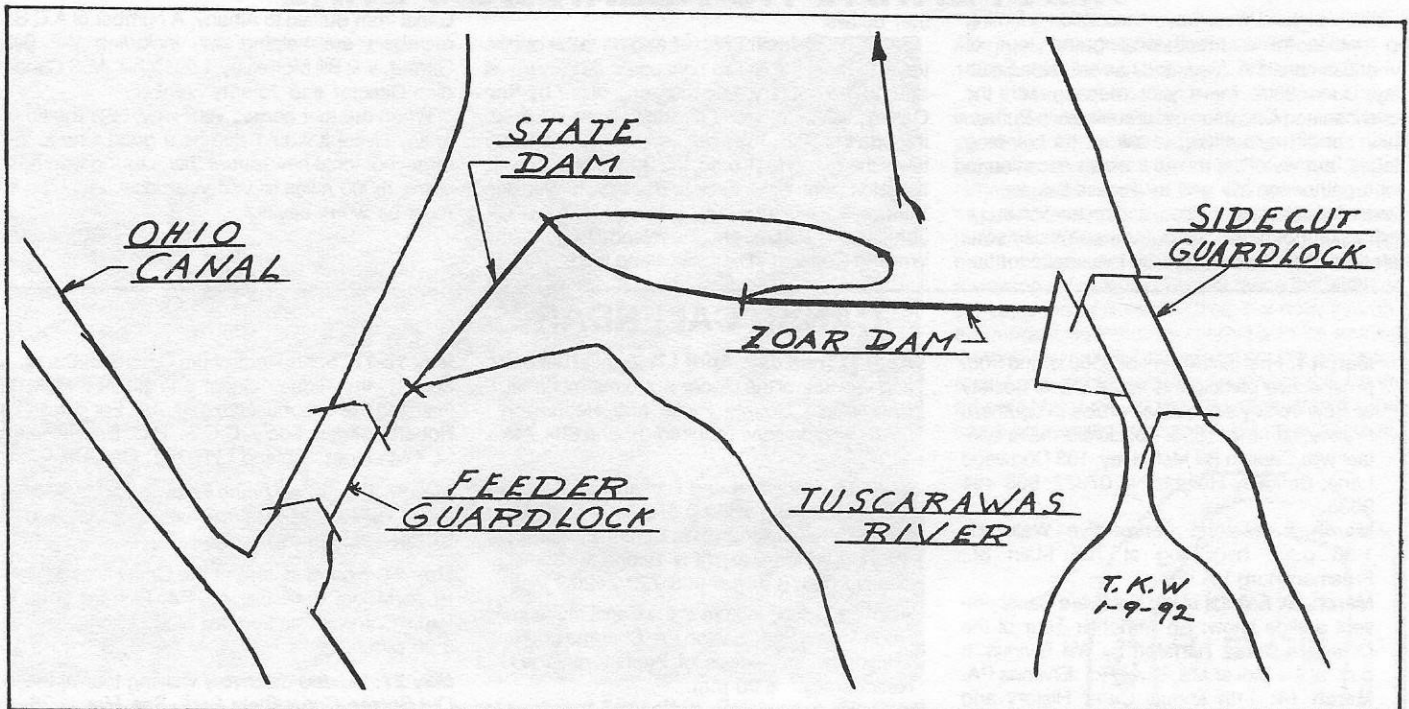
June 21 and 22. Old Market Days 1992. Freemansburg, PA. Contact: Old Freemansburg Association, 219 Main St., Freemansburg PA 18017, 215 868 3103 or 691 0956.

July 11-19. Canal Society of New Jersey field trip of "The Canals and Navigations of Virginia." Estimated cost, \$600 to \$800. Deposit of \$300 to Linda House (see April 12 entry, above).

September 19. Annual Batteau Day in Ferndale Park on the Upper Appomattox Canal across from Matoaca near Petersburg, Virginia. Batteau trips for everyone. Petersburg Department of Tourism, 804 733 2402.

October. The Fifth International Conference on Historic Canals will take place sometime this month, probably on the C. & O. Canal. Details later.

