

# AMERICAN CANALS

BULLETIN OF  
THE AMERICAN CANAL SOCIETY

BULLETIN NUMBER 75

Editorial Address—809 Rathton Road, York, Pa. 17403

NOVEMBER 1990

## PRESIDENT'S MESSAGE

The First International Conference on Historic Canals was a great success thanks to the Canadian Parks Service, the Friends of the Rideau, and the remarkable, navigable, Rideau Canal. I'd like to particularly thank John Bonser and David Ballinger of the Parks Service, and ACS member Dr. Robert Leggett who honored us with a delightful and informative after-dinner talk worth recording for posterity.

The Canadians have done a magnificent job of preserving, maintaining, and interpreting the Rideau Canal. We from the States can be proud, too, for having frightened the Canadians into building the canal in the first place and embellishing it with picturesque fortified lockhouses.

Everyone at the meeting voted to hold the next Conference on Historic Canals in Ohio, on the Ohio & Erie Canal's Cuyahoga Valley National Recreation Area. Try to get your local planners there so they'll come to realize that canal parks are not wild dreams of canal buffs, but viable, valuable, irreplaceable assets for recreation and a part of the quality of life.

One of our guiding spirits in canal parks and history, ACS member Frank Trevor, is 90 years old this November 19th. Those who would like to wish him well can write him at Apt. 410, 36 S. Pleasant St., Oberlin, OH 44074. Many thanks to John Droege and the Veritys for reminding us.

Keith Kroon, our sales committee, writes to say that he has been representing ACS at all the canal meetings he can get to, and at other historical events, where "Many people are amazed that there are canal organizations." Don't forget that Charlie Derr has ACS flyers available for museums and meetings — give us a plug and help your canals.

One of Bill Dzombak's recent projects was a 10-year index to *The Tiller*, now available as a hard copy or on a floppy disk from the Virginia Canals & Navigations Society at my address. He is also polishing up an index to *American Canals*. Both might someday be part of a national index to American canal periodicals. Bill is also continuing work on the society's compendium of canal information sheets, the American Canal Index. Anyone willing to help write up more canals should get in touch with him.

Lastly, a note from the British, who are ahead of us again. The July issue of *Navvies* (the Waterway Recovery Group newsletter) reports that a company formerly known as "Turkish Delightful Foods Ltd." officially changed its name to "Lancaster Canal Development Company Ltd." The canal world is waiting to see what happens next.

Bill Trout

## BACKWARD LOCK GATES?



Why are all these people laughing? This ad in *Waterways World* advises British narrow boat owners that they'll do a lot better with a Vetus bow propeller — what we would call a bow thruster. But on closer inspection, might this actually be a drawing of the first (rather unsuccessful) trial of a new lock gate arrangement, designed by park planners without consulting us canal buffs? It's been known to happen. As a matter of fact, there

is a lock in Columbia, Virginia, with this type of gate layout. It's a double stop gate at the junction of the James River & Kanawha Canal, and the Rivanna Connection, which met at the same water level. At each end of the structure, the miter gates faced outward so they could hold back either canal when the other canal was drained or damaged. Are there any other double stop gates in America?

Bill Trout

## NEW I. & M. CANAL MOVIE

Visitors to the Illinois & Michigan Canal National Heritage Corridor will find new attractions next year at a number of parks and museums. A new movie on the Corridor is being distributed to the eight Visitor Information Centers in the Corridor and can be seen this Fall. The film will also be available on loan for schools and organizations.

With a running time of sixteen minutes, the first half of the film traces the history of the area from the Indians through the early industrialization of the region. The second half focuses on the special events held annually in the Corridor, such as the Taste of Joliet, Old Canal Days and the Grundy County Corn Festival. New Wayside Exhibits are also being installed at forty locations throughout the Corridor. These are being produced in

cooperation with the Illinois Department of Conservation with help from a number of people throughout the Corridor.

The Visitor Information Centers where the movie will be shown are located at The Little Red Schoolhouse near Willow Springs, Isle a la Cache Museum in Romeoville, the I&M Canal Visitor Center and the Will County Historical Society Museum in Lockport, Bicentennial Park in Joliet, Goose Lake Prairie State Natural Area and Gebhard Woods State Park at Morris, and the Illinois Waterway Visitor Center near Utica. Groups wanting to borrow the film for showing should contact the Commission at 30 North Bluff Street, Joliet, Illinois 60435. The phone number is (815) 740-2047.



# American Canals

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**"DEDICATED TO HISTORIC CANAL  
RESEARCH, PRESERVATION  
AND PARKS"**

AMERICAN CANALS is issued quarterly by the American Canal Society, Incorporated. 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.

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## DIXIE'S DEVIANT DITCH



**The lowest lock in the old Coosa River navigation system now marks the head of navigation on the modern Coosa-Alabama Waterway.**

*By David F. Ross*

A cruise down the Tennessee-Tombigbee makes it apparent that the bad old days of the Corps of Engineers have passed securely into history. This is the agency that steadfastly refused to cooperate with any other executive agency concerned with water, that treated as frivolous any riverine concerns except navigation, and that when compelled to deal with flood control could not see beyond the building of ever-higher levees. This is the agency that seemingly dammed streams simply because they were there, and, in the words of Harold Ickes, "wantonly wasted money on worthless projects." On the Tenn-Tom, by happy contrast, the Corps shows itself to be fully committed to multipurpose projects, fully cognizant of environmental concerns, and eager to serve every legitimate interest within the watershed area, from barge traffic to songbird habitat.

If you turn off the Tombigbee River, however, and cruise up the Alabama, it becomes very difficult to avoid the suspicion that all those problems were not solved but merely moved out of sight around the corner. The canalized Alabama is a modern artifact, not a relic of ancient engineering history. Its principal tributary, the Coosa, was the subject of a never-completed 19th century canalization project (see *The American Canal Guide*, Part 3, published by the A.C.S., July 1979), and its lowest lock, #31 at Wetumpka, now marks the head of navigation on the Coosa-Alabama river system. But the locks and dams on the Alabama itself were first opened for business in the period 1969-72. By then, the jurisdictional battles had been resolved, the lessons had been learned, the Corps had cleaned up its act. So how come so many things went wrong on the Alabama?

The first thing you notice on the Alabama is the lack of traffic, either commercial or recreational. The small amount of commercial traffic that does exist is mainly confined to the lower river, while some recreational traffic will be encountered on the upper river, especially in the vicinity of Selma and Montgomery, but in comparison to the Tenn-Tom, the navigational use of the Alabama is insignificant. The forest products that increasingly provide the bulk of the traffic on the Tenn-Tom are equally plentiful along the Alabama, so it is not immediately obvious why the river is so little utilized.

The second thing is that flood control has not been achieved. As recently as the spring of 1990, the Alabama was a river out of its banks and out of control, and a good deal of the resulting devastation is still in evidence.

The third thing is that the nominal 9-foot channel actually fluctuates by as much as five feet over a 24-hour cycle. This is accounted for by the periodic generation of hydroelectric power, but it seems incredible that a system could not have been engineered which would permit the generation of electricity without compromising the navigation channel. Recreational boaters who anchor for the night in what seems to be ample water and wake up on dry land are understandably annoyed, but with adequate warning they can avoid this inconvenience. Commercial shippers, who really need a dependable 9-foot channel, have only the option of avoiding the river altogether. It is this, according to many riverfolk, that accounts for the dearth of traffic.

It is easy to predict that in years to come the Corps of Engineers will propose the abandonment of the Alabama River locks on the grounds of inadequate utilization, as it has done on the Muskingum, the Kentucky, the Fox, and other "obsolete" waterways. When that happens, I hope there will be someone around who remembers that in this case the obsolescence did not come about through external forces but was apparently built into the system by the Corps itself.



**Flood control remains an elusive goal on the Alabama River.**

# A "CANALLER'S" DIARY — 1888

Edwin Charles of Middleburg, Pennsylvania has kindly agreed to let us publish the following excerpts from the diary of his father, the late William Edwin Charles, who was hired at age 18 to drive mules for a Pennsylvania canal boat captain. These sections of his diary tell of his first trip, from the vicinity of Port Trevorton on the Susquehanna Division of the Pennsylvania Canal, south to the Eastern Division, across the Susquehanna at Columbia, down the Susquehanna and Tidewater to Havre de Grace, through the Chesapeake and Delaware Canal to the Delaware River and across lower New Jersey, via the Delaware and Raritan Canal to New York City.

In later life, Wm. E. Charles was an active member of the Pennsylvania Canal Boatman Association and gave many lectures on his experiences while working the Canals.

The same material was also published recently by the Harrisburg Patriot News, with some editing by their staff writer, Dick Sarge:

## The departure

**Sunday, June 17, 1888:** Hired to make trip to New York on boats of Benton Moyer of Independence (2 miles south of Port Trevorton).

His brother, Isaac Moyer, to be captain; Richard Foltz, greaser (bowsman) and I to be hair-pounder (mule driver). Packed my turkey (valise) and started for Chapman (3 miles south along present Route 11-15) on foot. Road was dusty.

Look into the stables at Independence Hotel to get an introduction to the four mules I'll drive. Fine ones they are. Four-year-olds. Look sleek and spry. Then we go on the boats, Pennsylvania Canal Co. snappers No. 237-238. Meet the captain and size up the provision box. Loaf around until 10 o'clock, then go to bunk.

**Monday, June 18:** Get out at 3 a.m. Feed, curry and harness the team. Take them around and pull out. Passed a few light boats near McKees. Breakfast at Peevies Nest (Dry Sawmill), slapjacks and bacon. Move on to Liverpool. Get several (mule) shoes reset at Miller's blacksmith shop. Team is a crackerjack. Am pleased.

