GUILLOTINE LOCKS IN NORTH AMERICA

Keenleyside Lock, near Castlegar, British Columbia. Guillotine gates, both ends; maximum lift, 75 feet. (Photo courtesy Bill Trout).

Lock Number 17 on the Erie Canal at Little Falls, New York, with Guillotine Gate at the lower end, and a lift of 40.5 feet.

Charles Hadfield, noted British canal authority, writes from England: "Please page 44 and the myth that the Peterborough vertical lift is the 'World's Highest.' Dreifeldt Lift, near Berlin, on the Frank Canal leading to the River Ode in East Germany (opened in 1934) has a lift of 36 metres (118 feet) and Luxembourg on the Elbe Lateral Canal in West Germany (opened in 1976) has a lift of 38 metres (124-1/2 feet). The Belgians are now building one at Struy, on the Canal du Centre, which will have a lift of 73.15 metres (240 feet)."

Yours truly has traveled down the Rhine Canal from Switzerland, passing through at least one huge Guillotine type (lower gates) lock, near Strasbourg, France, which appeared to have a lift of at least fifty feet.

Edith McNally of Cleveland, Ohio, writes: "TOWPATHS TO TUGBOATS is a fine looking publication and it was quite a pleasant surprise to see the old St. Helena II on the cover! A nice photo, as are all those in the book. Quite an interesting collection of Illustrations, and ideas you for including an index."

Inside the Carillon Lock on the Ottawa River, 1975. Looking toward the Guillotine Gate, at the lower end of the lock. Lift: 67 feet. (Photo by Sidney Beyland.)

"TOWPATH CHATTER"

The Neversink Valley Area Museum now publishes a four-page monthly newsletter entitled "Towpath Chatter". It describes activities at the museum and walking tours along the towpath of the adjacent Delaware and Hudson Canal. To obtain information on museum membership, canal related activities, write Neversink Valley Area Museum, Box 263, Colden, N. Y. 12729.

Page One
DISMAL SWAMP CANAL CRUISES

When Col. William Byrd first saw Dismal Swamp, a wilderness which lies on the Virginia/ North Carolina coastal border, he declared, "Not so much as a lodgment could endure so drastic a situation." Today part of the area has been preserved as the Dismal Swamp National Wildlife Refuge.

It offers a unique ecotone which contrasts with the urban Tidewater cities contiguous to it. It is a forested landscape of flat beds, vines and brier thickets, pines and hardwoods, cedar and sassafras. It is one of the last true wild waterways along the Atlantic region.

The Dismal Swamp Canal runs through the region. It was first proposed by Col. Byrd in 1728 but was not completed until 1838. It was built to carry freight between North Carolina and Newport. Today the canal is operated by the U.S. Army Corps of Engineers as part of the Atlantic Intracoastal Waterway system. Harbor Cruises of Newport News offer an all-day cruise on the Dismal Swamp Canal May 15 to June 20 and Sept. 2 to Oct. 1. Continental breakfast and luncheon are included.

For more information about these and other vacation ideas contact the Virginia State Travel Service, 6 North Sixth St., Richmond, Va. 23219 or phone (804) 786-4426.

(From the Cleveland Press)

UNION CANAL TOUR

Bill Eichhorn, of Lebanon, Pa., recently conducted a one-day tourn of the Union Canal for the Smithsonian Associates, Washington, D.C. The tour included the Canal Aqueduct at Muleshoe Farm, sites of the lock and pumping station at the "Mulehead," Pinckney's Dam, the "Big Lock," one of five locks, and the Union Canal Tunnel at Lebanon. Lunch for the group was served at St. John's Lutheran Church, north of Lebanon.

AMERICAN CANALS, NO. 42 - August 1982
CSNJ GROUP TOURS ENGLAND ON NARROW BOATS

June 26th, twenty-seven American canal enthusiasts arrived in Britain for a two-week waterway holiday. This is the third time that members of the Canal Society of New Jersey have made such a visit; the first being in 1975, and the second in 1977.

Again they hired luxury narrow boats from Anglo-Welsh Waterway Holidays and the six craft took them on a circular cruise from the company’s Great Haywood base, near Stafford, around the Trent & Mersey, Shropshire Union, and Stafford & Waterford Canals.

During their holiday, the Americans left their boats and made a number of excursions by road to other places and attractions on the waterway network. These included the Waterways Museum at Stourbridge, The Boat Museum at Evesham, Littleton, the Roman Swing Aqueduct, the Anderson Boat Lift, Ironbridge Gorge Museum, Wroxhall, Worsley, and Market Harborough. During the latter visit they saw canal boats being built at Market Harborough Marine.