THE ZOAR FEEDER AND SIDECUT



by Terry K. Woods

That seven-mile stretch of the Ohio and Erie Canal that runs from south of Bolivar to near the current crossing of route 800 was constructed for the state by the Separatists. These people came to the wilderness of Ohio from what is now Baden-Württemberg, in Germany, seeking religious freedom. The first contingent arrived on the east bank of the Tuscarawas River, about three miles south of its confluence with Big Sandy Creek, in October of 1817. Other Separatists soon followed, and a settlement was founded on an elevated plain overlooking the river. It was named Zoar after the town where Lot found haven after he fled from the sinful cities of the plain.

By design, the settlers kept apart from the other villages in the region. They worked toward becoming self-sufficient. A dam was constructed across the river in 1821, about a quarter of a mile west

of town. A large grist mill was built on the race that was dug from the dam southward, skirting the village on the west. Several other local industries were also begun. Ohio winters are harsh, however, and the mortgage on their 5,500 acres of good Ohio land loomed over the new community. A first payment of \$5,000 was due in 1828, a second the year after, and a third, a final payment of \$6,500 was to be made in 1830. The Zoarites felt they could accumulate enough money for the 1828 payment. How the remaining two were to be handled was a problem that demanded much prayer.

The Zoarites believed strongly in prayer, but they also believed strongly in doing what had to be done to help prayer along. Beginning in 1819, the society was operated as a commune. All worked as hard as they could, but reaped from the common benefits only the amounts required for their maintenance.

All of the settlers, men and women, were required to work in the fields and the fledgling industries to support themselves and earn the money to pay off the mortgage. Fully two-thirds of Zoar's population were women. To insure that these women would be available to work as required, a "law of celibacy" was issued for all the people of Zoar, beginning in 1822. Then, in 1826, the prayers of the Zoarites were answered. Representatives of the state met in Kendal (Massillon) that year to plan the exact route and issue contracts for extending the Ohio Canal south along the valley of the Tuscarawas. The contractors selected for this work would be paid in cash! The Zoarites bid for this potential godsend—and won.

The entire population of the village turned out during the working seasons of 1827 and 1828. Those who weren't absolutely needed at home to insure an adequate harvest and supply of food for the coming winters, worked on the canal. Many of the canal workers during these years were women. When the lack of wheelbarrows to move the excavated earth became a problem, they carried it to the spoil banks in small wooden tubs balanced on their heads. On occasion, it is reported that they even carried spoil from the excavations in their aprons. In addition to seven miles of canal channel, four stone locks and bypasses, plus several stone culverts, were constructed in this stretch by Zoar's expert craftsmen.

A supply of water was needed for the canal in this section. This required the construction of a feeder dam across the river above the existing Zoarite mill dam, a short stretch of feeder channel, and a gate to regulate the flow of water from the river's slackwater pool into the main canal. These early canal dams, as specified by the state, were hardly worthy of the name, being little more than cut trees, brush, and stone laid in a pile across the width of the river. They did back up sufficient water to feed the canal, but such dams had to be renewed after nearly every flood.

The Society of Separatists received \$21,000 from the state for constructing their stretch of the Ohio and Erie Canal. This magnificent sum allowed the Zoarites to pay off their mortgage by the 1830 deadline, and have enough cash in reserve to em-



The town of Zoar, looking north-northeast. The sidecut is less than 300 yards due west.



Looking north up the sidecut.

bark upon a grand scheme of improvements. It is interesting to note that the law of celebrity was done away with in 1829.

The Society of Separatists now embarked upon a system of capitalistic communism that was as successful as it was unique. The old mill race was enlarged and a guardlock constructed at its head in 1830. The State of Ohio and the community of Zoar jointly financed the building of a guardlock in the feeder canal on the west side of the river. This now meant that canal boats could leave the Ohio and Erie Canal through the feeder guardlock, cross the slackwater pool in the Tuscarawas, then enter the sidecut on the east side of the river through that guardlock and service the grist mill and Zoar village.

A magnificent 80-room hotel was built within the village in 1833. Also in 1833, the Zoarites constructed a large general store across the street from the new hotel. Here, goods produced by the society members were sold to outsiders. In 1835, another hotel was constructed on a bluff overlooking the west bank of the canal. This new hotel catered to the canal passenger packets, with good overnight accommodations and great food.