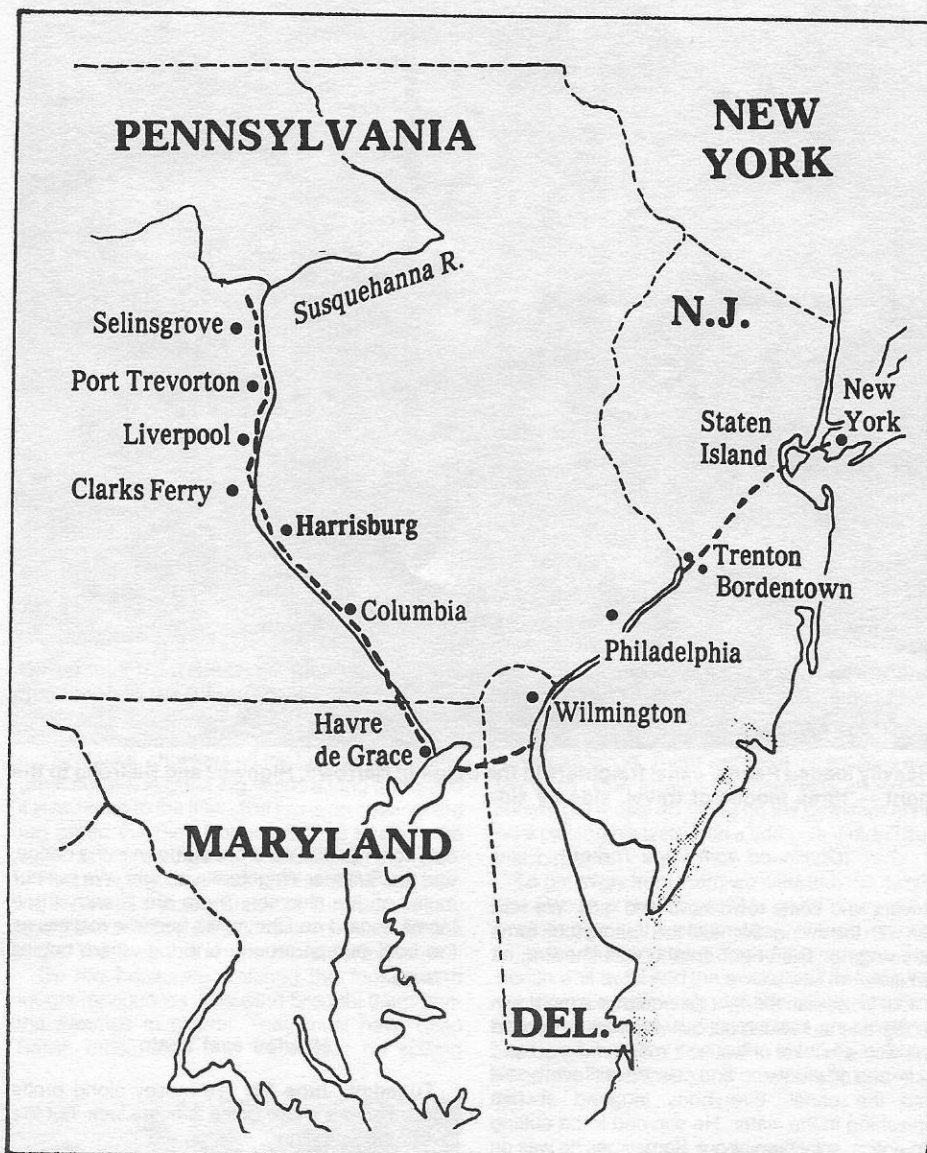
At Girty's Notch a pair (of boats) stuck in the curve. Richard is at our wheel and we slide around without scaring the catfish. Reach Clarks Ferry. Pilot Carpenter gets aboard to steer across the (Susquehanna) river. Foltz drives team. Go on to New Grocery and tie up.

**Tuesday, June 19:** Pull out early. Go through the narrows by Emmaline Furnace (at the mouth of Clark's Creek). At Dauphin, a boat is on dry dock. Calking hammers are ringing clearly. Nothing much exciting.

At Harrisburg, lot of boys swimming in the canal. I get on boat and dive in. Well, Harrisburg is a dirty town and the canal is a dandy bathtub.

At Steelton, a freight train roars past us at the board fence. Mules dance a little. This is a dangerous place. Many mules are scared into the canal here and some have been drowned here, too.

Pass Middletown and tie up at the Buck Lock. Eat a lunch of sharp cheese in Old Daddy Gross' grocery. Golly, you'd think the trains might shake the old house down as they pass only a few feet away. Go to bed, but don't sleep much. (Conewago Falls) Falls roaring and trains roaring, too, and blowing all night long.



Route of the boats for which William Charles was the mule-driver. (Map by the Harrisburg Patriot-News)

## Dam break

**Wednesday, June 20:** Start away. At Collins, lock tender tells us of a break in Columbia dam (where our route crosses to Wrightsville). Go on to Marietta. Later, drop down to Vesta Furnace. Hear maybe all boats will be unloaded at Columbia. Perhaps 20 boats held up. No stable room. Took team out to a farm.

**Thursday, June 21:** Went out to farm to feed. Hear a rumbling sound in a shed. Look in, there is a big dog in a wheel running like a squirrel in a cage. Woman told me the dog is churning the butter. It looked funny. Says she must tie up the dog every Wednesday evening or he won't be there in the morning. Went down to see the dam. (Columbia-Wrightsville Dam across the Susquehanna). Water is pretty low; big hole in it. A few repairmen there and a well-dressed fellow looking over things.

**Friday, June 22:** Get permission to keep mules in old furnace shed. That makes it handy. There are a lot of old furnaces here. Two of them are

running, Chickies and Haldemans. About 25 of us drivers go in to see them cast. The red-hot iron runs out in little gutters like water. Golly but it is hot.

**Saturday, June 23:** More boats come along. The water is clear in the canal. You can see the bottom. There is poison in the water. Hundreds of big fish floating on their sides. They look pretty but are not good to eat. We caught lots of them and carried them in buckets over the cinder dump and put them in the river. Maybe they got well again.

## Waiting for Repairs

**Sunday, June 24:** Gang got an old scow and went over the river and up to Wild Cat (south of Mount Wolf, York County). Kind of nice there. There were a lot of men and women and they had a keg of beer on a cake of ice. They said: "Boys, have a drink" and some did.

In the afternoon I took a piece of towline and made a swing in the big willow tree between the furnace and the canal. It soon drew a crowd of

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# A "CANALLER'S" DIARY — 1888



Heavily loaded Penna. canal freighters in the Dauphin Narrows. Highway and Railroad to the right — three modes of travel, side by side.

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drivers and some town boys and girls. We had fun with the swing. Some of the visitors took turns at swinging. Then I got on and was showing off a bit.

Our bowsman thought he would take me down a peg, and as I swung out over the boat he doused me with a bucket of water. It made me mad and I jumped off the swing and pushed him overboard into the canal. Everybody laughed at him splashing in the water. He seemed to be cutting up antics, splashing about. Sometimes he was on top of the water, sometimes under.

A boatman on the bridge yelled, "That man can't swim. I believe he is drowning." That scared me and I jumped right into the canal and grabbed him. Then Hiram Fox reached down from the boat, and a dozen others pulled us both out to safety.

It was almost a sorry ending to a bit of intended fun. I didn't know there were any boatmen who couldn't swim. I still feel bad about it and I think I'll go to bed and try to sleep my ugly feelings away.

**Monday, June 25:** About a dozen of us fellows ride out in the country on mules. Some were running low on oats, some thought we might pick up early apples and some went along for fun. We did some racing and stirred up clouds of dust. Guess the Amish people thought the rebels were coming, the way they got out of the way and looked scared.

Shortly after noon we got word that the dam is repaired, and that some boats farther down are going through the outlet at Columbia and are crossing the river to go down the Tidewater! (Susquehanna & Tidewater Canal.) Everybody wakens up. The lock tender at Chickies is busy. By and by our turn comes and we lock through.

In the outlet lock at Columbia, Daddy Bennett says, "Hustle, boys," but we delay a bit to get several bales of hay and a few extra bushels of

oats from I.C. Gitt. We dropped down to the bridge, and the Steamer Wrightsville is there. We put our mules on the steamer. There are already three teams aboard and the mules become restless as the boat bumps around and the steam begins hissing.

## Headed east again

**Tuesday, June 26:** We mosey along pretty good. There is a little delay at every lock, but the swells help us along.

I like to boat on the Tidewater. It has more shade than the other canals. We reach Cold Cabin (York County) about 8 o'clock.

**Wednesday, June 27:** It's raining a little. First time we've put on the housings. Get to Havre de Grace. (Maryland) Weather clear again. Lock out. (to the River) Run around Haverdy this evening and meet a few old cronies. Some of the boys tease old Fred, the baker, for ginger snaps. I talk Dutch to him, and that pleased him and I got the dough patties.

**Thursday, June 28:** Laid here all day. More boats coming in. Did a little fishing. Caught a few catties and yellow perch. A fellow with a skiff took me down to the bridge for a boat ride. We cabaged (stole) a hunk of ice and went back to the boats and made lemonade. It was almost too sour, for we had only a little sugar.

Two other fellows and I went to a flying horse (merry-go-round) this evening. We found a lot of girls willing to ride with us. We rode and ate ice cream till nobody had any more money, then we scooted for the boats. The tug to take us away had come in. The fleet was making up. By and by, the signal was given and away we went (into Chesapeake Bay). The ropes and rudders creaked and the boats rolled and bumped. It was pretty rough rounding Turkey Point.

**Friday, June 29:** We reached Chesapeake City before daylight. There is a scurrying and a commotion till we are locked into the Chesapeake & Delaware Canal.

There is a fog hanging over the ditch. As we enter the deep cut, you can hardly see anything even a few feet away. A propeller (boat) coming toward us sounds its foghorn constantly. It made me feel creepy. Then the big boat comes close. It looks twice as big as it really is, through the mist. We pass it, move along to St. Georges and Delaware City. We locked out into the Delaware River.

We are not there long before a big tug, the Taurus, comes and takes us up the river in the direction of Philadelphia. We pass the cities of New Castle and Wilmington.

