

AMERICAN CANALS

BULLETIN OF
THE AMERICAN CANAL SOCIETY

BULLETIN NUMBER 55

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

NOVEMBER 1985

PRESIDENT'S MESSAGE

As all can see from our logo, which is a map of the western hemisphere, the territory covered by the American Canal Society is about 8,000 miles long and 7,000 miles wide, from the North-west passage to the Beagle Channel - from Marsh Lake Lock in the Yukon Territory to the harbor locks in Buenos Aires. Excepting our U.K. Director Roger Squires, your society's directors are not at present spread out quite this far, but many are hundreds of miles from any central meeting place so practically all of the society's affairs are managed by mail.

In spite of these difficulties, six of our nineteen directors and officers managed to attend the November 16th Directors Meeting in New Jersey, hosted by Vice-President Bill McKelvey and his Canal Captain's Press. V-P Bill Gerber came from Massachusetts, Secretary-Treasurer Charlie Derr from Pennsylvania, Director Art Sweeton from Connecticut, and Director Gibson Hobbs and active member George Rawls from Virginia.

The meeting was timed to follow the Canal Society of New Jersey's November meeting, a memorable showing of American canal films to a packed auditorium in Morristown on Friday evening. Afterwards, we repaired to Bill McKelvey's home-museum-canal office for refreshments, a guided tour and a late night bull session. All day Saturday was set aside for the Directors Meeting proper, followed by a marathon presentation (at our unanimous request!) of all of Bill's canal slide talks. Before going home on Sunday we were honored by a tour of Jim Lee's Morris Canal incline plane and museum — the American canal world's famous example of what one person can accomplish.

A summary of the meeting, including points sent by those directors who couldn't come, has been prepared as a separate insert to AMERICAN CANALS. Also, as recommended by the directors, a sheet is enclosed, addressed to me. Let us know of your interests, suggestions and comments. Offers to participate in the activities of your society are especially welcome. The future of the society is up to you.

Bill Trout

WELLAND DAMAGE REPAIRED



St. Lawrence Seaway President Bill O'Neil inspects the repairs at Lock Seven on the Welland Canal, October 1985. The white arrow shows the damaged section of the lock wall, about 180 feet long and 45 feet deep. The large chunks of debris in the bottom of the lock were removed and the wall was patched with new concrete. Full operation of the lock was resumed November 7, 1985 after a 24-day shut-down.

United States had its "Three Mile Island" incident; Canada had its Welland Canal "Breakdown." Both events received wide publicity in news media throughout the world. The physical damage to the Welland Canal was repaired in only 24 days, but the psychological effects of both events continue on a gradually diminishing scale. Hopefully, the "bad press" on the St. Lawrence Seaway will subside much more rapidly than the TMI controversy, which has plagued power companies throughout the USA for the past six years!

The details were as follows: While Liberian Freighter "M.V. Furia" was down-bound in Lock Seven of the Welland Canal carrying 16,000 tons of grain to Egypt on the morning of Monday October 14th 1985, a water conduit, imbedded in the west side of the Lock, burst, blowing out a 150-foot concrete section near the base of the Lock. The debris wedged itself against the hull of the "Furia", just as it was ready to leave

the lock. The "Furia", undamaged, was subsequently backed out the lock, but no further traffic passed through Lock Seven until repairs could be made. Ironically, if the blow-out had occurred at any other of the flight of locks at Thorold, Ontario, there would have been no great problem. Locks Four, Five and Six are "twins". Unfortunately, Lock Seven is a single lock.

The accident caught 130 sea-going vessels from countries world-wide on the wrong side of Lock Seven. With the winter freeze only months away, many of the vessels were home-bound on their last trip of the season. There were still thousands of tons of wheat at ports such as Thunder Bay, and Milwaukee waiting to be loaded on ships to Russia, Africa and countries in dire need of the grain.

This was the second time in a year that the St. Lawrence Seaway had been blocked by an unforeseen accident. Last

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American Canals

BULLETIN OF THE AMERICAN CANAL SOCIETY

"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.

Annual subscription to "AMERICAN CANALS" is automatic with a minimum ACS dues payment of \$12.00. Individual copies may be purchased at \$3.00.

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NEW ACS LIFE MEMBERS

David N. Edwards, Jr. of Durham, N.C. and Charles P. Reiss of Brooklyn, N.Y. have just become Life Members of the American Canal Society. This makes a total of exactly fifty ACS members in this important "Life" Category. We greatly appreciate the extra contribution of all fifty!

"WHY A DUCK?"

In "The Cooanuts" the Marx Brothers discussed the confusing word "viaduct" at length, but what we really want to know is, "Why aqueduct?" Everybody knows "aqua" is Latin for water, so it ought to be "aqueduct," right? Well, my dictionary says it isn't, even though it seems half of the writers spell it that way.

The correct spelling is just one of those quirks of English which must be memorized, but there are logical reasons for it. "Aqua" is indeed Latin for water (as in aquatic — note the a); and "ducere" means to lead or convey (as in duct, abduct, and even Duke — a leader of men). But Latin is known for its complex system of word endings and "a leading of water" is "aquae" (of water) plus "ductus" (leading). The Romans spelled it "ductus aquae," "aquae ductus," or "aquaeductus" — actually "AQVAEDVCTVS," because they didn't have a "U." Over the years, languages derived from Latin dropped word endings such as "us," and (especially in America) simplified the diphthong "ae" to "e," as for archaeology and anaesthetic.

Die-hards today can probably get away with "aqueduct" by ignoring their word processor's spelling checker. Thomas Jefferson, writing in 1787 on the Canal du Midi, spelled it like this, although he is also the one who said (we hope in jest) that "I have nothing but contempt for anyone who can only spell a word one way!" But "aqueduct," not being officially sanctioned by modern dictionaries, has become a subtle trap for the unwary and a source of smugness for us who know better!

Bill Trout

New Canal Tunnel

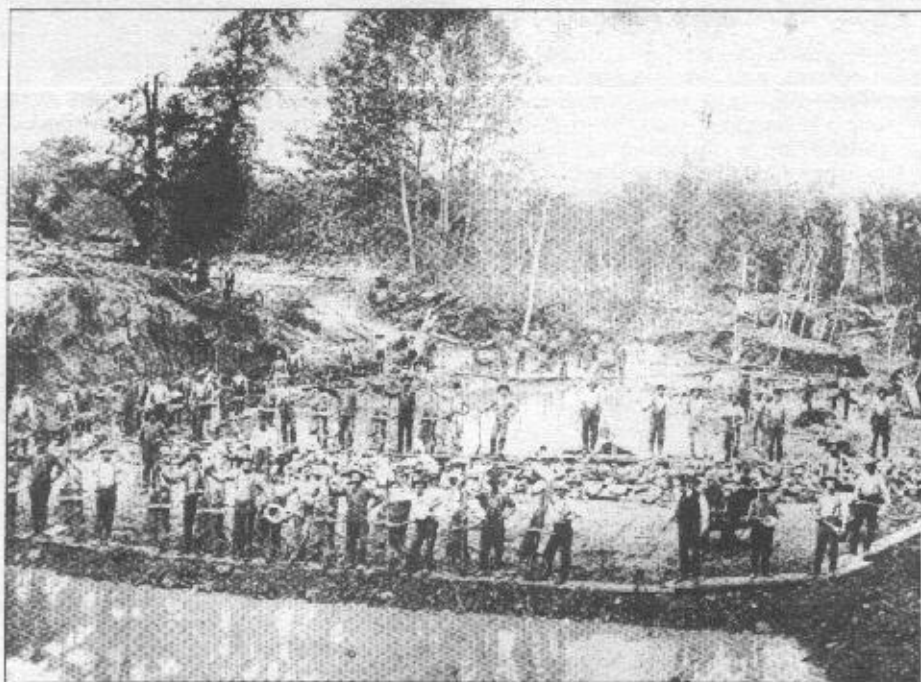
ACS Director Bob Mayo sent us this item, as published in the British magazine *TUNNELS AND TUNNELING* for March, 1984. Hopefully, by this time, the tunnel is complete!