An iron foundry was built to the west of the canal and a short branch canal was constructed to connect with the main waterway below the second lock (number 8) of the four south of Bolivar known to boatmen as the "Zoar locks." Canal boats were then able to carry pig iron to market, both north and south on the main canal. The society at one time owned at least four canal boats. The council was not above hiring outsiders to set up some of these new industries. The first overseer of the new iron foundry was an outsider, as were the first canal boat captains. Later, Zoarites were trained and placed in these positions. A new, magnificent mill, six stories high, was built south of the "Zoar Mile Lock" (number 10) in 1837. It straddled the canal. Boats actually entered this structure to load and unload.

It is speculated that by about this time the sidecut canal to the old mill south of town was no longer being used by canal boats. The old mill was no longer operational, so the always tedious, sometimes a bit dangerous, journey across the Tuscarawas was no longer required. The mill race was no doubt still in use, as a saw mill, woolen mill, and planing mill were in operation along its waters. It doesn't appear, though, that boats used it much after the new grist mill was built. The Socie-

ty of Separatists continued to prosper, and it was necessary to refurbish and reopen the old mill south of town in 1848. Around 1878, a new mill dam, with a breast five feet above low water, was constructed near the site of the original dam. A permanent wooden gate was placed in the lower gate-support structure of the old sidecut guardlock, probably sometime prior to this. Four cast-iron wickets, or paddle valves, installed along the bottom of this permanent gate regulated water into the sidecut, which by this time was known only as the "mill race."

Ohio's Board of Public Works, the operating agency of the state canals, always working on a minimal budget, removed the upper gate-support structure of the feeder guardlock after it was no longer needed to pass canal boats, and used its stone in retaining walls as required along the system. The lower gate-support structure was used as a simple gate to regulate the flow of feed water into the canal. The state feeder dam continued to be a maintenance problem. After a while it was no longer maintained, the state preferring instead to pay the community of Zoar \$100 per year to use the water backed up behind its new, higher dam.

While the Society of Separatists continued to prosper, with more than 7,000 acres of prime land and holdings valued at more than a million dollars just prior to the Civil War, little of this prosperity was being "wasted" on the society's members. Each member worked long and hard hours, at jobs assigned by the governing council. Members received a "living," while the fruits of their labor went to enrich the society.

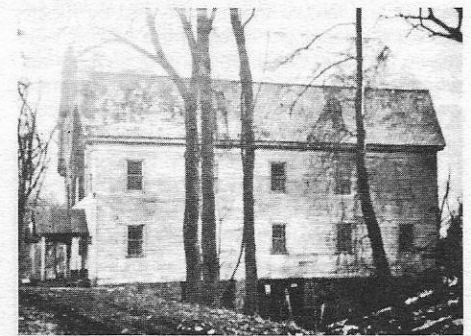


The east wall of the sidecut's lower gate-support structure.

Joseph Bimler, the leader of the Zoarites, died in 1852. Soon, the Civil War, railroads, and the example of the tourists relaxing in Zoar's hotels, brought pressures and temptations to the Zoarites' way of life that they were unable to withstand without the strong leadership Bimler had provided. Many of the fruits of the craftsmen's and farmers' hands now began to find their way to outsiders through private sales, rather than being offered through the society for the common good. Finally, in 1899, the Society of Separatists was disbanded. Each of the members received his or her rightful share of the communal property. The old mill south of the village was acquired by the miller at that time, and he continued to operate it into the 1920s. It was moved to the side of route 800 during the 1940s and operated as a store for tourists.

The state attempted to rebuild the Ohio and Erie Canal during the early 1900s. All the locks built by the Zoarites in the 1820s and 1830s were dismantled and rebuilt with concrete. The only exceptions to this were the "tumbles" (falls on the bypass channels) at locks 7 and 8, the lower gate-support structure to the feeder guardlock, and the guardlock to the sidecut on the east bank of the river.

The state acquired the Zoar mill race dam and covered it with a "permanent" concrete cap in 1908. It also built a 200-foot extension to the west and tied the western abutment of the new exten-



The Zoar mill, erected in 1821, refurbished in 1845, used until the early 1920s, photographed in the 1930s.

sion to the embankment of the Wheeling & Lake Erie Railroad with a 200-foot-long, 8-foot-high levee.