The Canal Society of New Jersey has very close links with Britain’s Trent & Mersey Canal Society. This voluntary organization has a campaign in progress, via a sponsorship scheme, to attract additional members to the society and to attract tourists to the Trent & Mersey Canal. The American Society has kindly donated the cost of one of these boats.

On the second day of their cruise, Sunday 27th June, at 10.30 a.m., the new milepost was unveiled by the Rt. Hon. The Earl of Shrewsbury, at Stonor, Staffordshire. The American party and their boats were at the site and Bill McKelvey, Director of the Canal Society of New Jersey (also an ACS Director), spoke on their behalf.

With Trent & Mersey Canal Society Chairman, Harry Arnold, the Earl welcomed the Americans to Britain’s waterways. After the ceremony guests joined the Americans aboard their boats, for a short cruise up through the Watford Flight of Locks.

(Adapted from a press release by Anglo-Welsh, Harborough Marine, Ltd.)

CHOLERA!!!

By Richard C. Osterhout

The year 1849 is remembered as a time of one of the dreaded outbreaks of Cholera, a disease that scourged the cities, spreading like wildfire before modern sanitary practices were introduced. Notwithstanding the nostalgia associated with the canals of the first part of the 19th century, as they may again today when viewed from the hindsight of more than one hundred years hence, it may well be imagined that the sanitary conditions existing upon the canals and the canals in those early days left something to be desired. At the very least, the canal boat traffic, along with other commerce from city to city, could act as a vector contributing to the spread of the disease.

On May 30, 1849, a Cholera outbreak that had previously been reported in New York City, appeared in Philadelphia. The Titian “State Gazette” newspaper reported that Joseph Bloomfield Kirkpatrick, a canal boat Captain, who had traveled aboard a canal boat from Philadelphia to Trenton the previous year, was sickened in bed with Cholera after breakfast and died the same day at the (Port) Richmond Section of the City. His wife, also aboard, did not come down with the disease. A year later, news of the outbreak spread in the City following the occurrence.

During the tour of the Canal Society of New Jersey the Earl of Shrewsbury unveiled a new milepost on the towpath of the Trent and Mersey Canal, at the rear of the ‘Rising Sun Inn’, Stone, June 27th. The attractive cast-iron milepost was donated by the Canal Society of New Jersey, which has very close links with the Trent and Mersey Canal Society, and twenty-seven of its members were present at the ceremony. Pictured left to right are: The Earl of Shrewsbury; Mr. Lawrence Sanders, President of the Trent and Mersey Canal Society; the Mayor of Stafford; Councillor Trevor Reeves; “Captain” Bill McKelvey, Director of Canal Society of New Jersey, and Mr. Harry Arnold, Chairman, T & M.C.S. (Additional photo on page 5)
— BOOK REVIEWS —

“BUILDING THE RIDEAU CANAL”
by W. E. Trout III

Building the Rideau Canal: A Pictorial History by Robert W. Pastfield, 1940, 1962. Published by Parks Canada in association with Rutkoff & Whitewear, 150 Lenfair Road, Don Mills, Ontario M3B 3R5, Canada; US $24.95 ppd.

Few books have been as well documented by color paintings during their construction, as the Rideau. Bob Pastfield has used those like movie stills, on every other page, to take us along the waterway during its early history. Many of these contemporary watercolors have been published elsewhere in black-and-white, but there is no comparison with well-reproduced color, as this book is from the price of $24.95, the 46 color plates. There are also 14 b/w prints, 14 pages of engineering drawings, and the essential canal maps and profiles.

We have Parks Canada to thank for publishing this book to celebrate the 150th anniversary of the canal, and for keeping the author on the payroll for the last eight years as a canal (and bridge) specialist. They also have on file his more documented study of the canal, Engineering the Defence of the Canadas: Ltc. Col. John By and the Rideau Canal (1968). #255 of the Parks Canada Manuscript Report series. He has also published Historic Bridges on the Rideau Waterway System (same series, #212, 1976) and “Ordinance Supply Problems in the Canadas: The Quest for an Improved Military Transport System, 1814-1826” of which reprints can be ordered from Dr. J. A. Turrill, HSTC Bulletin, Atkinson College, York University, Downsview, Ontario M3J 1H7.