We stop at a government wharf below Chester. On the wharf stands an immense bell on a frame. The bell has no clapper. When the fog is heavy, a man strikes the bell with a heavy sledge hammer every once in a while to warn ships out in the river. During the night we are towed farther upstream.

## At Philadelphia

**Saturday, June 30:** By dawn we are passing great forts below the city. For some reason we are not out in the river but in a back channel. Now, we go out into midstream, up by the city that seems miles and miles in length.

We pass a place where there's an island in the river. It has a kind of iron framework pavilion on it. People are on it dancing, and many small boats are unloading others.

We are taken up farther to a place called Petty's Island, opposite Cramp's shipyard. There are big ships on the stocks. Would like to see one of them slide down into the water.

The tug leaves and the boats are tied to some old piles driven into the shore. We have no small boat and can't get off. But every now and then a boat comes along with bananas, ice cream and other articles to sell.

**Sunday, July 1:** Get up early. Forget to tell that we had the mules on the boat. We had them on the boat from Havre de Grace to Chesapeake City and put them on again at Delaware City.

Well, I fed the team and then came up on deck. There were a few boats running across the river farther down. (Ferry boats) There were lots of carriages and buggies on these boats. There is no bridge here and that is the way they get over.

Out in the city is a building with an awful high tower. It is the new city hall. On top of the tower stands a statue of William Penn in a broad hat. They claim this is the highest building in the world. The bells start ringing for church. I never heard as many bells at one time before. My, the wind is blowing hard this morning and it is too cold to stay on deck.

I bought a newspaper off a boat. It has 24 pages. It kept me busy pretty nearly all day reading it.

**Monday, July 2:** A tug boat is coming up the river. It has a great raft of boats (in tow). A few of ours, some lakers and a lot of Schuylkill tar-boxes. Their boats aren't nearly so pretty as ours. As it comes near us, the tug boat begins to blow its whistle. He was blowing to pick us up. We loosened the ropes and floated away from the wharf, alongside the fleet that looked as though there might be a hundred boats in it.



Rich threw the end of a line to a man in the fleet. He hung it over a cleat, and we snubbed our boats into line. Captain Moyer hung a heavy rope fender where they came together so they would not bump too hard and start leaking. The tug towed us on up past Bristol and Burlington and a lot of smaller places to Bordentown, N.J.

**Tuesday, July 3:** Here (Bordentown) we lock into the Delaware and Raritan Canal. It is 44 miles long. The Chesapeake and Delaware is only 14 miles long. The locks here are strange to me. They open the gates and close them with steam. We take out the mules. They seem glad to be on the ground again.

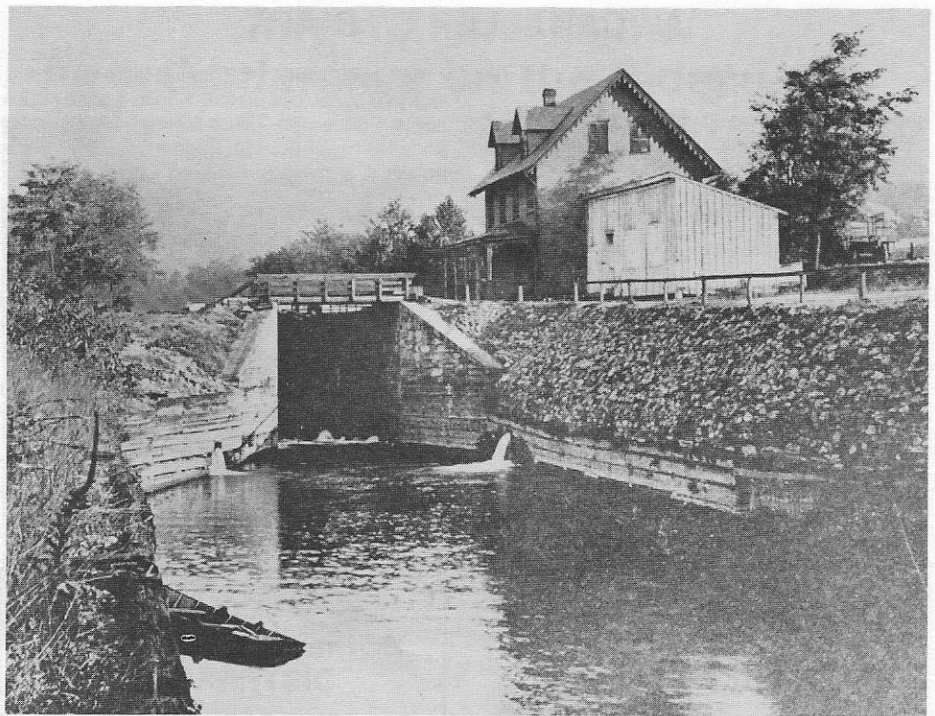
It was 3 miles to Trenton. The first thing I saw was the penitentiary. Soon we came to a railroad bridge right across the canal. It has a train on it. We stopped until the train was off and then they turned the bridge sideways so that we could go through. There are lots of potteries here at Trenton where they make dishes and whiskey jugs.

Here is where Washington came over the river in the ice and licked the Hessians. It was colder than it was today. Gosh, it is a change in the weather since Sunday. We go on up through Princeton and when night comes we are at a town called Millstone. We don't lose much time after tying up to get to bed.

### Independence Day

**Wednesday, July 4:** We get out early and as this is a holiday the cannons are already crackling away like a battle. Picnic boats are on the canal. Flags are flying and pennants from buildings and flag poles, all in honor of the brave soldiers who fought here and elsewhere to make America free. Onward we go almost on the same track that Washington and his army went over a hundred years ago.

We reach New Brunswick. There we lock out into the Raritan River. We leave our mules at New Brunswick, for we won't need them till we come back. In the river we are added to a great raft of boats — all kinds — some of our own, boats off



**Outlet lock from the Canal Basin at Columbia, to permit canal boats to pass across the Susquehanna to the Susquehanna and Tidewater Canal at Wrightsville. (Photo made about 1900)**

the Schuylkill, chunkers off the Lehigh, lakers and great barges. A great tug sends a long cable and it is fastened to the fleet. The tug is an oceangoing tug called the Blue Bonnet. It goes through the water at a great rate.

People at Highland Park are hurraing and waving at us and shooting crackers. Between Amboy and Perth Amboy we anchor midstream for the night. The fireworks on the shore were beautiful.

On the boats, we watched the rockets and fought mosquitoes. The wind brought them from the swamps in clouds. They must have been British mosquitoes and were bent on spilling

American blood. There were little mosquitoes and big ones. One fellow said there was an exceptionally big mosquito sitting on the bowstem of his boat picking his teeth with a tide pole, I didn't see that big one.

To get away from them we went into the cabin. The fellows lit their pipes. No good. They put a peck of oats in the cabin stove, poured on coal oil, lit the stuff and then closed the damper. The stench was awful and the smoke was awfuller. We are almost smothering. Still the mosquitoes are charging on us. My hands and face are bleeding. I am mad. I dip my pen in the bleeding bubbles and write the last words in my today's record in blood.

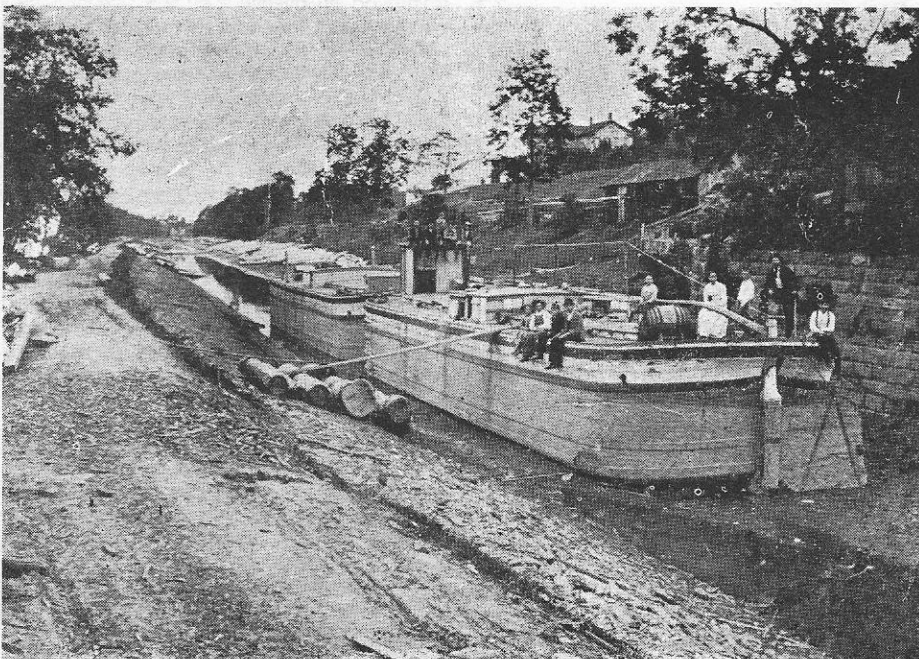
### New York City

**Thursday, July 5:** When we got awake this morning the old town of Elizabeth [N.J.] was near. It wasn't long till we were going through the Kill van Kull and the Staten Island Sound and passing the New York Harbor. Oh, what a sight this was for a young chap. The more I gazed the more bewildered I got.

Ship after ship, brig after brig, schooner after schooner, barge after barge, great scows with a dozen railroad cars upon them, craft after craft, great whistles blowing steam, hissing and puffing, clouds of smoke rolling from hundreds of stacks. It just seemed that all the boats in the world had gathered here for a grand picnic.

Then, there ahead of us was the Statue of Liberty, and the Brooklyn Bridge. We come to anchor near the statue. Small boats come and whisk boat after boat from our fleet. The Lehigh boatmen and some of the Schuylkill men, too, swear at the Pennsylvania Canal boatmen. They claim we are taking their market from them. They get mean and sometimes I am afraid they are going to fight.