1984 will see the driving of the first canal tunnel to be built in the UK for 134 years. Using a grant, said to be of some £225,000 from the Department of the Environment, the Metropolitan Borough of Dudley will build the 60m long tunnel from the existing Dudley Canal Tunnel into massive 200 year old caverns created by limestone mining beneath Castle Hill.

The new 4-meter (13'2") diameter tunnel will connect with an old underground canal basin which crosses the cavern floor and will bypass the original tunnels which are blocked by roof falls. The contract will be let on a 'design and build' basis and tunnelling is expected to be finished by mid 1984.

Tunnelling will be through a combination of competent limestone in the lower two thirds and a mixture of limestone rock and clay fill in the upper third. A functional concrete liner will initially be provided, although at some future date it is planned to construct an authentic brick lining to create the setting for viewing the 80m long, 15 high caverns. About 400 rock bolts of 3-4m in length are to be installed in the cavern roof.

The Dudley Canal Trust, which put forward the scheme, has said that more than 150,000 tourists a year are expected to take boat trips through the tunnel. Future proposals include the opening up of further tunnels to allow through traffic in the caverns.



This very old and badly faded photo was supplied to us by Ted Fenstermacher of the Berwick (Pa.) Press-Enterprise. Our attention was called to the picture and accompanying write-up by Bob Horn of Buchart Horn. It is thought to be construction or repair work on the North Branch of the Susquehanna Canal System, which ultimately connected with the Erie Canal in New York State.

OHIO "CANALLERS" TOUR THE HOCKING

Sixty members of the Canal Society of Ohio, held a two-day meeting and tour of the Hocking Canal from Carroll to Logan, Ohio, the week-end of October 18-19, 1985, with headquarters at the Holiday Inn, Lancaster, Ohio. As originally built, the Hocking Canal was a private venture known as the Lancaster Lateral Canal to connect the town of Lancaster, with the new Ohio and Erie Canal at Carroll, Ohio. It was later extended southeast along the Hocking River to Athens, Ohio. The tour group inspected both the routes of the Lancaster Lateral Canal and the later Hocking Canal as far south as Logan, Ohio.

The Friday evening session included a lecture on the history of the Hocking and a slide talk on the details of the canal and a preview of the Saturday tour. The tour included some interesting old



A group of CSO members inspect one of the well-preserved locks of the Hocking Canal, south of Lancaster, Ohio.



One of the CSO tour groups checks out the lower end of a Hocking Canal Lock remains, while tour buses wait in the background.

mansions in the city of Lancaster, one of which was the homestead of William Tecumseh Sherman, of Civil War fame. A buffet luncheon was served at the spacious Olivedale Senior Citizens Recreation Hall in Lancaster. The evening banquet at the Holiday Inn included a special re-enactment of the Hocking Canal dedication ceremonies; a lecture by Ruth Drinkle, local historian, entitled "Architecture in Fairfield County"; and a slide-lecture by Bill Shank of the American Canal Society entitled "Canals of the Twentieth Century".

John Droege of Columbus, Ohio, was general chairman for the affair, and one of the tour guides. Barnett Golding was the principal lecturer Friday evening and a tour guide. Terry Woods, president of the Canal Society of Ohio, conducted the business meeting.



You can see that Barnett Golding (left) has the full attention of his audience at one of the tour sites.



Terry Woods (left) and Barnett Golding head up one of the groups walking through the woods to check out an old dam and lock site.

ST. CLAIR FLATS CANAL

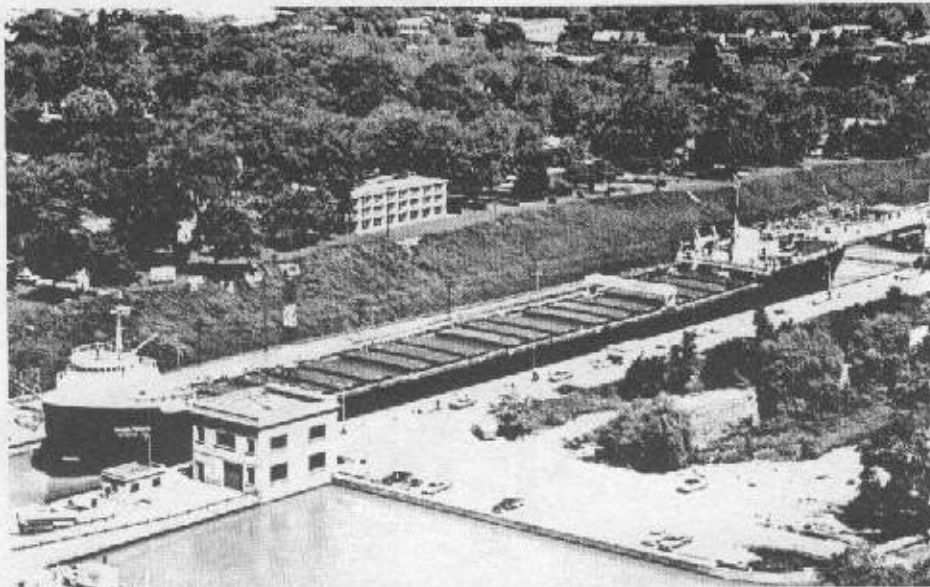
The St. Clair River made news in late April of 1984 by becoming clogged with ice and delaying shipping in this vital waterway. This is indicative of the problems of trying to extend the shipping season. However, in the 1850's, the more serious concern was simply trying to find enough water to get through the St. Clair River.

The river enters Lake St. Clair through a large delta containing many small channels. None were naturally navigable for the growing ship sizes of the mid-nineteenth century. The first channel excavated through the shifting channels of the delta was completed in 1855 by private shippers. The channel was greatly improved by the United States Government between 1857 and 1858 and by the Canadian Government in 1858. By this time the cut was known as the St. Clair Flats Canal.

The "canal" lies on the border between the United States and Canada and has been maintained by the U.S. Over the years the channel was widened and deepened to handle large ship sizes. However, the canal followed a long arc through the delta. As part of twentieth century Seaway improvements, a straight "cut-off" through Canada avoids the rather curved course of the canal. Nevertheless, the St. Clair Flats Canal still exists for navigation.

A true navigation canal should be an artificial, man-made watercourse. However, calling improvements to existing watercourses a "canal" occurred relatively frequently in the 19th century. Whether such river improvements are technically canals depends upon how much human activity was required in the improvement.

WELLAND DAMAGE DRAWS WIDE ATTENTION



An aerial view of Lock Seven on the Welland Canal at Thorold, Ontario during normal operation, with a large sea-going freighter up-bound. (Courtesy Lock 7 Motel)

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year, a lift-bridge jammed at Valleyfield, Quebec, causing an 18-day shutdown of the Seaway, at an estimated \$40 million cost to shippers in lost business.

Repair work at Lock Seven continued around the clock for 24 days. While the original estimate placed the re-opening at November 8th, the danger of washing out of the wet grouting in the break caused a slight further delay. Finally, at dawn on Thursday, November 7th, 1985, Lock Seven was filled with water and the "Furia" was allowed to proceed down to Lake Ontario. In the meantime some 130 vessels were "stacked up" at both ends of the Welland. Estimates of shipping losses ran over one million dollars per day during the shut-down.