The reconstruction was never completed. The state legislature had a change of heart and authorized no more funds for the project after 1910. Then, in March of 1913, a flood of unprecedented destructive force tore out many of the new concrete structures in the northern part of the canal. They were never rebuilt. The new Zoar dam, however, withstood the forces of the flood. The stretch of canal south to the Sugar Creek Dam at Dover, which didn't hold, was one of the few sections of canal that contained water after the 1913 flood. Subsequent floods, however, did what the "Big One" couldn't—breached the earthen levee at the western abutment and swept away about half of the 200-foot extension.

The village of Zoar is now, largely, a tourist attraction, administered by the Ohio Historical Society. A 25-foot-high earthen dike along the western and southern limits of the village, constructed during the 1930s to protect Zoar from the backwater of a flood-control dam built then in the valley, have effectively isolated the remains of the feeder dam and sidecut guardlock from the main village. Efforts by several organizations are now under way to stabilize and preserve these canal structures, and perhaps make them once again part of the interesting and unique story of Zoar.

TRIALS AND TRIBULATIONS

This is another in our series of reports on legal cases involving canals, contributed by A.C.S. Vice President McKelvey. This one was heard in the New York Supreme Court in 1859.]

SHERMAN v. WESTERN TRANSPORTATION COMPANY

The complaint alleged that the defendant was a corporation, duly chartered under the laws of this State, having its office at Buffalo, whose business is the transportation of merchandise and property on the internal waters of the State; that in the boating season on the Erie canal, in the year 1859, said defendant owned and navigated the said Erie canal with the canal boat *Rose Bud*; that said canal boat *Rose Bud* had a catch on the under side thereof, which would catch the towing-lines of boats with which the boat *Rose Bud* met, which fact was well known to said defendant, and it was chargeable with knowledge thereof; that while said defendant was so navigating said Erie canal in the boating season of 1859, and in the vicinity of Lyons, its boat met the plaintiff's canal boat *Sarah*, with which said plaintiff was lawfully navigating said Erie canal in the transportation of merchandise and property with a team of horses; that the tow-line of the plaintiff's said canal boat *Sarah* was caught by said catch on the bottom of the defendant's said canal boat *Rose Bud*, without any fault of the plaintiff, and by means thereof the team of horses of the plaintiff were drawn into said canal, and one of said horses, worth the sum of \$75, was thereupon drowned, and the other of said horses was thereby greatly

hurt and injured, to at least \$25; that by means thereof, the plaintiff was delayed and injured in his said business to the amount of \$25; and he demanded judgment against the defendant for the sum of \$125, besides costs.

The action was referred to a referee, who found from the evidence adduced before him, that, while the parties were navigating the Erie canal with their boats, as stated in the complaint, and while their respective boats were passing each other, the towline of the plaintiff's boat *Sarah* caught underneath the defendant's boat *Rose Bud*, without any fault on the part of the plaintiff, and in consequence thereof the horses of the said plaintiff were drawn into the canal, and one of them was drowned and the other injured thereby; that the tow-line of the said plaintiff caught on some part of the bottom of the defendant's boat as the boats were passing; and that the said defendant was careless and negligent in not having the bottom of the boat *Rose Bud* in such a condition at all times while navigating the canal as to permit tow-lines to pass underneath it without catching; and that the injury in question occurred in consequence of such negligence. The referee found the value of the horse drowned at the time he was drawn into the canal, as aforesaid, to be \$65, and the damage to the other horse to be \$25—in all, \$90; for which sum, with interest, he reported in favor of the plaintiff. And judgment being entered upon the report, the defendant appealed.

[In his appeal, the defendant alleged, in part, that the accident in this case was caused and produced by the plaintiff himself in taking the wrong side of the canal. The boats were going in opposite directions, and the plaintiff should have taken the inside, or tow-path side, in passing; but he requested the captain of the defendant's boat to take the inside and give him the outside, to which the captain of the *Rose Bud* assented; and in thus attempting to pass each other, (both boats being where they ought not to have been,) the line of the plaintiff became fastened under the defendant's boat. If each boat had kept its own side the accident could not have happened; the plaintiff's line could not have passed under the defendant's

boat at all; but the defendant's line would have passed under the plaintiff's boat in the ordinary manner.

[The court reversed the judgment in the following terms.]

Although there be no statute requiring persons navigating boats on the canals to have the bottoms of such boats so made as to permit tow-lines to pass under them without obstruction, yet the duty is obvious; and an individual omitting to keep the bottom of his boat in the condition required to permit the free passage of the tow-line of another boat under her, is responsible for whatever damages naturally and necessarily flow from his neglect.