One of our boats is taken to New York City and the other to Brooklyn. I am on the one to New York. Soon after we are landed I start on a tour of adventure, travel, walk along, look and stare and stand



**A pair of Pennsylvania Canal Boats stranded by a break in the canal, at Port Trevorton, Pa. These boats often traveled in pairs, with the pilot house for both boats (as seen here) at the fore end of the rear boat. Chains tied the two boats together, with control of the front boat via a steering wheel hooked to the chains in the pilot house.**

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and watch. Such noise, such commotion, such a peculiar odor. Then I get lost and ask information of a dozen people before I found one that could talk English and give me my bearings. I went back to our little craft that seems so large at home and so insignificant here. At night we pay a watchman to keep a lookout so that the very rigging is not carried away. There are many interesting stories of this thievery.

**Friday, July 6:** This morning there came in another tow, and who should land at our wharf but the boats of C.W. Knights of our town of Port Trevorton. Oh, the joy I felt at the sudden and unexpected arrival of somebody from home. Mr. Knights had with him two brothers, Harry and Edwin, and his sister, Sue.

Now, when the boats were not running in the canal the cooking devolved on me. This was a difficult and irksome job. I had no cookbook and invented most of my meals. Concoctions, the rest of the crew called them. Well, Miss Sue helped me out of that difficulty while our boats lay side by side. She cooked the meals for us in my stead. I acknowledge she can cook better than I can.

**Saturday, July 7:** Today, while the boats were unloading, Sue, her brothers and myself took a trip to Brooklyn on a cable car. Then we walked back. It was a grand sight to see the harbor full of ships and the great buildings and the traffic and movement everywhere about us. One thing we did see that was hard to believe [was] street cars in New York still drawn by horses.

We came back to the boats after an interesting time. Our boat is unloaded. Late in the afternoon a tug comes and picks us up and takes us up the East River, gathering boats here and there. It is glorious to see the city in the twilight and to watch the lights come on as the night sets in. During the night we are taken down to Elizabeth, N.J.

**Sunday, July 8:** We anchored for a while in the river with a large fleet. There I bought the New York World, 36 pages. Also bought of a Troy, N.Y., man two bayonets forged out of horseshoes. He said they had been in the Revolutionary War. Gave him a quarter for the two of them. The large tow started and took us to New Brunswick.

**Monday, July 9:** Lie at New Brunswick all day. Couple of nice girls in grocery. Evening, get a boat and take girls over to Highland Park. Come home late. Captain jaws about staying out late and I'm not saying anything to him.

### Homeward Bound

**Tuesday, July 10:** Fleet comes in, our boat on outside. Rich threw off the line and momentum carries our boat into lock. Lehigh chunkerman gets mad and wants lock tender to make him pull back. Lock tender pulls our boat through. Some boats get between our bow and stern boats, we have a nice mix-up.

Gee, how the Lehighers and Schuylkillers fist at us about it, and how they wanted to fight. By and by we get lined up. They come at us with a bone in their teeth. But in vain, who ever saw a chunkerman pass a Pennsylvania boat. We show them thumb and fingers and lose them. Tie up tonight at Bound Brook.

**Wednesday, July 11:** Down river to Philadelphia. Thursday to Delaware City.

**Friday, July 13:** To Chesapeake City. Leave that night.

**Saturday, July 14:** Reach Havre de Grace, lock into canal, pull up the ditch to a shady nook above Conowingo. Tie up there and keep mules under trees on outside. Feed them out of sling-trough. It is pleasant here.

**Monday, July 16:** Pull out at midnight and reach Hog Pen Lock.

**Tuesday, July 17:** Going toward home. Smell Mother's cooking. Get hungry for noodle soup and custard pie. Skum 'em along lively and reach Shafers (Frys).

**Wednesday, July 18:** Lazed along and reached Independence soon after dinner. Got my 13 silver dollars, loaded my turkey, gave the captain and the mules goodbye, and reached home after more than a month. Mother kisses me and is glad I am safe and home again.

## AMERICAN CANAL SOCIETY MEMBERSHIP DISTRIBUTION

(As of November 1990)

Pennsylvania	144
New York State	126
New Jersey	77
Ohio	64
Virginia	56
Maryland	47
Massachusetts	37
Illinois	35
Canada	27
Connecticut	26
California	24
Michigan	21
Indiana	21
Florida	17
England	14
District of Columbia	13
North Carolina	7
West Virginia	7
Vermont	7
Wisconsin	7
Delaware	7
Minnesota	6
Kentucky	6
South Carolina	6
Washington State	5
Maine	5
New Hampshire	5
Missouri	4
Louisiana	4
Colorado	4
Arizona	3
Tennessee	3
Georgia	3
Rhode Island	3
Hawaii	2
Texas	2
Nebraska	2
Kansas	2
Iowa	2
France	2
Oregon	1
Mississippi	1
Alabama	1
Sweden	1
Japan	1
Australia	1
Total	861

## SEVERN RIVER SAFARI

For its Fall 1990 trip, the Canadian Canal Society travelled to the Severn River and the Big Chute Marine Railway in Eastern Ontario. At 8 a.m., Saturday, September 15, twenty-six intrepid and enthusiastic members of the Society left Brock University, St. Catharines, (Ontario) by bus. They were joined by six others en route, Mrs. Emily Madden of Livonia, N.Y., and Mr. & Mrs. Richard Cavagnaro from Lockport, N.Y. participated. Past presidents, George Hume and Bill MacLean were along and current president John Burtiak welcomed the group. Another co-organizer, Norm MacDonald, reviewed the history and sites of Huronia.

The Big Chute, the first electrical marine railway, has been in operation since 1917. Unique in North America, the Big Chute Railway carries boats on a double track over a 17.7 m. height of land on a giant traveling carriage. Boats, floated on to the partially submerged car, are cradled by a variety of slings.

Aboard the Island Princess, CCS members cruised the Upper Severn eastward, through the Swift Rapids lock, to Port Stanton, a 2-hour cruise. At the Rawley Lodge in Port Severn, George Hume rounded out the evening with slides of canals and canal-related features from his 1988 trip to England, France and Belgium, and to the Yukon in 1990. There was also a business meeting.

Sunday, September 16 was bright but still cool, and only the most dauntless members of the Society took advantage of the boat trip by chartered launch which toured the Gloucester Pool and approached the Big Chute from below. The other members explored Port Severn and its lock, the smallest on the Severn River.

## 1991 DUES

Through an oversight on the part of your Editor, return envelopes were omitted from our recent ACS 1991 dues mailing. Please don't let this prevent you from paying your dues for 1991 promptly. Simply mail your check to our Secretary-Treasurer, Charlie Derr, whose address is shown on the invoice form. Sorry about that!

## CAPT. JOHN VIZE OFFERS HENNEPIN CANAL TRIPS

East Moline, Ill.—Capt. John Vize of East Moline is now offering cruises on the Hennepin Canal (Illinois-Mississippi Canal). He has converted a 19-foot john-boat into a sightseeing launch, complete with canopy and seats.

The Heartland and (Hennepin Canal Adventure) Tours operate on the summit level of the canal between Locks 21 and 22. The cruise is tied in with meals at the Pepper Tree Inn Restaurant, Sheffield, Ill., north of I-80 on Illinois 88 about an hour east of the Quad-Cities. After eating at the inn, tourists visit the Hennepin Canal Visitors Center.

Arrangements may be made through Accent Travel, 1-800, 421-7129, or by calling Capt. Vize at 309, 792-5388.

(From the Waterways Journal, July 9, 1990)



## GENERAL LAFAYETTE REVISITS AMERICA, 1824

*Submitted by William Dzombak*

In the evening, we dined with the French residents of New York, who wished to celebrate the 47th anniversary of the battle of Brandywine. The dinner was prepared at Washington Hall [in New York City], and this patriotic and family festival was marked by a character both happy and original; many Americans, who were present, were struck with astonishment. Upon the very broad table a plan of the grand canal, in relief, was exhibited, which traversing the state of New York, unites Lake Erie with the Atlantic. This novel sort of chart occupied a length of sixty feet upon the table, where it was hollowed out of the thickness of the wood, and lined with lead; an extremely limpid water filled the canal, which was bordered with green sod, imitating meadows, in the midst of which were models of houses, trees, and animals. Bridges beautifully crossing the stream, and masses of rock under which the canal passed, and forests through which it wound along, all combined to complete this unique masterpiece of topography. Over the center of the table was a large sun in continual rotation.

### Honorary Diploma

On the morning of the 18th of September at 8 A.M., Dewitt Clinton with a large number of citizens visited general Lafayette's apartments [in Albany], to present him in the name of the literary and philosophical society of New York with a diploma, constituting him a member of that society. On this occasion Mr. Clinton pronounced an elegant discourse which affected the general more, as coming from an orator who was the son and nephew of two distinguished men, with whom he had been intimately connected during the war of independence. During this short ceremony, a numerous procession was formed in front of our hotel, and at nine o'clock we embarked amidst the thundering of cannon, upon the canal which leads to Troy. Five handsome canal boats had been prepared for our voyage. The first carried a band of musicians; general Lafayette was in the second, with governor Yates, the ex-governors Lewis and Clinton, the mayor and city council, and some of the principal citizens of Albany. In the last three followed the escort commanded by major Coles, composed of an artillery company and three companies of infantry. . . . .

### At Troy, N.Y.

Before mid-day we arrived at a point where the canal communicates with the Hudson opposite Troy. At the sight of this town . . . general Lafayette was struck with astonishment. "What!" cried he, "this town has arisen as by enchantment!" "No", answered some one near him, "but it has been created and peopled in a few years by industry protected by liberty." The general then informed us that when in 1778, he crossed the Hudson at the same point, with a part of the army he commanded, there was then but two or three little cabins on the spot, in one of which, with some difficulty, he procured a cup of milk, and some corn bread. While he was giving us these interesting details, our boat descended to the river, where a dozen decorated boats towed us across to Troy.