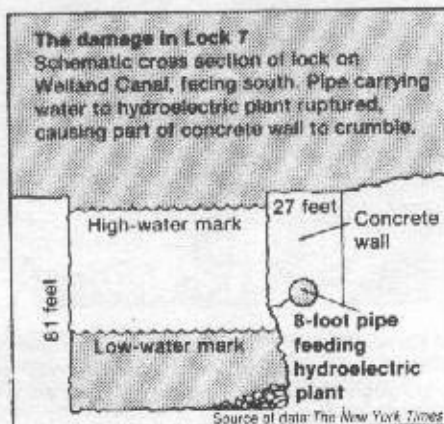
"If nothing else", states ACS Canadian Director Louis J. Cahill, "This accident has called the attention of the World to the extreme importance of the St. Lawrence Seaway, which has been taken for granted since its opening in 1959. When you consider, also, that the Welland Canal has been operating (except for winter shut-down) continuously since the last enlargement program of 1932, it is remarkable that no breakdown of this sort has ever occurred before." William O'Neil, St. Lawrence Seaway President stated that he feels the Seaway has done an adequate job of maintaining and upgrading the entire canal system through the years and is confident that such an accident "will not happen anywhere else in the canal system."

Nevertheless, these two incidents have led to some lack of confidence on the part of shippers world-wide in the reliability of the entire St. Lawrence Seaway. Officials admit that a new "selling job" will have to be done to restore confidence.

Not only in Canada was there concern for the future of the St. Lawrence Seaway. United States is responsible for the operation and maintenance of the Eisenhower and Snell Locks at Massena, New York. James L. Emery, the U.S. Administrator of the (U.S.) St. Lawrence Seaway Corporation, hopes that the Welland Canal incident will spur Congress to approve a \$39.2 million overhaul of the two locks on the American side. Emery says that there is no immediate danger of wall collapse here, but feels that work should be started as a precautionary measure.

The repair of the American Locks was urged by the Army Corps of Engineers in a report last year to Congress and the Seaway Corporation. The concrete walls of the Eisenhower Lock are cracked in spots and are deteriorating, because the Corps used the wrong concrete mix when the lock was built 26 years ago. Minor cracks appear to be the only problem at Snell Lock.

The St. Lawrence Seaway normally closes December 15th for the winter, but Emery says Seaway officials would



consider extending the shipping season, as they did last year, if good weather prevails. It has taken a week just to clear the backlog of ships which had built up at both ends of the Welland Canal. When the Welland re-opened on November 7th there were 130 ships waiting, 62 of them full ocean-going vessels. 77 ships were waiting to climb the Niagara escarpment to Lake Erie and 53 were headed down to Lake Ontario. The Welland Canal normally remains open until the end of December.

TWIN LOCKS ON THE PANAMA

The recent accident on the Welland Canal brings home to us the vulnerability of single-lock canals, anywhere in the world. It also calls our attention to the wisdom of Theodore Roosevelt, William Howard Taft and George Washington Goethals in building the Panama Canal with twin locks for the entire route of the canal. Thus, if a break-down occurs at one lock, its "twin" can continue to handle traffic, in both directions, until repairs are made. Let us hope canal builders of the future bear this important lesson in mind!

ERIE CANAL "SUBS" FOR WELLAND

Louis J. Cahill, our ACS Canadian Director, sent us the following clipping from Welland, Ontario, EVENING TRIBUNE for October 28th, 1985, while the Welland Canal was shut down.

WATERFORD, N.Y. (AP) — Exactly 160 years after mules towed the first barge down the Erie Canal, a tugboat is pushing the first of two barges along the shallow waterway to carry to Ohio cargo delayed by the collapse of a lock wall in the busy St. Lawrence Seaway.

The Seaway, ironically, helped drain commercial traffic away from the nation's oldest major canal when it opened in 1959.

The tug was expected to take two days to nudge one barge to Buffalo, N.Y., on Lake Erie from Oswego, N.Y., on Lake Ontario. The boat will then return to Oswego for the second barge. From Buffalo, the barges will be towed in tandem to Cleveland, where the cargo will be unloaded and trucked 130 kilometres south.

General Motors officials switched to the Erie Canal, to get a \$13-million, 18,000-ton metal stamping press to an auto plant in Mansfield, Ohio, because their ship was blocked in the seaway, said Dee Allen, a spokesman for GM's Chevrolet-Pontiac-Canada Group.

On Oct. 14, a section of wall in Lock No. 7 in the seaway's Welland Canal crumbled, keeping up to 100 ships tied up at ports in Canada and the United

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SEAWAY ALTERNATES CONSIDERED

States. Engineers estimate repairs can be completed by November 7th.

The New York State Canal System, which includes the Erie, Champlain, Oswego and the Cayuga and Seneca branch canals, is open toll-free 24 hours a day to commercial shippers, said Gregory Dolan, a spokesman for the state Department of Transportation, which maintains the 525-nautical-mile canal system. Recreational users have access to the canal during the day.

New York Gov. De Witt Clinton was the driving force behind the Erie Canal. Skeptics tagged it Clinton's Ditch and Clinton's Folly, but on Oct. 26, 1825 Clinton opened the system.

The completion of the waterway brought commerce and travellers from the Atlantic to the Great Lakes, allowing New York City to overtake Philadelphia and Boston as the young country's major seaport. Travel time from New York to Buffalo was cut from six weeks to 10 days.

One year after the Erie opened, 13,000 boats and 40,000 settlers had used it to go west. New towns sprang up along its banks.

Buffalo, an outpost of about 200 souls in 1812, was by 1840 a thriving city of 18,000. Rochester had a population of 331 in 1816 and by 1828 had 11,000.

Ninety years after the Erie was completed, officials felt the traffic it carried merited enlarging it. Much of the old Erie was abandoned; lakes and rivers were canalized.

Today's Erie Canal, 10 times longer than the Panama Canal, looks much the same now as it did when expansion was completed in 1918. What's different is the traffic that moves through its massive steel locks.

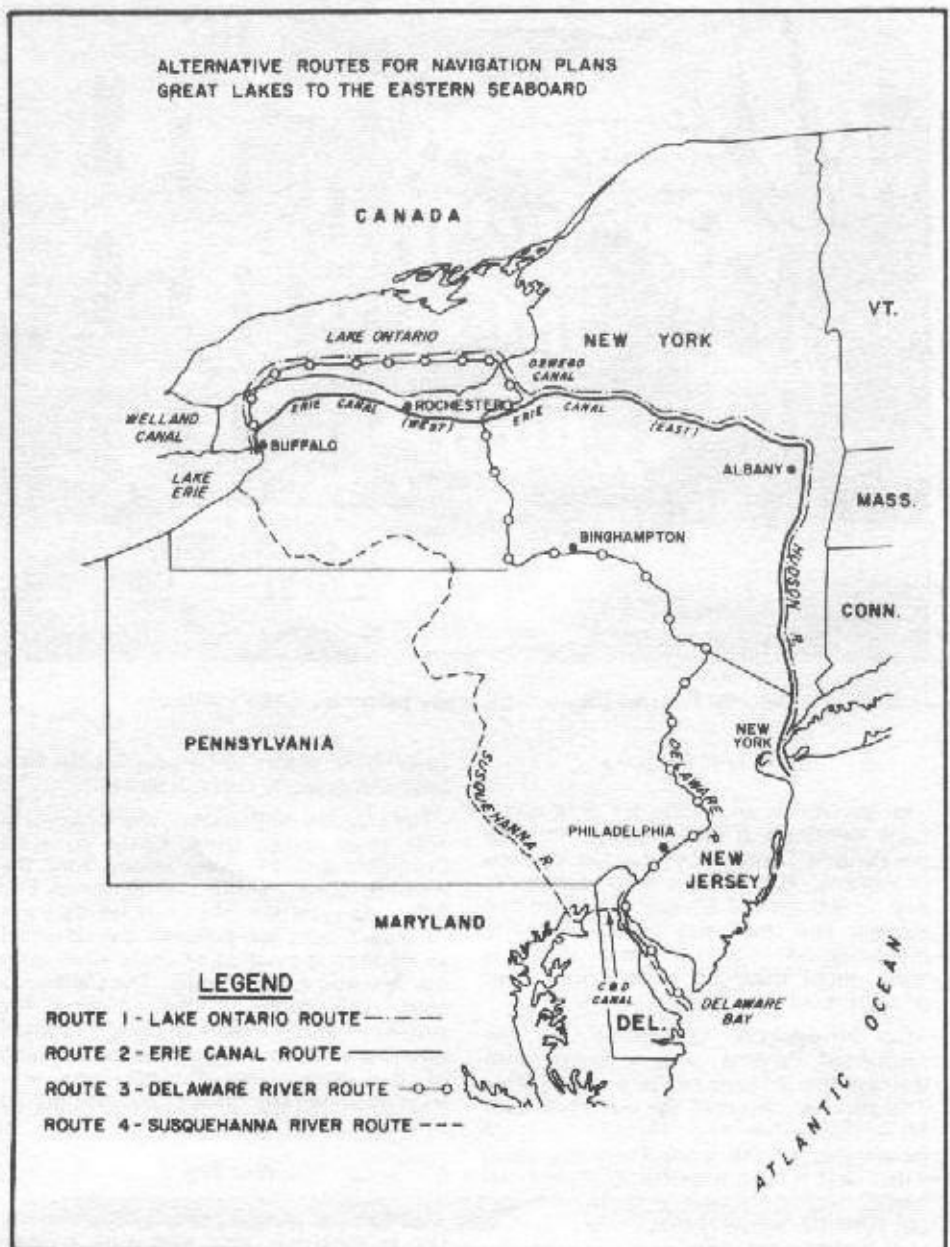
It's commercial transport consists primarily of oil barges (built to fit the locks). There are also sizable passenger-carrying boats, such as the Mid-Lakes Navigation's "Erima II" and the American-Canadian Lines' "New Shoreham II".