But to render him liable, in such a case, it must be shown that he knew of the defect in his boat a sufficient length of time before the injury caused by it occurred, to have enabled him to avoid the injury; or the defect must have continued so long as to satisfy a court or jury that if he had paid proper attention to his boat he must have discovered it.

In the absence of any proof showing when or how the defect in the bottom of the boat, causing the injury, originated, or how long it had existed, the court will not presume that such boat was known to the owner, lessee or master to be in a condition not to allow the free passage of towing-lines, for such a length of time as to have made it his duty to put it in proper order.

Negligence is never presumed.

NEW PUBLICATION

William E. Trout III, *The Maury River Atlas*. This is a 25-page historic atlas for Virginia's North River Navigation. It can be purchased for \$5 (includes postage) from Richard A. Davis, VS&NS Sales, Rt. 2, Box 254, Lexington VA 24450. Proceeds benefit the Rockbridge County Canals Preservation Fund.

INDIANA CANAL VIDEO

The Canal Society of Indiana now has available a 54-minute VHS tape on "Indiana's Canal Heritage." This new offering, in color, was produced under a grant from the Indiana Historical Society. It features the Wabash and Erie, Central, and Whitewater canals, as well as Indiana's efforts to bypass the Falls of the Ohio in competition with Kentucky. Copies can be obtained by sending \$25 each plus \$5 for shipping and handling to the society at 302 E. Berry Street, Fort Wayne, Indiana 46804.



The Old Freemansburg Association recently commissioned a feasibility study for the restoration of the Lock 44 area on the Lehigh Canal. Cost estimates for various options ranged up to \$1,754,000. Meanwhile, the association of about 30 members has accomplished wonders with just volunteer labor. There is still no water in the canal, and the lock is still a ruin, but last year's wasteland is now a proper park, as the new billboard demonstrates. The picture and information were supplied by A.C.S. officer Charles Derr.

BOOK REVIEW

Charles T. O'Malley, *Low Bridges and High Water* (Ellenton, Fla.: Diamond Mohawk Publishing Co., 1991).

Reviewed by Terry K. Woods

Mr. O'Malley's book is doubly unique in that its subject is modern—the lifestyle and operation of New York State's Barge Canal—and 90 percent of its content is based upon personal interviews. Even if not slated for every artificial waterway buff's personal library, it should certainly be strongly recommended for acquisition by local public and canal-society libraries.

Charles O'Malley had an early association with his subject. He served as the lowliest of deckhands aboard a vessel navigating this waterway, only to jump ship prior to the return voyage. The book appears to be the result of a sincere effort to preserve the memory of a way of life that he had earlier cast aside. All through the early 1980s, then, the author stalked the shores of the barge canal, interviewing the boatmen and operators of this modern artificial waterway.

The first chapter describes how a 19-year-old Charles O'Malley got a first-hand look at life on the Erie Barge Canal, and saw more than he really wanted to see at that time. It is written in a vital, first-person style that kept me turning the pages at a steady pace.

The second chapter is devoted to a history of just why the canal was constructed. It is an admitted paraphrasing of Whitford's report on the New York State canals. O'Malley does, however, go into several asides—such as the state's failure, initially, to plan for loading and unloading facilities for their newly authorized waterway. I found this chapter to be slow going. The meat of the book, however, and the key to its lasting worth, is in the succeeding chapters—those detailing the interviews with the men and women who worked this waterway.

Presenting the historical content of personal interviews accurately to readers, while consistently maintaining the individual flavor and enthusiasm of the people interviewed, has proved to be a difficult dual task for many authors. O'Malley has managed to do an excellent job of presenting those two facets of the interview with his first subject—himself. Sadly, at least for me, he chose to forgo the breezy, first-person style of the first chapter and convert to the more common third-person narrative style. For the bulk of his book, O'Malley chooses to tell us in his words what the interviewees told him about life on the barge canal. I, for one, would prefer to have viewed more of that life through the words of those who lived it. Still, the choice of narrative style is not a major objection to this book, and is possibly one the majority of readers will not mind at all.

It is my opinion that this book is a valuable addition to the "way it was" history of man-made waterways. Mr. O'Malley is to be commended for taking the time and doing the work to preserve the story of the lifestyle on the New York State Barge Canal before that lifestyle passed completely away into oblivion.