We have the United States to thank for the existence of the Rideau: the War of 1812 proved the need for a Canadian canal as much as the St. Lawrence Seaway along the US border; and the events of the 1867 Rebellion in Canada, and the 1844-46 dispute with the US over the Oregon border, only confirmed the need to fortify the canal with blacksmith and defensible lockmasters houses complete with loopholes. Fortunately, it had never been necessary to use these fortifications against the Americans, who today can enjoy the rare opportunity in the hemisphere of boating along an early canal system. Now, with Pastfield’s book in hand, they can compare today’s scenes with those a century and a half ago, marvel at the fortifications designed to repel their ancestors, and pay homage to the Rideau’s engineers, Ltc. Col. John By.

Building the Rideau Canal deserves to be on your Canadian Canals shelf along with books like Hugl’s The Canals of Canada (another contribution of Parks Canada), and Legge’s Canals of Canada, Ottawa Waterway, and of course Rideau Waterway, which it nicely complements. We trust that one of the first projects of the Canadian Canal Society will be a list of books on Canadian canals, and a list of Parks Canada’s canal publications, and how to get them.

— CANALS AND INLAND WATERWAYS OF MAINE —

The Maine Historical Society has published the definitive history of the Canals and Inland Waterways of Maine by the late Hayden L. V. Anderson of Gardiner, Maine, Anderson spent over 25 years carefully researching and documenting the story of every canal and waterway improvement ever conceived or built in the State, from the Great Moosehead Canal of 1793 to the Telos Canal which lasted until 1921.

Anderson’s book is organized, for the most part, around the major river systems of Maine, running from West to East. Five canals were built along the Saco River, beginning with the Moxie Brook Canal of 1807, and ending with the ambitious Fryburg Canal, finally finished in 1839, which diverted the course of the Saco. Numerous proposals were made for the lower, middle, and upper stretches of the Androscoggin River, but the 1896 New Androscoggin was the only one completed.

The middle Kennebec River saw the construction of a dam and lock which allowed steamboat navigation well into the interior. A canal lock was built on the Piscataquis River, two short canals which are raised lefts.

The canalization of the George’s River was begun in 1793, and the company was purchased in 1793 by General Henry Knox, then a land developer in Maine. The canal was rebuilt in 1846, but lasted only ten years.

Anderson devotes three chapters to the largest and most significant canal in Maine, the Cumber- land & Oxford, completed in 1830, which continued to operate until 1876. Although it consisted of only twenty miles of dug canal from Narragansett at Portland to Casco Bay, the waterway allowed travel nearly fifty miles into the interior with the construction of a 280-foot lock on the Sebago River. Shrewdly built, the boats, equipped with sails and oarboards, in turned up Long Lake to Bridgton and Harrison.

Canals and Inland Waterways of Maine is 229 pages long. It is fully footnoted and contains an eight-page bibliography, a complete index, and maps. It can be ordered from the Maine Historical Society, 485 Congress Street, Portland, Maine 04101 for $15.95 hardcover, plus $1.50 postage and handling.

(Submitted by Professor Joel W. Eastman.)

— GUIDE TO THE GRAND RIVER CANAL —


The Preface to this 132-page, ringbound book states “William Hamilton Merritt promoted the First Welland Canal to link Lake Ontario with Lake Erie, and connect with the Grand River to the west.” His plan identified a canal, the Grand River Canal which was to penetrate inland for at least 60 miles from Lake Erie. In 1845, he envisioned a third canal linking the Grand River Canal with the Thames River.” However, Merritt had limited success with the second canal and never attempted the third. The First Welland Canal was inaugurated on November 20, 1829, and the St. Catharines Historical Museum celebrated this success with “Merritt’s Day.” In 1880 a field trip to the Grand River Canal was planned by the museum to study Merritt’s second canal, and the publication of a guide “for a complement” to the field trip.

With maps, engravings, and text, including quoted material, advertisements and documents reprinted from early newspapers and journal accounts, the route of the Grand River Canal is described in detail, and records the changes in operation and terrain that had taken place after the opening of the first two canals, and those associated with the third.

The functions of the Grand River Navigation Company and its eventual decline are detailed in a separate chapter here. Merritt was Director of the time between 1852 and 1861, then resigned, but later returned to the Board in 1865, in an attempt to save the Company, which was believed to sold to the Haldimand Navigation Company, in operation until around 1890.

Concluding with the Grand River Canal’s major contributions to the area by opening up the lower and middle reaches of the Grand River and encouraging settlement, readers are also reminded that rail connections were made with the communities along its route, thus strengthening the shipping of produce out of the valley.

Compiled primarily as a “guide” this first publication by St. Catharines Historical Museum surely qualifies also as “Great Lakes history,” and includes an excellent section of History and Notes acknowledging sources on which this study was based, which is a most helpful attribute for researchers faced with a lack of reference. The address of the Museum is: 343 Merritt Street, St. Catharines, Ontario L2T 1K7.