In recent years, the Erie Canal has experienced a huge surge in its use for recreational purposes. In 1984, nearly 100,000 pleasure boats were locked through the 34 canal locks.

NEW CANAL BOOK

Historic Saltsburg, Inc., has published a book, **Saltsburg and the Pennsylvania Canal** by George B. Johnson. Saltsburg is said to be the only town on the Eastern Division of the Pennsylvania Canal that still retains its character as a canal town. The 8.5 x 11 book is 152 pages, has 50 photographs, and 12 maps. The cost is \$7.13 postpaid (\$7.50 in Pennsylvania). It may be purchased from Historic Saltsburg, Inc., P.O. Box 71, Saltsburg, PA 15681.

ALTERNATIVE ROUTES FOR NAVIGATION PLANS
GREAT LAKES TO THE EASTERN SEABOARD



The accident at the Welland Canal, during the peak of the Seaway navigation season, calls our attention once more to plans of the U.S. Army Engineer Corps for an all-weather, deep draft ship canal, making a direct connection between the Atlantic Ocean and Lake Erie. Four possible routes are shown: One through Maryland and Pennsylvania along the Susquehanna River; one along the Delaware River and the Finger Lakes; and two via the route of the Erie Canal, and/or Lake Ontario.

THIRD ACCIDENT PLAGUES SEAWAY

As we go to press, yet another accident has occurred on the Seaway to delay traffic before the winter freeze:

VALLEYFIELD, Quebec (UPI) November 30th, 1985 — The St. Lawrence Seaway was again made impassable when the 532-foot Indian freighter "Jalagodavari" missed an entrance under the St. Louis de Gonzague Bridge, 40 miles southwest of Montreal. The vessel slammed into the bridge, causing a 60-foot section to collapse. The liftspan of

the bridge, which remains in place, must be secured to allow Seaway traffic to resume. One hundred vessels are waiting to pass through before the winter freeze. Officials are unable to say how long the Seaway will remain closed. The accident occurred just three weeks after the re-opening of Lock Seven on the Welland Canal, which tied up Seaway traffic at that point for 24 days. The damaged bridge is about two miles from another lift-bridge which jammed just a year ago causing an 18-day delay.

PANAMA – MORE THAN JUST A CANAL



Colonial Panama City – with many balconies. (Akers photo).

By Robert H. Akers

In the spring of 1985, my wife and I took the *Great Rivers Explorer* through the Panama Canal and visited the country of Panama. The vessel is a 100 ton cruise ship which carried 61 passengers on our voyage. The small size of the ship and our group permitted us to see Panama in more detail than the larger cruise ships going through the canal.

Our introduction to Panama City, the capital of Panama, was a guided tour through the Museum of Panamanian Man. The museum depicted the history of over 60 Indian tribes who were the original inhabitants of the land. There are three tribes left today. Panama City, on the Pacific coast, consists of three areas: old Panama, where stone ruins over 400 years old mark the original location; Colonial Panama, which has the balconied flavor of Europe; and, new Panama, which has multi-storied banks



We pass a Russian freighter, which joined us in descending the Panama Canal. (Akers photo).

(over 130), places to bargain for the best buys and brightly painted busses.

The country of Panama is approximately 400 miles wide from Costa Rica to Columbia and 50 miles across from the Atlantic ocean to the Pacific ocean. For 300 years, since the earliest Spanish explorers, men had dreamed and schemed to develop a crossing of some kind from the Atlantic to the Pacific. The California gold rush provided the impetus for American entrepreneurs to build a railroad across the Isthmus. Its existence was one of the reasons the Panama canal was located there. The railroad was completed in 1855.

Rail Trip

Our initial crossing of Panama was by rail in passenger cars that were at least fifty years old. They were not air-conditioned, so all windows were opened. The rail journey started at Balboa, adjacent to Panama City and ended at Colon, the Atlantic entrance to the canal. The fifty mile trip with several stops along the way took us about two hours. From Colon we took a bus to Portobelo which had been the embarkation point on the Atlantic side for ships bound for Spain with gold taken from South America.

At Portobelo we visited the stone church still in use, and saw the remains of the custom house and fortifications on the harbor. A motorized rubber raft took us to the *Great Rivers Explorer* which was anchored in the harbor.

A day was spent cruising in the San Blas islands. We were intrigued with the life-style of the Cuna Indians which has remained relatively unchanged for centuries ago. We walked the beautiful beaches, swam in the clear Atlantic,

admired and bought the colorful molas (blouses made by the Cuna Indian women with fine needlework) and took snapshots of the Indians at 25¢ per person. The Indians are very aware of the U.S. cash economy since the U.S. dollar is the currency standard of Panama. John Mann, an American who had lived with the Indians for many years served as our guide and interpreter.

Through the Canal

The highlight of our trip was the following day as we entered the Panama canal at Colon. After several miles of canal channel, we moved into the Gatun locks and were raised in three steps 85 feet to the Gatun lake. We had read about the canal prior to our visit, but the actual trip was outstanding. A local guide, John Vas, boarded our ship to give us the story of the canal throughout our transit. Since our ship was only 150 feet long and the locks are 1000 feet long, we locked through with a freighter. Gatun lake is 23 miles long and is the reservoir to supply the locks on the Atlantic and Pacific side. It was created during the canal construction by an earthen dam 1½ miles long built across the Chagres river. At the south end of Gatun lake is Gaillard cut which was the highest point of land to be crossed when the canal was built. The rock and shale are quite unstable in this area and many slides occurred during initial construction and subsequently. Dredging is ongoing even today to maintain and improve the canal waterway.

The Gaillard cut is about eight miles long ending at the San Miguel lock where we were lowered 31 feet in a single lock to the Miraflores lake. It is a mile across the lake to the Miraflores locks which lowered us in two steps to the level of the

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We inspect some Panama ruins – four hundred years old. (Akers photo)

(Continued from Page Six)

Pacific ocean. A Russian freighter was our "lockmate" on the descending lock trip. Our crossing time was less than six hours which is considered fast. The average transit time is eight to ten hours. A brief stop was made for service at Balboa and then we sailed under the Bridge of the Americas which spans the canal at the Pacific entrance. It carries the Pan-American highway east to its current stopping place in the Darien jungle.

An hour south of the Panama mainland we visited the resort island of Taboga. It is a pretty place and is used as a vacation spot for Panama City visitors as well as the U.S. military forces stationed in Panama.