Copies of *Low Bridges and High Water* can be ordered from Diamond Mohawk Publishing Co., P.O. Box 526, Ellenton, Florida 34222. The price is \$21.35.

Our ACS Secretary, Charlie Derr, is working on an up-dated listing of "Canal Related Organizations". If you know of any new ones, please send them to him. Also, he reminds us that a number of ACS members have not paid their 1992 dues. Please take care of this promptly; otherwise, this is your last issue of AMERICAN CANALS

CANALS AS BURIED TREASURE

by Bill Trout

If any proof were needed of the value of archaeological research, then the Santee Canal in South Carolina is a fine example. A.C.S. member Mark Newell has an eight-page illustrated article about it in the winter 1992 issue of *American Heritage of Invention & Technology*, a quarterly sponsored by General Motors. In fact, the winter issue is practically a canal magazine, for there is also an article by Frederick D. Schwarz called "Tale of the Fox," giving the commercial, recreational, and historic arguments for keeping Wisconsin's Fox River Navigation in operating condition. Also, there is a beautiful two-page engraving of the James River & Kanawha Canal in 1857, in an article on Richmond's Tredegar Ironworks. Copies of the winter issue are \$5 postage paid while they last: call 212 620 1803. Also available is the two-part, detailed, well-illustrated, archaeological report on the Santee Canal cited in *American Canals*, no. 75 (November 1990), page 12.

[Editor's note. The richness in canal material of *American Heritage of Invention & Technology* was also brought to our attention by reader Jeremy Reiskind. The Tredegar Ironworks figured in a news item shared with us by reader Edith McNally. It seems that the Ethyl Corporation, while with one hand generously funding a project to turn the abandoned ironworks building into a museum, with the other hand funded the demolition of an adjacent and perhaps equally historic bridge—see *Historic Preservation News*, December 1991, pp 12-13.]

NEW LIFE FOR SUEZ?

A few years ago, the growing importance of supertankers in international trade was causing concern that the Suez Canal might be obsolescent. The canal is not large enough to accommodate the giant petroleum carriers, which seemed to be the wave of the future in ocean shipping. It is large enough for moderate-sized container ships, however, and a shift in manufacturing activity in the Orient appears to offer the venerable waterway the hope of revitalization.

The myriad light consumer goods and manufacturing components that have long originated in Japan, Korea, and Taiwan, are now being produced more and more in Southeast Asia—the Philippines, Malaysia, Indonesia, Thailand, et cetera. Shipments from the more northerly Far Eastern sources normally cross the Pacific to California ports, and thence go by rail to New York and intermediate destinations. From Southeast Asia, however, an economical all-water service, originating in Singapore and reaching New York via Suez in as little as 22 days, is gaining acceptance among U.S. importers.

The new trend is discussed in an article by Robert Selwitz in the October 1991 issue of *Intermodal Container News*. It was brought to our attention by ACS Vice President Bill McKelvey.

LETTER TO THE EDITOR

The Maumee Valley—Wabash & Erie Canal Historical Society, Inc. is a private, nonprofit society that has taken the lead in research and preservation of historical sites and in particular those of the Wabash & Erie Canal.

Our society is working on several projects in the Maumee Valley, including the recently-discovered Gronauer Lock, which is directly in the path of a highway construction project, and encampments by General Anthony Wayne in 1794, in need of research and preservation, to list a couple of the more urgent ones. Just recently, I was given a copy of your August newsletter, and thought perhaps you might appreciate an update and more complete picture of the discovery of the Gronauer Lock and present plans concerning it.

It was my son and I who actually confirmed that what was struck by the construction workers that June afternoon was indeed the Gronauer Lock. We worked that evening until 10:30 p.m. removing the dirt to uncover the lock. The workers knew they had struck a man-made object, but had no idea what it was. It is hard to describe our excitement in discovering such a valuable ruin. I had been working on founding a canal society which would take an active role in research and actual hands-on preservation. I had been a member of the Indiana Canal Society for several years, and felt that its valuable work could usefully be supplemented by that of a society more directly involved in research and preservation.

The Allen County—Fort Wayne Historical Society, the Fort Wayne Chamber of Commerce, and the city of New Haven's mayor's office, parks department, and historical heritage society have pledged their cooperation and have given approval to our preliminary plans. In addition, over 7,000 people have visited the Gronauer Lock site displaying their interest.