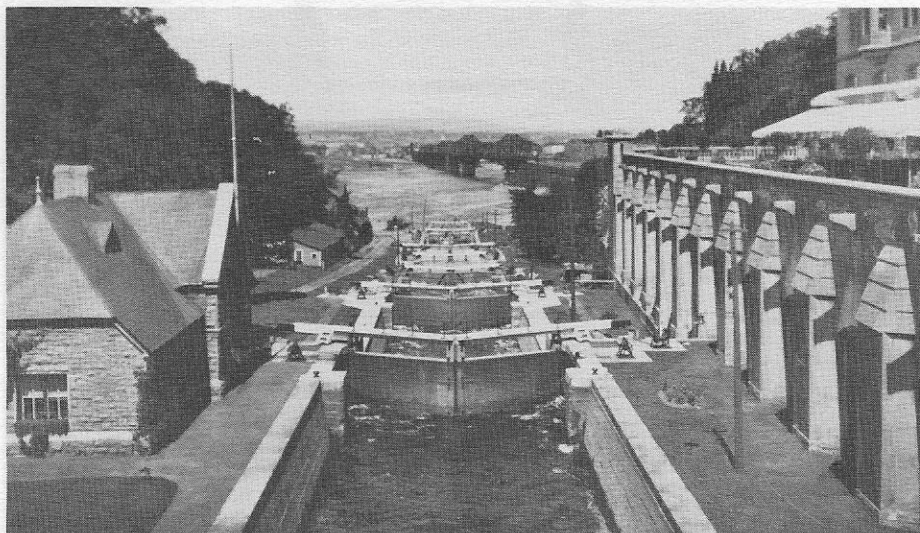
*Levasseur, A.*

*Lafayette in America, vol. 1, p. 95, 117*

*Philadelphia: Carey and Lea (1829)*

*Research Reprints, NY (1970)*

## International Canal Conference on the Rideau



Ottawa Flight of Locks

*by Judith Sutherland*

The First International Conference on Historic Canals (Sept. 16-19, 1990) was a great success. The conference, sponsored by the Friends of the Rideau, was held on the Rideau Canal at the Opinicon Resort Hotel in Chaffey's Lock, Ontario, Canada. The various sessions of the conference covered all aspects of historic canal operation and was a great opportunity to highlight the features of the Rideau Canal.

Restoration sessions looked at the evolution of lock maintenance and repair on the Rideau as well as at some of the new technology in the stabilisation of structures both underwater and on dry land. "Broadening your Constituency" presented a variety of approaches for garnering community support. From the field of Interpretation we saw how to provide a program with exhibits, with publications, with paid staff and with volunteers. On the research side, we were introduced to the importance of archaeology and oral histories in determining the past of a canal. Management looked at the operation of the different types of historic canals: recreation/conservation, recreation/commercial and operating/non-operating.

In addition to the conference sessions, there were two field trips which looked at the two characters of the Rideau Canal: the urban setting and the rural setting. The weather co-operated for both tours and the delegates enjoyed the bus and boat outings. A cold Monday night was perfect for meeting the "Spirit of the Rideau", a special interpretive presentation. The delegates discovered the history of the Rideau through encounters with various spirits or ghosts reliving their experiences on the Rideau. The highlight of the conference was the banquet speaker, Dr. Robert Legget, Canadian author of a number of canal books.

During the conference, a great camaraderie developed among the delegates. We were all drawn to this conference by our love of historic canals and thus had a great deal in common. We all enjoyed the opportunity to spend three days living, feeling and working historic canals. The delegates who had not visited our canals before were much captured by the charm of the Opinicon and the Rideau Canal and this made those of us who know the Rideau appreciate it so much the more.

## Report on Upper Fox River & Portage Canal

*By Frederica Kleist*

Will the current surveys save the Upper and Lower Fox River and the Portage Canal? The lower Fox River has been surveyed with short and long range plans to utilize and save the historic values in the Fox River Valley. The Survey was the result of the Army Corps of Engineers wanting to close the lock and dams on the lower Fox. The Corps proposals are unreasonable and to their advantage. Just a look at the Upper Fox and Portage Canal would tell the results of such a move. No maintenance was provided by the State. There is bound to be deterioration. Who pays then?

Recently, the East Central Wisconsin Regional Planning Commission under the auspices of The Wisconsin State Historical Society received a grant for the survey of the historic sites and buildings on the Upper Fox and Portage Canal. The survey will include lock and dam sites, many of which were closed in 1951 and 1952. Many were constructed around the 1840's and 1850's. The sites will be mapped, photoed and evaluated on both sides of the waterway for 100 yards.

The Survey is a long range planning program aimed at realizing the historic, recreational and economic potentials from Portage to Green Bay. Another aim is to identify potential candidates for the National Register and to designate the Fox River and the Portage Canal as a National Waterway Corridor. The Canal is the connecting link between the Fox and Wisconsin Rivers.

The Portage Canal Lock (Wisconsin River Lock) is part of the flood control for the City of Portage. The lock is scheduled to be reconstructed in 1992, when, the Portage levee is upgraded.

In the meantime, the Portage Canal Society continues to clean up the canal area, plant flowers, cut weeds, plant trees and shrubs. The first two downtown blocks have walkways along the bank. The south bank is part of the Ice Age Trail, Portage Canal Segment. On Canal Day, a bench near the elderly housing footbridge, was dedicated in memory of Henry Abraham.

Portage Canal Society Members have been chosen to participate in the National Heritage Tourism Initiative.



# LOCKINGTON LOCKS, STAIRWAY OF THE CANAL



**Lock Number One of the Lockington Flight of Locks, looking up from the lower end. Shows the attempt to keep the lock walls from caving in.**

*By Robert H. Mueller, Jr.*

Lockington, Ohio, about five miles northwest of Piqua, is a sleepy little village, straddling some back country roads, at the south end of the Loramie Summit in Shelby County. Most roads were platted in 1837 in a neat, square pattern but a few, it seemed, decided to take their own route, resulting in some odd intersections, and creating a crazy-quilt pattern in places. The village was incorporated in December of 1857.

Most residents of Lockington work in either nearby Piqua or in Sidney, with some going as far as Troy to the south for employment. Several small businesses exist in the village, with the center of soap box debate being the small delicatessen of Mr. and Mrs. Ray Gilmore at the north end of the Cross Trail street. Their homemade, fresh-made sandwiches are delicious!

The main claim to fame for Lockington are the five locks of the old Miami and Erie Canal, that go down the hill in a staircase to Loramie Creek at the bottom. During canal days, a wooden aqueduct carried the canal over the creek to Crooked Lock No. 6 which had a wide water at the downstream end for boats waiting to lock through, or to rest the crew and the mules. A similar basin between Locks 1 and 2 of the staircase served the same purpose, besides for cargo loading and unloading, with a drydock for boat repairs.

Water for the Southern Section of the Miami and Erie Canal was supplied by the Sidney Feeder Canal on the summit level just above Lock 1. Being on the summit level, the water also went north some 22 miles to New Bremen where the first lock of the Northern Section was located. The old feeder channel is still visible between Lockington and Sidney as a depression in the ground, and on up to Port Jefferson where the water entered the feeder from the Great Miami River. The old channel of the Miami and Erie can also be seen between Lockington and New Bremen from the back country roads between the two villages, with the Buckeye Trail also in evidence.

Since it took about an hour for a canal boat to lock through the five locks, service businesses such as saloons, hotels, stores, warehouses, and equipment for canal boats flourished in Lockington. A sawmill, and a flour mill, both established about 1830, thrived on the banks of Loramie Creek, using the power in the water as it fell some 67 feet through or around the locks. The mills changed ownership many times in their existence.

The decline of Lockington - Lockport in early canal days - coincided with the decline of the canal, and the rise of the railroad. In the latter part of the nineteenth century, the railroad was replacing the canal boat as the most economic way to ship goods the year around, since the canals would freeze over in the winter months, and shipping came to a standstill. The number of canal boats locking through steadily declined until 1913 when the coup de grace was delivered to the canal.

It came in the form of rain that did not stop until the canal was washed away in the Great Flood of 1913, in March of that year. Cities as far south as Hamilton along the Great Miami River, and also the general route of the canal, were inundated to record levels. When the waters receded they left behind not only the wreckage of the cities, but also the wreckage of the canal and the locks.

Lockington itself, being on the summit, suffered little damage but the wooden aqueduct across Loramie Creek was washed away, never to be rebuilt. A small footbridge was constructed on the ruins of the piers but it, too, did not survive for very long.

However, water was in the five locks in Lockington as late as 1915 when a former resident, then a boy, remembers Lock 1 and 2 full of water, and a canal boat in the basin between them being used by the children as a playhouse. The boat may have been shipped to Cincinnati or Middletown, where goods were still being shipped by canal boat between them, and points between, as late as 1925.

When the locks were drained of water is shrouded in mystery, just as elusive as the history of Lockington. Snapshots taken in August, 1952, of the three upper locks show them to be dry, with

a thick stand of grass in both the channel sections, and the bottoms of the locks. To achieve such a stand of grass requires some years so the best guess as to when the locks went dry would be in the mid-twenties, shortly before the canal was officially closed in Middletown in 1929.

In 1966, the site of five locks, plus the canal lands and two locks south of Loramie Creek, and Lock No. 8 and the channel past the Johnston Farm just outside of Piqua, were turned over to the Ohio Historical Society by the State of Ohio. In 1969, the five locks and the site were listed on the National Register of Historic Places, and also classified as a State Memorial by the State of Ohio.

Since then, the only water in the locks has been storm water, that has turned the site into a big drainage ditch. Cross Trail, and Museum Place streets were laid out at the head of Lock No. 1, and a large drain pipe was laid under Cross Trail to carry the storm water runoff under the street, and then through the locks down the hill to Loramie Creek. During a heavy rainstorm, the drainage becomes a raging torrent.