Choco Indians

The next day was spent visiting the Darien jungle in the eastern part of Panama. The Choco Indians live along the coast and have little contact with the rest of the world. Our ship first visited the Choco Indian villages three years ago. We took cayucos (hollowed out log canoes) up the Mogue river to trade with the Chocos. They offered baskets and carvings and we offered money. A number of trades were made. The women go topless and the men wear very little . . . an appropriate dress for the jungle.

On our last night on the ship our captain traded two bottles of gin for two sacks of shrimp from a trawler in the bay. It was the underground (underwater) economy at its finest. While the canal has served the world for seventy years, the country of Panama is more than a canal. We enjoyed visiting the different Indian cultures, learning about the 460 year old history of Panama City, riding the route of the first transcontinental railroad across the Isthmus and mixing with the gentle Panamanian people. It was an interesting view of the "Crossroads of the World."

The Great Rivers Explorer is operated by: Exploration Holidays and Cruises, 1500 Metropolitan Park Bldg., Seattle, Washington 98101, phone: 1-800-426-0600.



Crushing sugar cane on the San Blas Islands. (Akers photo)



The "Great Rivers Explorer" shown in one of the Panama Canal Locks, ahead of a large freighter.

INLAND WATERWAYS GROUP FROM ENGLAND, VISITS CANADIAN CANALS



Some of the IWA group inspect Lock 17 (dewatered) of the Second Welland Canal. Describing the lock and canal history (with gestures) is Arden Phair, Director of the St. Catharines Historical Museum. In the cap: Peter Styrmo, President of the Canadian Canal Society. Balance of the group, left to right: Gordon Webb, England; Sherman Zavitz, Editor, Canals Canada; Bev Morant, California; and Mike Clarke, England.

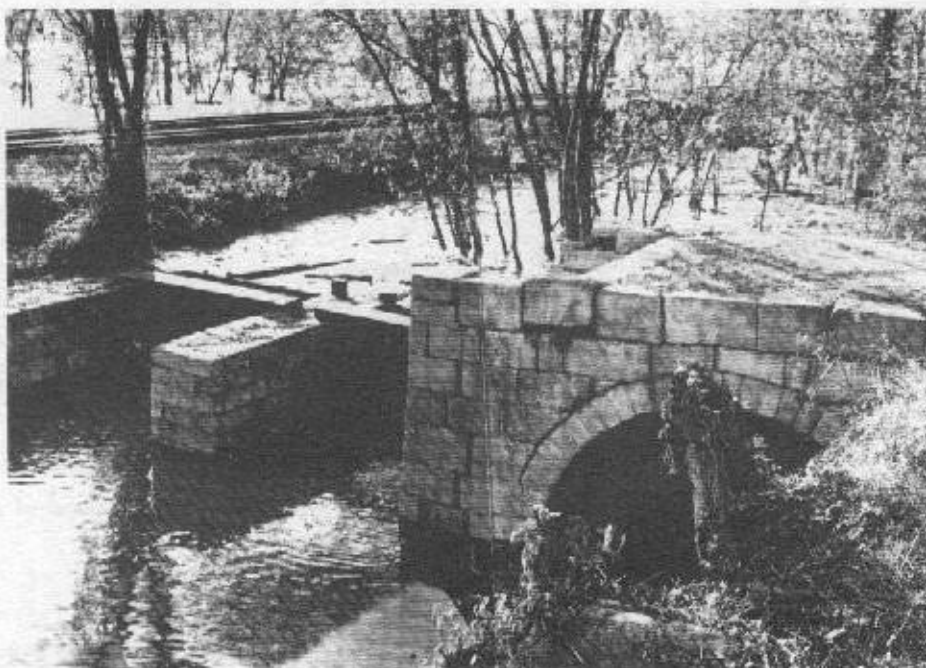
During the weekend of September 6-8, 1985, the Canadian Canal Society and the St. Catharines Historical Museum played host to 41 members of the Inland Waterways Association of England. The overseas group had already toured portions of the St. Lawrence, Rideau, and Trent-Severn waterways before their arrival in St. Catharines, Ontario, where a wine and cheese party provided an excellent opportunity for introductions and the sharing of canal stories.

Greetings were presented by C.C.S. President, Peter Styrmo, and the chairman of the St. Catharines Historical Board, Wes Turner, who also read a letter of welcome from St. Catharines mayor, Roy Adams. Ron Oakley, tour director, spoke on behalf of the I.W.A. party.

On Saturday, all parties took an extensive tour of the Welland Canal system, past and present, which included a stop at Dalhousie House, where members of the Welland Canal Preservation Association explained the work of that organization. In the late afternoon of what had been a very warm day, a refreshing stop was made for a tour of Canada's oldest winery, Barnes of St. Catharines. That evening, in the faculty lounge of Brock University, a banquet and several slide show presentations by various I.W.A. members concluded the day's activities.

A tour of nearby Niagara Falls the next day was the finishing touch of an active and enjoyable weekend.

FLOOD DAMAGE – VIRGINIA AND MARYLAND



Richmond Lower Arch (right) at the height of the November 7th, 1985 flood on the James River. Waters of the river (in the background) are a few inches away from flowing over the barrier at the Arch. (Photo by George Rawls.)

LOWER ARCH PROTECTS RICHMOND

This time it was not Washington's dentures, but his stone archway on the canal at Byrd Park which once again kept record floodwaters out of the canal into downtown Richmond. The Lower Arch is the last surviving stone structure on America's first operating canal system, which opened in 1789 while George Washington was still president of the James River Company which built it. Its solid stonework protects the entrance to the three-mile long Lower Canal which bypassed the Falls of the James, winding along the bluffs from what is now Byrd Park, down to the Great Basin at the foot of Capitol Hill in downtown Richmond.

We are especially proud of our Lower Arch, which is in effect a public monument to America's progress as a nation. The canal builders could have done with plain stone abutments but they were building for the ages. When the canal company gave George Washington a grand tour of the canal and the arch in 1791, his bateau crew were elegantly done up in red jackets to lend elegance to the occasion.

How well did the James River Company plan for our floods, two centuries ago? Richmond has seen seven major floods in the last sixteen years, but only one seriously overtopped the wooden barrier at the Lower Arch. The November 7th, 1985 flood, which is still receding as this is being written, came up to four inches from the top of the barrier. This time we were there to mark the spot so that the level could be correlated with official

gauge readings for that part of the river. The Hurricane Camille flood of Aug. 21, 1969, crested at 24.96 feet, almost seven inches higher than this week's, so it must have spilled over the barrier yet was probably still under control. But there was no stopping the infamous Hurricane Agnes flood of June 23, 1972, which crested at 28.6 feet, almost four feet over the barrier and almost covering the arch itself!

James River Flooding

What about the rest of Richmond's canal? The easternmost level of the canal, at the Great Ship Lock, is always the most vulnerable because once the James hits tidewater, it slows down and backs up, flooding all the businesses in the flood plain. This week's flood was no exception; the Ship Lock was about 20 feet underwater but we expect it to survive intact as usual. In western Richmond, there are two places where the canal has just dropped through a lock so is closest to the river level; both saw minor flooding.

West of Richmond, the canal is not watered anymore (except by floods) but the C&O Railway, built on the towpath, still uses the Kanawha Canal's aqueducts and some 200 culverts. Whether any of these were damaged we do not yet know. George Rawls and I checked some of the canal dam sites west of Lynchburg. The dams and locks were reasonably intact but railway crews were busy repairing washouts; the estimated damage to the railway along the canal line is two million dollars. All along the river the trees were broken and bent over and the land scoured and covered with sand. Battery

Creek Lock, on the Blue Ridge Parkway, is the only restored lock, with gates, on the James. We were surprised to see the gates still there. One balance beam had been knocked askew but things could have been much worse.