We have worked out a detailed plan to extract the lock and to preserve the timbers. We are writing for grants to assist in this task. We also have developed a plan to display the remains of the lock on a farm adjoining the Wabash & Erie Canal. It is our view that only a portion of the lock can realistically be displayed, along with a model, charts, maps, and artifacts. It is very likely that a final plan will involve the farm site and also a park site at the edge of New Haven, thus maximizing exposure of the lock to public view.

I trust that this information is helpful, and look forward to working with the American Canal Society in our preservation projects. Would you please send me any information you may have that would assist us in these tasks? Thank you.

Harold W. Gerig, Executive Director
Wabash & Erie Canal Society
606 Brobst Road, R.R. #2
Woodburn IN 46797

INFORMATION PLEASE: HENRY CANALS?

A collector of antique padlocks has one in his collection, probably about a century old, embossed with the words "Property of the Henry Canals." He has requested our assistance in identifying the Henry Canals and learning something about them. Your editor has come up with a complete blank on this—any readers who can help out are asked to write to us or to Russell K. Soderquist, P.O. Box 1852, Grand Junction, Colorado 81502.

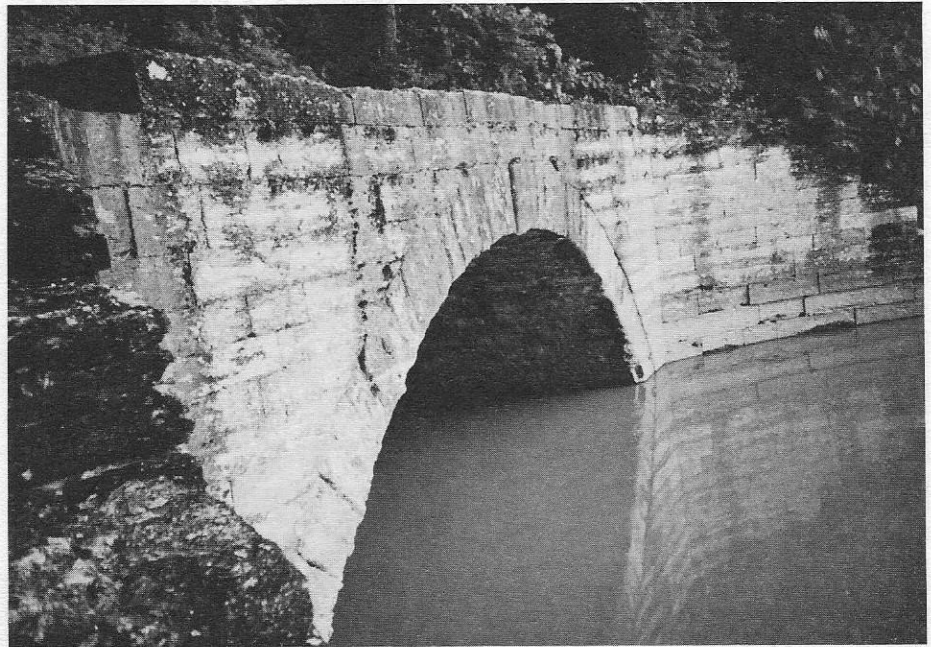
DEFIANCE: FOCAL POINT OF OHIO HISTORY

by Linn Loomis

Defiance was one of the most vital communities on the Miami and Erie Canal between Dolphos and Toledo, and marks the confluence of the Tiffen and Auglaize Rivers with the Maumee. Pontiac Park, situated along Route 424 in the northeast portion of the city, and Tecumseh Park, on highway 111 to the south, show that the area was rich in Native American history long before the concept of Ohio's canals became reality. Between the death of Pontiac in 1769 and that of Tecumseh in 1813, the famous American military leader, General "Mad" Anthony Wayne made his historic mark in the Maumee Valley, establishing Defiance as a focal point of pioneer history. Wayne gave the name Defiance to the site when he established a fort here in 1794. It was an act of defiance for a unit of the American army to be in this part of the Northwest Territory, then still dominated by the English and their Native American allies.

Immediately south of the Maumee, the canal remnants can still be seen along Perry Street. Near the corner of Third and Perry streets, the remains of Lock 37 can be seen. This structure has been partially covered by a parking lot. South of it, old factories and warehouses give evidence of what was once the canal route.