The resulting waterfalls, over the sills of all the locks at their upper ends, have scoured out the bottoms of the locks to expose the 12"x12" white oak timbers that were installed as the foundation of the lock walls. When the locks dry out, because of little or no rainfall, the timbers are subject to weather conditions of heat and moisture. The alternate wet and dry cycles have caused the timbers to partially rot away, weakening the foundations at the upper ends of all the locks.

Further, as the storm water flows through the locks, the action of the water further undermines the lock walls and causes general deterioration of the foundation timbers. Moisture is available for vegetative growth among, and between, the lock stones. In winter, the water freezes and causes lock stones to fracture and/or be displaced, with many pieces of lock stones already in the bottoms of all the locks.

What is the worst scenario are the leaning walls of all the locks, and which is quite literally pulling them apart. Not only is the external ground pressure pushing the tops of the walls into the



**Upper end of lower gate recess, Lock No. 1, west wall.**



locks, but the lower ends of all the locks are also separating from the walls, and falling down the hill, in the general area of the lower gate recesses. The resulting gaps in the tiers of stones reminds one of the dovetail joint used in putting together a dresser drawer, and many stones are broken.

The passing decades have not been kind to the locks which have been largely neglected since the passing of the canal. The only attempt at some kind of preservation was the installation, in 1986, of wooden shoring between the tops of the lock walls in Lock No. 1. Even though this seems to have stabilized the tops of the walls, the bottoms are buckling into the lock, as evidenced by not only bulging walls, but also fracturing of the lock stones at the lower gate recesses, the same point where the ends of the lock walls are falling down the hill.

The growing seasons are another, and a major, source of danger to all the locks. Regular maintenance consists of mowing the grass on the old towpath, and in the basin area between Locks 1 and 2. A "Maintenance Plan for Lockington Locks," released only last year by the Ohio Historical Society, calls for the mowing of grass as before, and also spot spraying woody plants growing out of all lock walls; cutting of the vegetation inside the first two locks and on the canal channel banks up to the third lock; and spraying broad-leaf herbicide on the bottoms of the first two locks and along the banks of the canal channel up to the third lock.

"Up to the third lock" forebodes ill for the lower three locks, where the vegetation is to be allowed to grow wild, and continue its destructive attacks on the walls and the stones of the lower three locks. No vegetation is to be cut or sprayed around these three locks, which generally are covered by the greenery before summer starts. As one might suspect, the lower three locks exhibit the worst conditions of leaning and bulging walls, broken, missing, and/or displaced lock stones, and the lower ends separating and falling down the hill.

State agencies, State Legislators, and the news media all seem unconcerned about the status quo of the five locks. A Treatise, describing the conditions of the locks and the site, was sent to some 37 State Legislators in whose Districts the old Miami and Erie Canal was routed. It also went to 23 weekly and daily newspapers in cities either on or near the route of the old canal between Toledo and Cincinnati, with no apparent effect or feedback. The 1990 Capitol Improvements Bill, recently passed last March, included no funds for either the Lockington site or the Piqua Historical Area. Simply put, these two historical areas will have to limp along on what has been done — or not done — in the past while Mother Nature continues her relentless assault to reclaim her territory for at least the next two years while slowly but surely turning the locks into piles of broken stones.

Over the decades, canal groups in general seem to have turned away from, or shunned, what is happening before their very eyes, to something that is no longer duplicated anywhere in Ohio, perhaps in the country. One would think that a canal-related group would be willing to take up the cause of restoration, or preservation, at Lockington for the future generations, but they seem more interested in visiting and viewing dead locks and canals in other geographic areas of the state. However, this is not all bad; it provides the opportunity to photograph the remains since no one can predict when they will disappear forever, or tumble into complete ruins, or piles of rubble.

What is to be done? When considering this question, one must also think of preservation versus restoration. The structures in question are subject to the whims of Mother Nature, and the long-term effects must be a major factor to either

minimize or eliminate the effects of the natural forces on the structures. Just when one thinks that Mother Nature has been brought under control, she returns with a vengeance to re-establish herself as the dominate factor. And, with Father Time and the weather on her side, they make a formidable adversary indeed against the preservationist.

The only viable option, for the five locks at Lockington, is to restore them to their original condition. It will entail their complete removals and reconstructions, with subtle but largely invisible



**Lock No. 2, lower end, looking up.**



**Lock No. 3, lower end, looking up.**



**Lock No. 4, lower end, looking up.**



**Lock No. 5, lower end, looking up.**

substructures that counter-act the forces of nature, and helps to convert them to use them to protect and preserve the locks. It would be a fitting tribute to those who toiled and, more often than not, died to build these magnificent structures in the early part of the last century.

It is also within the realm of possibility to water the five locks, the old basin area, and the channel sections to Loramie Creek, for some excellent fishing and small-boat activities. With the nearby Piqua Historical Area, and its roughly two miles of channel, and two locks, between there and Lockington relatively intact, it is left to the reader to consider the next logical steps.

It is regrettable and sad that so much time has been lost that could have been so well-spent in preventing the present decay. While it may not be too late to reverse or, at best, stop the present rate of decline of the locks, time is getting short while inexorable forces continue their destruction, unimpeded by anything or anyone. After all, it is "just a little at a time," and hardly noticeable. For those who have not seen the locks for some time, the decline is a shock to the eyes.

This, then, is the legacy of Lockington. It can remain a sleepy little village that has something that no one else has, but is disappearing into piles of rubble covered by vegetation. Or, it can take the lead of a community that realizes what is being lost, and throws down the gauntlet to all the forces — natural and otherwise — that are working to destroy a part of Ohio's heritage in the five locks.

It is also the legacy of canal lovers everywhere. It is easy to remain complacent and satisfied because the locks are still standing, such as that is, or to realize what is being lost — "just a little at a time" — and pick up the challenge and dare to save and restore a most significant part of Ohio's history.

There are several things that can be collectively done now. First, write letters, and more letters, to the State Legislature in Columbus, Ohio 43266-0604; the Ohio Historical Society, 985 Velma Avenue, Columbus, Ohio 43211; to any and all canal groups, local, national, and — yes — even international; to the Editor of your local daily or weekly newspaper; outdoor activities groups such as hiking, biking, fishing, camping, canoeing, to name a few; businesses especially those located in canal towns. The conditions of the locks are steadily worsening to the "final solution" of piles of broken stones.

Second, if you don't want to write that many letters, send a contribution to the Lockington Locks Reclamation & Restoration Fund (L.L.R.R.F.), c/o R.H. Mueller, Jr.; 1640 Trillium Court; Reading, Ohio 45215. In any letters you do write, mention the contributions to the L.L.R.R.F. They will be used to remove on-site vegetation.

Third, on Sunday, February 3, 1991, at 3:00 P.M., your presence can make a difference at Terry's Cafeteria, 105 E. Greene Street, Piqua, Ohio, in the Cambro Room, for an update. It also presents an excellent opportunity to visit and view the locks, as the summer growth will have died back by that time. Piqua is just west of the interchange between Interstate 75 and U.S. Route 36.

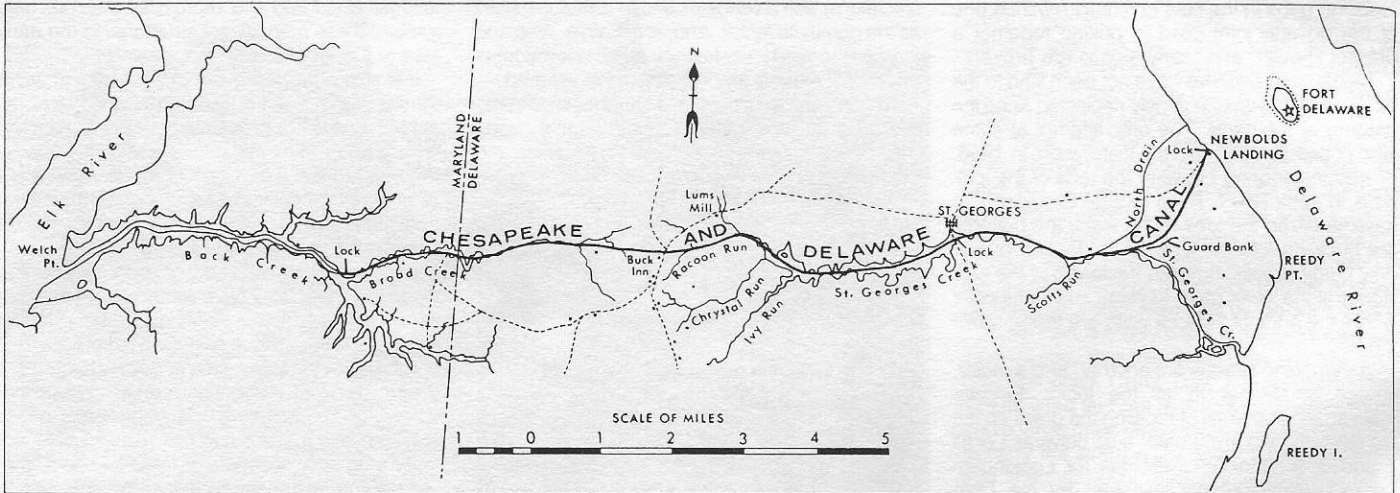
As a team, WE CAN STOP THIS WASTE!!!

## ROSCOE VILLAGE

The Roscoe Village Foundation, Coshocton, Ohio, has just become the Seventy-Fifth LIFE MEMBER of record in the American Canal Society. We thank them for this vote of confidence in our continuing operation.



# PENNSYLVANIA CANAL SOCIETY VISITS THE C&D



The original route of the C. & D. Canal connected Back Creek with St. Georges Creek and for eight years utilized natural stream flows for its water supply. The original map upon which the above is based was drawn before the terminal towns, Delaware City and Chesapeake City, were established.