River towns, including Columbia, Scottsville, Lynchburg, Buchanan and Buena Vista, were hard hit and have been declared disaster areas. Bateau builder Joe Ayers' home in Columbia had 3½ feet of water in the living room, and he reports that the whole family had the pleasure of canoeing all the way around the house! After the flood George and I visited the only remaining stone lockhouse on the canal, owned by the secretary of VC & NS, Mrs. Louise Jones, and helped remove some of the mud from the first floor. Until the hurricane floods we had always been impressed by the flood level for 1870 chiseled beside the front door. After Hurricane Camille, the USGS put a brass flood level marker higher up near the top of the doorway, and after Hurricane Agnes, Mrs. Jones put a mark way upstairs on the wall of the bedroom. This time, the flood only reached the first floor ceiling – one of the problems of living in a canal lockhouse!

We are still picking up information on the effects of the flood on the canal, the river, and the canal towns. On the plus side, the vegetation is gone from the riverbanks so we can take better pictures of the canal sites! And somewhere an old bateau wreck has been uncovered for us to find. No bateaux have been seen floating by, but there was an amphibious cow who swam and floated for who knows how many miles, to land on an island in the middle of Richmond where she is being well fed by city folk.

Bill Trout

FLOODING AT GREAT FALLS, VA

The following report on recent flood damage on the Potomac River at Great Falls, Virginia was sent us by Samuel R. Hopper, President of the Virginia Canals and Navigation Society.

I checked the Potomack Company canal at Great Falls, Virginia on Saturday, 10 November - the crest had gone by on Thursday and the river level was down to a "high water" condition. The Park Service staff had marked the crest level on the flood marker - about a foot off the ground and 4-5 feet below the 1972 level.

The canal was not badly damaged by the flood. Gravel paths along the upper end were scoured out again as they were in 1984. Flood removed two huge logs from the upper guard gate that were deposited in 1984 - improving visibility of the structure. No apparent damage to canal walls or overflows down to the visitor center - canal was full of water and looked great. The forge site below the visitors center was scoured free of the

(Continued on Page Nine)

debris that had been dumped in by the 1984 high water and the forge foundations were visible.

Water did not affect the canal from the forge site down through lock #1. The lower end of lock #2 sustained further damage and both walls of lock #3 lost some stones. Damage was caused by water coming in over the cliff and into the canal and then flowing back into the river gorge through the cut that held locks #4 and #5. Huge sandpile on the upstream side of lock #3 while the downstream side has been scoured so that more of the wall is visible. Lots of sand in the cut too and on the high ground downstream of the cut.

The heavy water flow through the lower end of the canal was a surprise to me – I'd always assumed that only effect was backed up water from the river gorge. There was no evidence of flood damage from the 1972 flood there when I first walked the canal in 1975. This one removed a lot of trees and undergrowth.

George Higgs is trying to get information from Xerox on damage to the Goose Creek & Little River works on their property. I suspect that there wasn't any because Goose Creek didn't flood too badly from the local deluge and Claphams Lock is upstream from the Potomac.

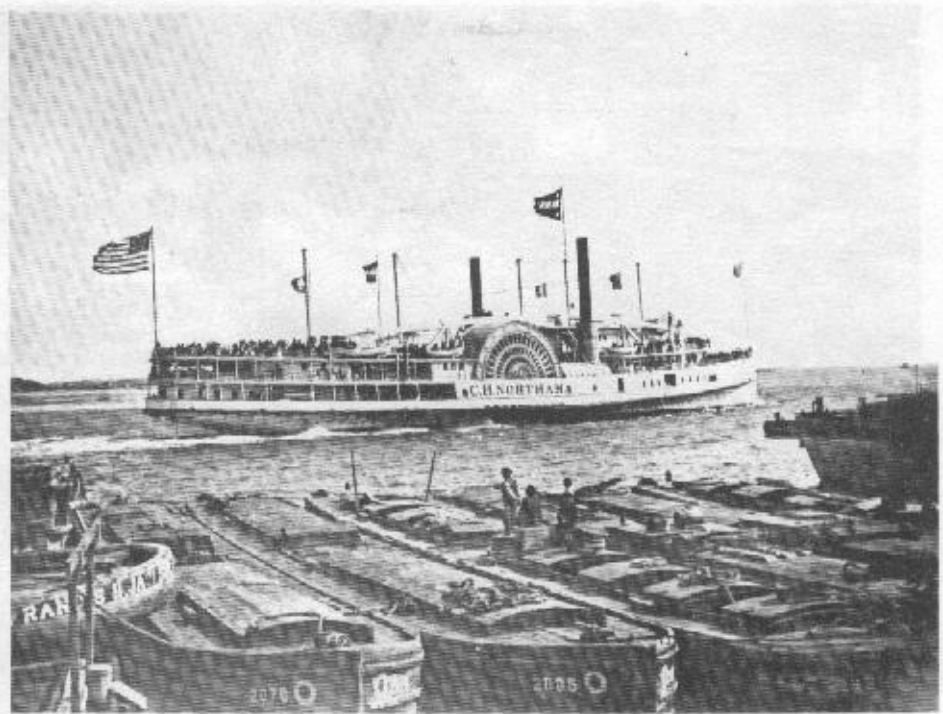
Compared to the C&O, the Potowmack Company appears to have gotten off fairly easy in this flood - guess they just don't make them that good anymore.

C. & O. TOWPATH BADLY DAMAGED

The following news release (dated November 15, 1985) was sent us by John Frye, of the C & O Canal National Historic Park Staff at Sharpsburg, Maryland:

Superintendent of the C & O Canal, Dick Stanton, reports that costs for cleanup and repairs to the C & O Canal as a result of last week's flood will total over nine million dollars. Damaged in the flood were miles of towpath, historic walls, and a major washout below Lock 33 at Harpers Ferry Gap. In addition, breaks occurred along the towpath from Washington to Oldtown with a major break below Lock 5 in Washington, D.C. Cleanup is in progress. It is estimated that a complete repair of the canal might take as long as two years.

A later release (dated November 20th) states that the C & O Towpath is closed except for the following: (Mileage from TideLock indicated) Tide Lock to Foundry Branch (0.0 to 1.48); Lock 8 to Stop Lock Gate (8.3 to 13.7); Great Falls Tavern - Observation only, no towpath (14.3); Block House Point to Seneca (21.5 to 24.5); Antietam Creek to Lock 39 - No bicycles (69.9 to 74.0); Four Locks to Licking Creek (108.7 to 116.0); Oldtown to Terminus (166.7 to 184.5). Towpath should be considered muddy at all times. All campsites are closed indefinitely, as there is no drinking water available.



Bill McKelvey sent us this interesting old photo, thought to have been made in New York harbor about 1885. It shows the sidewheel steamer C.H. NORTHAM passing a fleet of Lehigh Canal Boats, which have probably just unloaded their coal after transiting either the Morris or Delaware and Raritan Canal across New Jersey. On the left is the fantail of the Tugboat "Francis H. Jackson". (From the Mystic Seaport Museum archives.)

"TRIALS AND TRIBULATIONS"

Vice President Bill McKelvey has done considerable research in court proceeding records in the northeastern states, looking for examples of disputes involving canals.

The following Case No. 14, 136 was presented at a District Court in Pennsylvania in November of 1834:

This was a claim by the libellants [William Trainer and James Crawshaw] for wages, under circumstances somewhat peculiar. The vessel was originally built for a canal boat, but was now employed as a floating museum, for the exhibition of various articles for public amusement at the places to which she went, along the shores of the bays and rivers in the United States. The libellants were shipped at Philadelphia, on the 15th December, 1833, at twenty-five dollars a month, as musicians to play for the attraction and amusement of the audience or spectators, who should attend the exhibition, which was made on board of the boat at the wharf or shore of the places where they stopped. The contract of the libellants was, that they were to receive their pay for their "performances as musicians on board the canal museum boat."

The boat was navigated, sometimes by the use of sails, sometimes by her oars, and through the canals she was drawn by horses. The libellants proved that they

occasionally assisted in rowing the boat, with other services on board of her, in passing from place to place, and they claimed their wages generally as mariners. The question was, in order to give jurisdiction to the court, whether this was a maritime contract; whether the services rendered by the libellants were maritime.