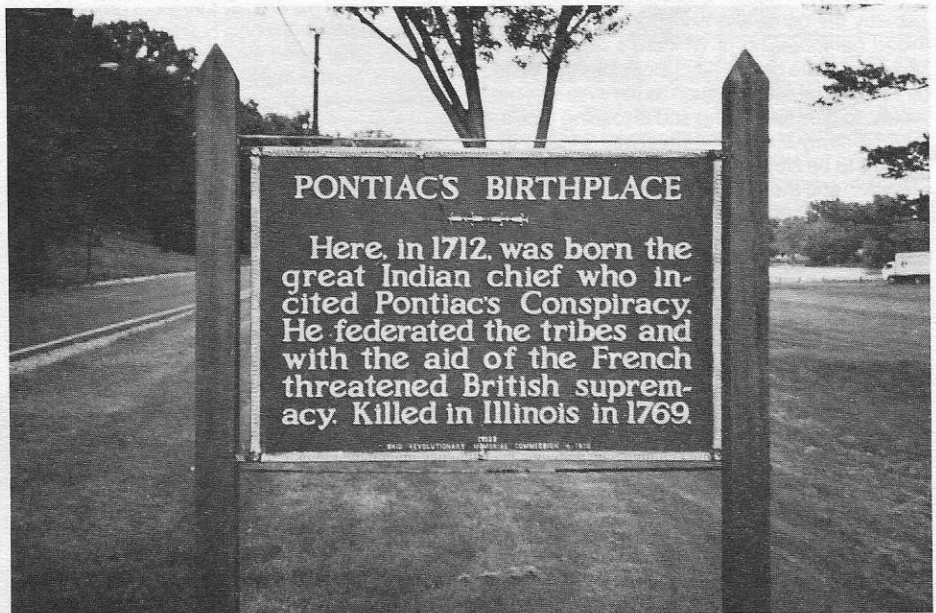
Near the corner of Gorman and Perry streets are found the well-preserved remains of Lock 36. Originally built of wood in 1843, Lock 36 was



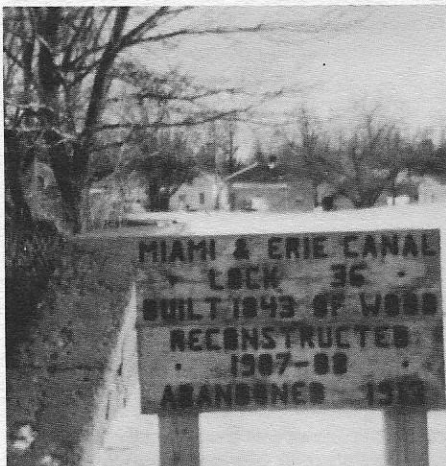
Miami and Erie Canal crossed Five Mile Creek, Township Road 153, south of Defiance.



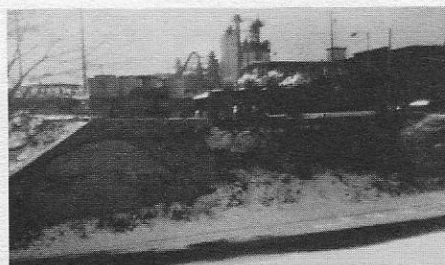
Tecumseh Park, on Highway 111 South of Defiance.



Pontiac Park, on 424, east of Defiance.



Ruins of Lock 36, near Perry and Gorman Streets in Defiance.



Lock 37 from the north.

reconstructed in concrete in 1907-08, and then abandoned in 1913 when this portion of the canal became a victim of the railroads aided by the 1913 flood.

South of Defiance, near where Five Mile Creek empties into the Auglaize River, the canal builders constructed a culvert to carry the canal over a narrow part of the creek.¹ This single-arch structure, which now carries Auglaize Township Road 153 over Five Mile Creek, was one of the largest of its kind constructed during Ohio's canal-building era.

¹Editor's note. We leave it to John W. Droeger, chairman of the A.C.S. ad hoc committee to develop a glossary of canal terms, in consultation with committee member William Dzombak, to determine whether this structure, when it was conducting the canal over the creek, was in fact a culvert or an aqueduct. See *American Canals*, no. 78 (August 1991), pp. 8-9.