By Bruce J. Russell  
Contributing Editor

During the weekend of October 13 and 14, 1990 the PENNSYLVANIA CANAL SOCIETY conducted a field trip over the CHESAPEAKE and DELAWARE CANAL, a waterway which successfully made the transition from traditional towpath canal to modern ship channel. The C&D in its present form is a major shipping artery which facilitates the passage of ocean going vessels from Delaware Bay to Chesapeake Bay, saving over 450 miles and millions of gallons of fuel. More specifically, it allows ships to travel from Philadelphia to Baltimore without the need to circumnavigate the entire DELMARVA PENINSULA.

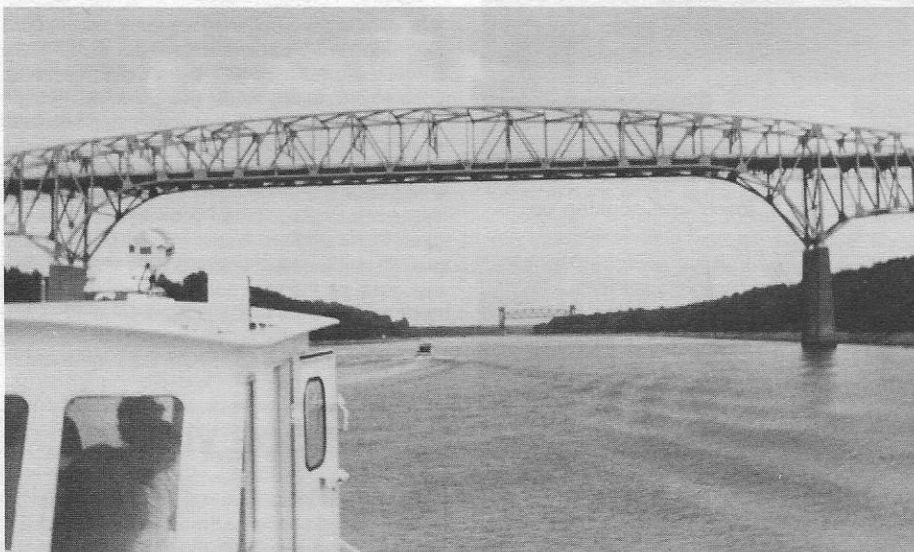
The CHESAPEAKE & DELAWARE CANAL was completed in 1829, four years after the ERIE. It brought to fruition a 150 year goal of joining the waters of Chesapeake Bay and Delaware Bay which are separated by 21 miles of land at the northern end of the Delmarva Peninsula.

Philadelphia interests figured prominently in the digging of this canal because they wanted to divert some of the trade of the Susquehanna River Valley from Baltimore to their own port. Instead of such traffic having to proceed south to Cape Charles and then north to Philadelphia it could take a shorter route through a proposed canal at the neck of the Delmarva land mass. In 1799 in the state of Maryland legislation was drafted to dig what would become the C&D canal, and in 1802 work commenced. Prior to groundbreaking much survey work had been done to determine which route across the northern Delmarva Peninsula would be most advantageous. The ultimate selection comprised an alignment connecting the BACK CREEK on the west end and the ST. GEORGE CREEK on the east end. In other words the excavated portion or "cut" would bridge the gap between two existing natural waterways which would be improved and dredged. Money would therefore be saved by minimizing the actual amount of digging. The final length of the canal was about 14 miles, and it comprised a tide lock at

each end plus intermediate lift locks. The lift up and over the summit level was 16 feet. Several prominent canal engineers who had done work on the Erie Canal were hired by the C&D Company to direct the labor of 2,500 men using mostly hand tools plus horses.

The original lock dimensions were 100 by 22 feet. The Delaware and St. George locks together raised the canal 16 feet and the Chesapeake lock on the west end lowered it 16 feet back to sea level. The original gates were traditional "miter" type but in later years drop gates similar to those on the Lehigh Canal were installed. Since the canal had a "summit level" 16 feet higher than its entrance and exit points there was the problem of insuring sufficient water to the summit. Initially it was felt that streams and brooks could be diverted to run into it, but by 1835 this solution was proving inadequate. With frequent locking water was always being lost by the summit portion, and what streams fed it wasn't enough to make up for the losses. A novel solution was therefore employed. A steam powered pumping station was designed and subsequently built in Chesapeake City at the western end of the summit level. One and later two steam engines turned a giant water wheel which lifted water from sea level up to the summit level of the canal, thus keeping it filled at all times and replacing what was lost during normal lockages. Similar steam pumping stations using water wheels fitted with buckets had been installed on some of the British Canals but their use on the C&D was a first in America.

The C&D was a successful waterway from its inception. All kinds of cargo was carried in its mule-hauled boats. Unlike more northerly waterways such as the Schuylkill Navigation, the DELAWARE & RARITAN, the LEHIGH and the MORRIS, the C&D did not depend exclusively on coal for the lion's share of its revenue. Farm produce and general cargo made up much of its tonnage. By the 1840s steam powered vessels were passing through it including passenger ships connecting Philadelphia with Baltimore. These ships used propellers rather than paddlewheels. Steam tugs were pulling long strings of barges by the 1850s, relegating the mules to a secondary role. In 1852 the original lock chambers were enlarged to dimensions of 220 by 24 feet with a 10 foot depth. These locks were built on top of piles driven into the ground since the soil surrounding the entire



Members of the PCS Tour were taken through the modern C. & D. Canal in the boat whose pilot house appears at the lower left. Here we are about to pass under one of the graceful bridges spanning the 450-500 foot waterway. (Bruce Russell photo.)



C&D CANAL was marshy and prone to sinking. The record year for tonnage was 1872 after which railroads began to cut into their business. Matters weren't helped by the fact that the canal was forced to charge substantial tolls since it cost money to operate the steam pumping station at Chesapeake City. In 1854 a second steam powered engine was added to provide more power to the waterwheel, and in 1865 two more modern boilers were acquired to furnish steam to them. The water wheel was 38 feet in diameter and was constructed of cyprus wood. As it rotated, buckets fixed to its surface picked up the water and raised it 14 feet and dumped it into a raceway which fed the summit level. People came from miles around to see it.

When the C&D CANAL ceased paying dividends in 1877 due to poor business its owners decided that traffic could be regained by rebuilding it as a sea level waterway capable of handling ocean going ships as well as coastal steamers. A number of surveys were done but nothing came of them.

About 1910 the Federal Government agreed to purchase the C&D CANAL from its owners — primarily the states of Delaware and Maryland. The price was \$2,500,000. In 1909 the Federal Government had passed the RIVERS & HARBORS ACT which called for the creation of an INTER-COASTAL WATERWAY from Boston to North Carolina. Its purpose was to build navigation channels which would allow ships to move up and down the eastern seaboard without having to venture into the open Atlantic Ocean. The route of the C&D CANAL was considered ideal for reconstruction as an integral link in this waterway network. In 1918 the actual purchase was made of the old towpath canal, and the task of making it into a sea level channel was turned over to the U.S. ARMY CORPS OF ENGINEERS.

Using sophisticated dredging and earth moving equipment the work of excavating a modern ship canal commenced in 1921 and was finished in 1927. In order to accomplish what needed to be done the locks at Chesapeake City and St. George were removed. Fortunately the steam pumping station at Chesapeake City was spared demolition. The only other part of the original towpath canal which wasn't obliterated was about 3 miles in Delaware City, the eastern entrance. The ARMY CORPS OF ENGINEERS decided to construct an entirely new entrance for the C&D SHIP CANAL at Reedy Point about two miles south of



**The 1840 Pumphouse on the old C. & D. Canal which housed the huge machinery used to keep the summit level of the canal full of water. (Bruce Russell photo.)**

Delaware City. This enabled the old Delaware City lock to remain intact.

All of the old bridges which spanned the towpath canal were rebuilt as fixed spans with the exception of the one which carried the Delmarva Line of the Pennsylvania RR. In 1966 this structure was replaced with a more modern type but still with a movable span. The cost of the project was approximately \$12 million. Once the new waterway opened as a toll free thoroughfare it immediately began to attract business. Over the years it has continued to be improved. In the 1930s it was widened and deepened so that two large ocean-going ships could pass. World War II was heavy traffic although the last regularly scheduled passenger steamers stopped in 1940. In 1954 it was decided to do yet another widening and deepening as well as rebuilding and replacement of bridges. Width increased to 450 feet would eliminate the need to have pilots aboard ships transiting the canal. Further upgrading has been the lining of banks with heavy "rip rap" stones to prevent erosion, and installation of night lights. A 26 mile approach channel was also created at the western end of the canal. According to recently published figures the C&D CANAL is one of the busiest in the world with 15,000 transits a year.

Commercial vessels up to 800 feet long as well as pleasure boats utilize it as a convenient shortcut from Chesapeake to Delaware Bay. It is an integral part of the INTRA-COASTAL WATERWAY and as such is used by numerous pleasure boats heading to and from Florida each year.

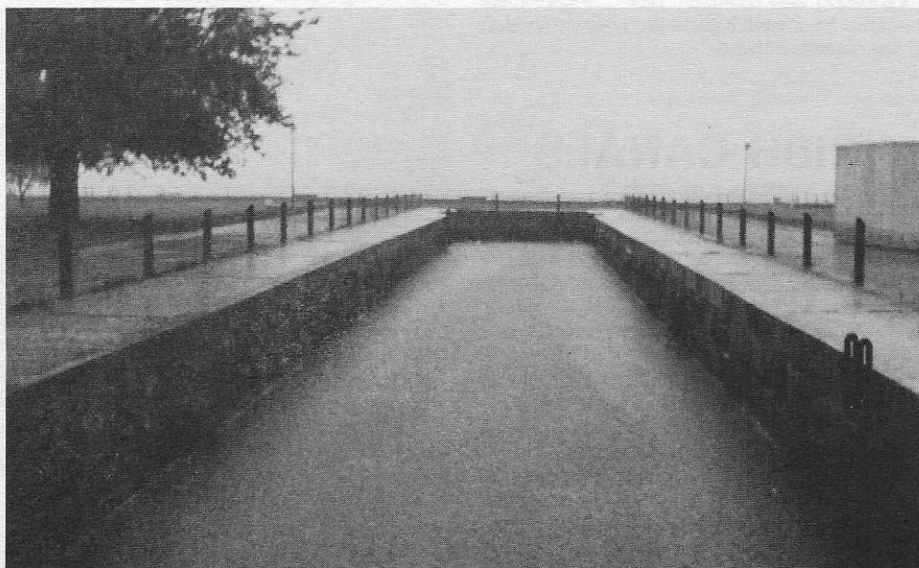
#### **Our Tour**

Our tour over the C&D CANAL began on Saturday Oct. 13, 1990. On Friday evening, Oct. 12, Albrecht "Zip" Zimmerman gave an informative slide presentation about this most interesting of waterways, tracing its history from the late 1700s until the present era. Dr. Zimmerman, a professor of history, was also the organizer and planner for this event which attracted about 100 people. As a member of both the PENNSYLVANIA and AMERICAN CANAL SOCIETIES, he has done much to promote knowledge and awareness of our nation's canal era. In this endeavor he has been assisted by his wife Peg who is also a university professor. Headquarters for the weekend was the Ramada Inn situated in New Castle, Delaware just south of Wilmington.