HOPKINSON District Judge ruled as follows: It is incumbent on the libellants to show that this was a maritime contract, or that the services performed by them were maritime. The courts, from the convenience of the jurisdiction in such cases, have gone a great way in considering services on board of a vessel to be maritime, although, strictly speaking, the persons were not mariners.

The contract was expressly for services having nothing to do with the navigation or preservation of the boat or her crew, and, in truth, were required only at times when the boat was at rest, and employed as a place for the exhibition of curiosities. They did sometimes work, but at their own will and pleasure. They took up an oar when tired of the fiddle bow, and handled a sail as a change from their music books.

The libel must be dismissed, and if wages are due to the libellants, they must be recovered in another place.

PCS TOUR COMBINES RAILROADS AND CANALS



Overall view of the Strasburg Railroad Museum, showing our group moving through the inside displays. There is also a large historic railroad display yard outside the main building.

The Fall Tour of the Pennsylvania Canal Society, held November 1-2, 1985, combined rail and canal history. Sixty people registered for the event, with headquarters at the Holiday Inn, North, Lancaster, Pa. Albright "Zip" Zimmerman and Bob Keintz co-chaired the affair. PCS President John Miller opened the Friday night meeting, which was held at the Railroad Museum at Strasburg. Zimmerman presented a series of slides and maps showing the route of the old Columbia-Philadelphia Railroad, which was part of the Pennsylvania "Main Line" Canal system in the early 1800's.

Saturday morning the group boarded tour buses, stopping first at the buildings formerly occupied by the Lancaster Locomotive Works, then on to the old Eagles Iron Furnace located on the canal basin of the "Main Line" Canal just north of Chickies Rock. The buses then proceeded through Columbia, past the piers of the old railroad-towpath bridge which connected the "Main Line" Canal Basin with the Susquehanna and Tidewater Canal at Wrightsville, across the Susquehanna River.

A full stop was made at the ruins of the old raft chute, which permitted downstream-bound rafts to pass through the Wrightsville-Columbia Dam. Then on to the overlook park, high above Safe Harbor Dam. A box-lunch was served at the picnic grounds adjacent to the ruins of Lock Six on the Conestoga Navigation System which connected Lancaster (by water) with the Susquehanna at Safe

Harbor. Another stop was made at the Lock Two (dam and lock) several miles below Lancaster on the Conestoga Navigation.

Highlight of the afternoon was a ride on the old Strasburg Railroad (back of steam) to Paradise on the Amtrak "Main Line" between Lancaster and Philadelphia. Then a leisurely tour of the State Railroad Museum in Strasburg.

Election of directors and officers was held at the business meeting Saturday evening; with Robert W. Keintz of East Berlin elected President of PCS; Skip Garlits of Yardley, Vice President; Charles Derr of Freemansburg, Secretary; and John Miller of Bethlehem, as Treasurer. The evening speaker was Bill Shank of the American Canal Society, who gave a color-slide-lecture entitled "Canals of the Twentieth Century".

Unofficial Photographer for the Tour was PCS Director Bill Shank. The photos on this page are his. Some of his additional photos appear on page eleven.



Iron Furnace and factory close to the canal basin, north of Chickies Rock.



"Zip" Zimmerman prepares to show slides of the Columbia-Philadelphia Railroad to the PSC tour group. Standing behind him is Bob Keintz, newly elected President of PCS.



Restored Victorian house of the "eighties" overlooking the "Main Line" Canal at Marietta.



A PCS Group inspects Lock Two ruins on the Conestoga Navigation. Most of the Conestoga was slack-water navigation; there was a dam near this lock.

HOME ON THE CANAL

By Elizabeth Kytle

Somehow this beautiful, hardback volume on the Chesapeake and Ohio Canal, published in 1983, had escaped our previous attention. It is a 287-page, illustrated book which proclaims itself to be "an informal history of the C. & O. Canal, and recollections of eleven men and women who lived and worked on it". Paul Pritchard, President of the National Parks and Conservation Association says: "Elizabeth Kytle has captured the history of the great vein of America, the C. & O. Canal. By giving us the historical background and the personal perspective, she has helped bridge the gap between 'reading about something and being part of the event'". Published by the Seven Locks Press, 7425 MacArthur Boulevard, P.O. 72, Cabin John, Maryland 20818, it sells for \$19.95. It contains over fifty illustrations of the canal and people during its days of operation, and a comprehensive index.

THE NEW MARKET CANAL

Railways, or rather railway freight rates, were responsible for what is perhaps the most remarkable of all these minor Canadian canals since it was constructed in the twentieth century. Railways were then well developed throughout eastern Canada, most of southern Ontario being served by the Grand Trunk Railway. This line gave good service but its 'public relations' (as they would be called today) were never satisfactory, if only because the line was managed from London, England. In 1904, the Grand Trunk raised its freight rates and there were loud public outcries. At the small town of Newmarket, located about 25 miles due north of Toronto, the protest took the form of a public meeting held at the town hall on Saturday afternoon, 10 September 1904. The mayor spoke strongly and suggested that freight rates could be kept down if only the town had a water connection with the Trent Canal. Examination shows that a small river (the Holland) drains into Lake Simcoe at its southern end. Holland Landing is an old settlement with a name that shows how important a point it was at the northern end of the old portage road up from Lake Ontario. The Holland River was navigable from 'The Landing' into the lake, so much so that steamers had not only sailed to and from its wharf but the first steamer to sail on Lake Simcoe (the *Simcoe*) was built there in 1832. The idea of a branch canal to Newmarket therefore involved dredging the 9 miles up to Holland Landing from the lake, and then constructing 3 locks, with more dredging, in the 4 miles between The Landing and Newmarket. It had been discussed for many years and so the idea of building it was enthusiastically welcomed, not least by Sir William Mullock, a local member of Parliament and a member of the Government of the day.

A large deputation went to interview the prime minister of Canada and members of his cabinet on 21 February 1905 and was favourably received. And the canal was actually built, though never used even though the channel had been dredged and all concrete work completed. The three concrete dams and lock structures stand forlorn and isolated, all but forgotten apart from that furthest up-

stream, where the retained water is the central feature of a local conservation area and nature sanctuary of real beauty.

Locally, the abandoned canal is still known as 'Aylesworth's Ditch', even though the prominent Canadian whose name is so used never had anything to do with the canal as far as can be ascertained. Canadians have unusual ways of memorialising some of their leading political figures. How anyone imagined that such a venture could possibly be commercially successful especially since it could provide low freight rates only in the summer period of navigation, is today beyond belief.

by Canadian ACS Director Lou Cahill

Editor's Note: The above item was recently extracted from Robert F. Legget's "Canals of Canada" in answer to an inquiry he received from the USA. Note also Dr. Brian Kutner's comment about this canal in a separate item.

During our recent tour of the Trent-Severn, Dr. Brian M. Kutner, an ACS Life Member of Millville, N.J. took time to look for the remaining locks of the Newmarket Canal. He makes the following report:

I located the three locks of the Newmarket Canal in Ontario, Canada, which is the canalized Holland River draining into the southern part of Lake Simcoe. The Trent Severn Waterway runs through the northern part of the lake. The most southern lock is in the town of Newmarket. From the 401, take 11N (Yonge Street) to 9E (Davis Drive). Make a right and continue through town. Cross the river and make the first left. Go approximately 3/4 mile north. The lock is located in the middle of a current construction area. The second lock is about 1 mile north of here. Go back through town and cross river. Make the first right at Main Street N. to Main Street Division (following west bank). At the bridge by Rogers Reservoir, you will find the 2nd lock. The third lock is at Holland Landing approximately 1 mile northwest of here right under the road (Route 11 ?) bridge.

St. Marys Canal Society Study

From the December, 1985 Issue of "Cry of the Crane", (newsletter of the Great Miami River Corridor Committee) we have excerpted the following item:

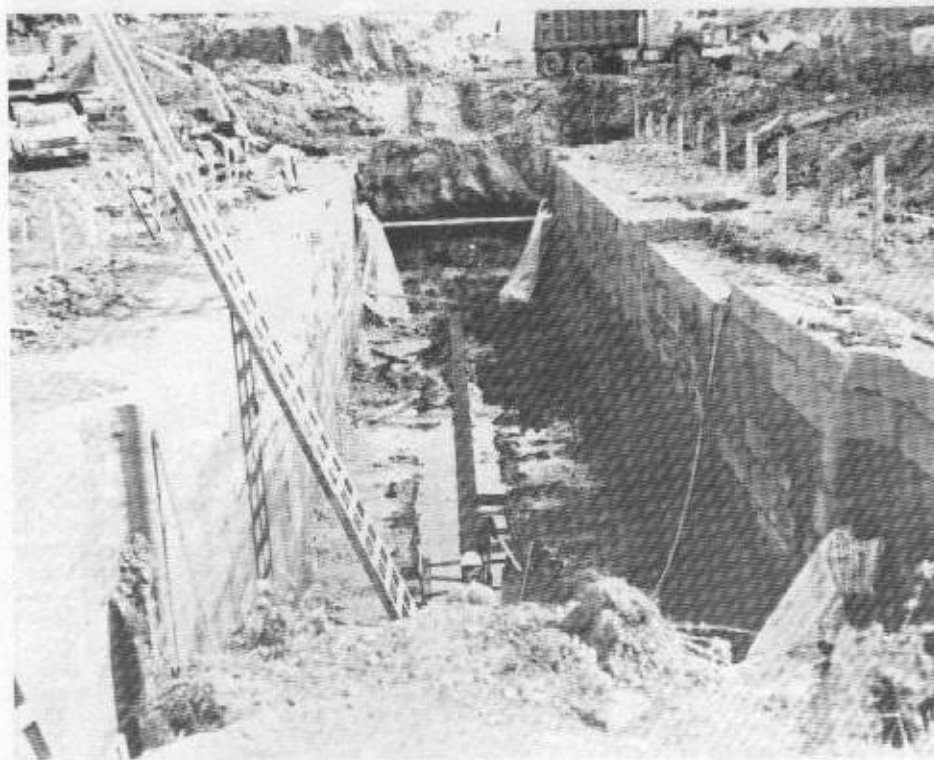
St. Mary's Canal Society President and City Council member, Lyndella Andrews, has talked with the Miami County Coordinator and Ed LeLaet, Executive Director of the Buckeye Trail Association. The discussion concerned the potential and use of the Buckeye Trail, which parallels the Great Miami River and the Miami and Erie Canal towpath much of its way through the Miami Valley. The Buckeye Trail has gained in promotion and use by the efforts of the Shelby County Coordinator and his workcrew's labors of keeping the Buckeye Trail

maintained as it passes through the area.

St. Mary's is in the completion stages of a \$125,000 hydraulic study of the Miami and Erie Canal. When completed, local governmental officials and members of the St. Mary's Canal Society hope to use that study to seek additional state funding for repairs and improvements to the canal.

We have seen, many times, that larger plans for connecting hiking or biking trails to other communities can increase chances of overall funding from the state and federal agencies. It is with this understanding of state and federally supported projects that we approach the subject of assistance.

ALEXANDRIA TIDELOCK DUG OUT



The Tidewater Lock at Alexandria, Virginia, when fully excavated. Much of archeological interest was found in the mud in the floor of the Lock.

Excavation for the Alexandria Canal Tidelock at the north end of Alexandria, Virginia began on 16 September 1985. The excavation is the first step in making the Tidelock and a portion of the basin above the focal point of the 125 million TransPotomac Canal Center being developed by Savage/Fogarty, Incorporated. The canal and basin excavation is being carried out by Industrial Archeologist Captain Dr. Thomas Swiftwater Hahn (founding President of the American Canal Society and former Editor of *American Canals*). The restoration work is under the guidance of Professor Emory L. Kemp, Head of the History of Science and Technology Program at West Virginia University.

Savage/Fogarty, Incorporated, in addition to footing the bill of the excavation and restoration (which is expected to exceed \$350,000) has donated 3,000 square feet of space in the four buildings to house the Alexandria Waterfront Museum. The museum is to be opened by the City of Alexandria in the Fall of 1986.

The Alexandria Canal played a short, but important, part in the history of commercial navigation on the Potomac River. In 1845, the Alexandria Canal Company completed the construction of the four lift locks at Alexandria which lowered canal boats approximately 38 feet to the Potomac River. The Tidelock is one of these locks and has a lift of 9½ feet. The Alexandria Canal connected with the Chesapeake and Ohio Canal at

Georgetown, District of Columbia, and by its 7¼ mile length provided access to Alexandria, Virginia.

The wooden lock gates and their iron wicket gates and other gate hardware discovered in the excavation are a significant archeological find. The presence of such gates and their excellent state of preservation are rare in American archeology. They are probably the only extant lock gates from the 18th century. Savage/Fogarty, Incorporated offered the gates to the City of Alexandria for the new museum, but the gates were declined because of the cost of restoring them. Consequently, the gates will be reburied in the lock for some future generation of archeologists with a greater sense of their importance.

The Tidelock has been filled with gravel to within four feet of the top where a slab of concrete will provide the new bottom to the locks in the reconstruction. The masonry work has been repointed so as to preserve the lock in the best condition possible. Reconstructed gates will provide the semblance of the lock as it appeared in the historic operating period. It is fortunate, indeed, that the old Tidelock has been preserved through the farsightedness of Savage/Fogarty and the Dutch Investment Holding Company, which is providing a large portion of the financing for the project.

The TransPotomac Canal Center, comprising approximately 500,000 square feet of floor space, is scheduled for completion in the late summer of 1986.

New Maritime Museum to Open

In preparation for the opening of a new maritime museum chronicling Alexandria's waterfront heritage, city historians are seeking artifacts, historic photographs, maps and documents that visually help tell the story.

The Alexandria Canal and related maritime activities of the nineteenth century seaport are the focus of the proposed Alexandria Maritime Museum, scheduled to open in December, 1986.

It will be located at Trans Potomac Canal Center, adjacent to and overlooking the restored tidelock of the old Alexandria Canal. The 3,000 square foot museum will present an opening exhibition on the Alexandria Canal and the Alexandria Aqueduct Bridge, followed by displays of historical materials on maritime activities.

The Office of Historic Alexandria is seeking artifacts, documents, maps, photographs or related items for long-term loans or as permanent gifts for the collection. Alexandria historians and curators are also interested in written accounts or oral histories dealing specifically with the canal, aqueduct bridge or northern waterfront during the mid-to-late nineteenth century. Persons interested in donating or loaning these items should contact Jean Taylor Federico, Director, Office of Historic Alexandria, 405 Cameron Street, Alexandria, VA 22314 or call (703) 838-4554.

PARK PLANNED AT UNION CANAL TUNNEL

A land-use agreement made recently with a Hershey Foods subsidiary has paved the way for the Lebanon County Historical Society Lebanon, Pa. to develop a park near the Union Canal Tunnel in West Lebanon Township — a move designed to make the site more attractive and accessible to tourists.

In a ceremony near the old tunnel, the San Giorgio Macaroni Co. of Lebanon gave use of the 8.7-acre site to the Historical Society, which will develop a parking area as well as a park there. Making the presentation to Historical Society president Earl Leiby was C. Mickey Skinner, president of the Hershey Pasta Group.

"The Historical Society is very pleased with the agreement made with Hershey Foods," Leiby said.

The park is expected to have picnic tables and provide better access to the area along 25th Street, Leiby said.

Negotiations between the Historical Society and Hershey Foods took several years, Leiby said. Work on the project is expected to begin this winter.

A remnant of the 82-mile Union Canal that connected the Schuylkill and the Susquehanna Rivers, the tunnel operated from 1827 to 1885.