On Saturday morning the group boarded a tour bus and made an initial stop at the PORT PENN MUSEUM, a refurbished school house with pictures and other items depicting life on Delaware Bay.

Leaving this museum the bus drove to Reedy Point where the present entrance to the canal is situated. On the way we passed through Delaware City and saw remains of the original C&D CANAL. This was the only segment not incorporated into the 1927 sea level waterway. The bus then drove along a dirt service road parallel to the C&D which is now 450-500 feet wide. At Summit, Delaware we could see where the highest point on the old towpath canal was situated. This was the portion 16 feet above sea level which required locks to reach. In order to retain water in this section the previously mentioned steam pumping station was built and was in continuous use until 1927.

Our next stop was the actual pump house in Chesapeake City, Maryland. The building is fully intact along with its two engines, water wheel, boiler, etc. In addition to the mechanical apparatus there were also exhibits explaining how the original towpath canal was rebuilt as a sea level waterway. The museum also contained a working model of a lock which existed on the old C&D CANAL, and

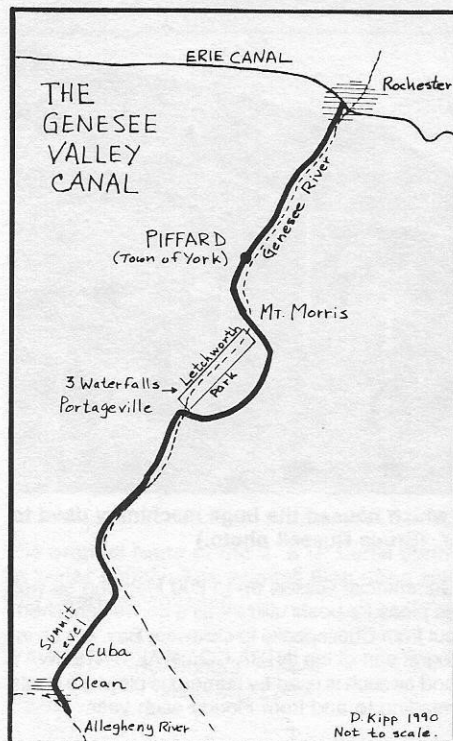


**Only surviving lock of the original C. & D. Towpath Canal at Delaware City, Delaware. (Bruce Russell photo.)**

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# GENESEE VALLEY CANAL — 150TH



By David L. Kipp

On September 22, 1990, the Historic Society of the town of York, NY sponsored a festival to commemorate the 150th anniversary of the September 1, 1840 opening of the Genesee Valley Canal (GVC) from Rochester to Mt. Morris. The GVC was later completed to Olean, NY connecting with the Allegheny River. The celebration took place in the hamlet of Piffard which straddles the old canal line about 3 miles west of Genesee, NY. Events took place in and around a canal era inn recently and beautifully restored as the "Yard of Ale" restaurant.

The Canal Society of NY staffed a booth which drew many inquirers to its displays of maps, booklets, site photographs and slides relating to the GVC and other NY canals. All the available

guidebooks for canal tours published by the Society were sold out within the 1st 2 hours.

The highlight of the day was the dedication of an historic marker inscribed as follows:

"*GENESEE VALLEY CANAL Rochester to Olean 1836-1878. This section of the Genesee Valley Canal opened as far as Mt. Morris on September 1, 1840. The canal provided a practical means of transporting both goods and people, making Piffard an active commercial center. TOWN OF YORK HISTORICAL SOCIETY September 22, 1990.*"

## Dedication Ceremonies

The dedication ceremony was heralded by blasts on an authentic GVC boatman's horn provided by Mrs. Emily Madden of Livonia, NY who, with her late husband Heywood, accumulated several decade's worth of field trip notes, photographs and research to become THE experts on GVC history and lore. It was punctuated by a musket salute from Little Beard's Men Frontier Encampment at the moment of the unveiling.

Among those lending their words to the moment were Tom Grasso, President of the Canal Society of NY. He pointed out that although not an economic success, the GVC should be remembered with pride for its role in the settlement and development of the Genesee Valley and for the unique engineering challenges it overcame. The canal climbed 978 feet from its Rochester junction with the Erie Canal to the summit level near Cuba, NY, having 50 locks in one 5 mile stretch as it by-passed the 3 waterfalls of the Letchworth Park Canyon. Congresswomen Louise Slaughter praised the local citizenry for celebrating their unique heritage in a way that will enhance the attractiveness and historical interest of the Valley. Bud Van Arsdale, who is on the board of directors of the NY Parks and Conservation Association which is attempting to develop a greenway linear park along the Genesee River corridor from Rochester to Letchworth Park, explained that the GVC is a vital link in tying the greenway concept together.

This event hopefully portends an awakening awareness of this little known canal and looks to the possibility of projects that will preserve and highlight what remains of the GVC. In focusing on such monuments to our exciting transportation, engineering and economic past, we can make them more accessible and accurately interpreted to the general public.

## IRISH CANALS CRUISE

American Canal Society members are welcome to join the Canal Society of New Jersey's sixth study tour to the British Isles on a "space-available" basis. The two week cruise will depart New York on Thursday, May 16th, 1991 and return on Sunday, June 2nd. The \$1,500 per person price will include air and ground transportation, boat rental for 14 days, 2 nights in a hotel in Dublin and some meals. The anticipated excess will be refunded at the conclusion of the trip. "Capt." Bill McKelvey, who ran three of the society's five trips in the United Kingdom, will again be the tour leader. Participants will need to join the Canal Society of New Jersey. Contact the "Capt." at 103 Dogwood Lane, Berkeley Heights, NJ 07922 or call him at 201-464-9335.

## PCS TOURS C&D



Boat which took us through the C. & D. Canal, moored at Schaefer's Restaurant in Chesapeake City, Maryland. (Russell photo.)

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one of a dredge used to build the present waterway. The entire complex is owned and maintained by the Philadelphia District of the U.S. ARMY CORPS of ENGINEERS. Adjacent to the 1840 pumping station is the control center for the modern waterway. TV monitors show most portions of the channel, and the operator is in radio communication with the bridge of all vessels passing through. "Zip" Zimmerman showed the group the location of the Chesapeake City locks, removed in 1927. Today no trace of them survives.

A lunch stop was made at SCHAEFER'S CANAL HOUSE RESTAURANT located in Chesapeake City, an old establishment which once served food to boatmen on the towpath canal.

Following the meal the group boarded a small excursion vessel for a trip through the present day C&D CANAL. The boat was brand new, built in Louisiana in 1989 and owned by the State of Delaware. In spite of less than perfect weather we cast off and began a 1 hour trip through the canal. A park ranger was aboard and gave an interesting commentary about the waterway including its history and present day importance to shipping. He described the continuing process of maintaining and improving it, and mentioned its role as a link in the INTRA-COASTAL WATERWAY from New York to Florida. We exited the canal at Reedy Point.

Our vessel then headed north and docked at historic Ft. Delaware situated on an island in Delaware Bay. This now abandoned fort was built in 1862 by the Union Army to provide defense for Wilmington and Philadelphia. However since no Confederate warships ever tried to sail up Delaware Bay it eventually became a prisoner of war facility for the North, housing thousands of Confederate POWs in miserable conditions. In fact it was often referred to as the "Andersonville of the North." We spent about 1 hour at the fort and then reboarded the boat for Delaware City. Upon disembarking we saw the surviving lock from the 1830 era towpath canal.

On Saturday evening there was a buffet supper in which the members of the PENNSYLVANIA CANAL SOCIETY had a chance to meet and socialize with one another. Both Dr. ZIMMERMAN and Dr. ORR from the Park Service gave interesting talks about the C&D CANAL. All participants for this weekend were given a registration packet containing maps and other historical material pertaining to the C&D CANAL. Dr. ZIMMERMAN and the PENNSYLVANIA CANAL SOCIETY ran a superb trip.

## NEW PUBLICATIONS

*The Santee Canal Sanctuary*, Part I, by Joe J. Simmons III and Mark M. Newell, \$12.50; and Part II, by Mark M. Newell, \$17.50, ppd. to "SCIA-USC" from Diane Moses, SCIAA, University of South Carolina, 1321 Pendleton St., Columbia, SC 29208. Archaeology of the Santee Canal, which turns out to be more complex than anyone suspected.

*The Appomattox River Atlas*, by W.E. Trout, III, 49pp., \$5 ppd. to "Petersburg Department of Tourism," from Centre Hill Mansion, Petersburg, VA 23803. Historic sites on the Appomattox River and its navigable branches.

*New York State Canal Guide, Western Region*, by Jeremy G. Frankel & Capt. Peter Wiles, Jr., 180 pp; \$19.95 plus NY tax. Land and water maps, shops, marinas, lockage info.; from Tonawanda to Syracuse. Published by Mid Lakes Navigation Company, Ltd. Write Jeremy Frankel, P.O. Box 2414, Glens Falls, NY 12801.