(INLAND SEAS, Quarterly Journal of The Great Lakes Historical Society, Vol. 37, No. 3, Fall, 1981.)
Part of the CSNJ Tour Group rode the Narrow Boat “Tanworth,” shown here in one of the single-gate narrow locks of the English Canal system. They were greeted everywhere with great enthusiasm by the English canal buffs, some of whom are shown here in historic costumes.

“TOWPATHS TO TUGBOATS”

At first blush, a reader might think this magazine-sized book is a dry narrative of “and then they built . . .” Far from it. The book is a fascinating look into a little known part of history and the impact of canals on modern life. It is just a perfect blend of history and engineering, but you don’t have to be a historian or engineer to enjoy it. Illustrations are used throughout the paperback book.

Canal building in the United States was hitting its zenith in the 1840s, only to be forgotten when the railroad started encroaching on the expanding nation. Shank sounds a note of optimism as he talks about the future of canals: “With the present energy crisis sending us in search of now and low expensive means of transportation, our inland waterways provide great hope for the future. Water transportation has always proved more economical than railroad, truck or air transport for the movement of heavy goods and products where speedy delivery is not a problem.”

(J. Shank, Lancaster Sunday News.)

“TO BUILD A CANAL” (Con)

To Build a Canal, Sainte Marie, 1853-1856, by John N. Dickinson. Published by Miami University by Ohio State University Press (2070 N. Neil Avenue, Columbus, OH 43201, 1981. 204 pp. $21.50.

This book is about the first canal on the U.S. side of the Sainte Marie. It actually was not the first canal on the North West Fur Co. built the first one, on the Canadian side, in 1871). But as a book about the construction of this canal, it is the most depressing. This book goes into great detail in explaining the financial and political maneuvering which preceded the start of actual digging. Only a few sentences, scattered through the text, describe construction operations.

The book mentions the difficulty in getting the needed thousands of laborers at what was then a very remote area, but it doesn’t say what all these men did. Canal mention is made of stonemasons building the locks, and of carpenters building the lock gates. But how did the rest of the thousands dig the canals? Did they use pick and shovel, and wheelbarrows? Mule scapers? Early steam shovels? Or what? The author says not. He mentions that attempts were made to continue construction through the winter, with much suffering by the workers.

But just what operations were maintained through the winter he doesn’t say. The Government subsidized the cost of construction by giving land grants to the canal company, in a manner similar to the financing of the early Western railroads. Two whole chapters are devoted to canal descriptions of the land around the canals, and their ultimate disposition. Most had standing timber which was cut and sold; some were later discovered to have valuable mineral deposits and timber lands. But this isn’t exactly canal history, except in a very broad sense.

Any canal buff who buys this book at the substantial price asked, will be disappointed.

Jim Wilson

“TO BUILD A CANAL” (Pro)

The author has produced a well-researched and well-written story of the construction of the canal at the Sen.

Following an extensive well thought out forward by I. M. C. Brockle, we are treated to an excellent presentation of the historical, political, and economic aspects of what went into the canal which led Lakes Huron and Superior.

For the serious historian, whose interests extend beyond “the ships” perhaps, Mr. Dickson’s text will be a welcome addition to the shelf of sound references. Steamboat Bill

CLASSIFIED ADVERTISEMENT

Canal Trips in England and Wales — Now is the time to start planning for that canal vacation that you have always wanted to take.

The canals of England and Wales are unique. There is nothing like them anywhere else in the world. The self-operated diesel engine boats of the Anglo-Welsh boat company are easy to handle and require no prior experience. Likewise the locks are simple to operate and you soon get the hang of them. Experience personnel are available to provide instructions for handling the boats and operating the locks where needed, as a part of the hiring fee. With a canal boat there is no worry about hotel reservations or driving in an unfamiliar country. Just tie-up for the night at a nice location of your choosing. Stop whenever you want to take a stroll to the village to look around or pick up supplies. Or, take advantage of the excellent British and train service (often right out in the countryside) into the city.

Anglo-Welsh is the closest established canal boat hire company in the United Kingdom with excellent boats and service. Unlike many other hire firms, fuel is provided for as far as you want to travel, your only obligation being to return the boat to the place designated. Fax for cooking heating, and linen are also provided without extra charge. Pets are welcome and TV rental is available. If you want a vacation from cooking, eating out facilities range from welcoming canalside pubs to fish and chips shops to five-star restaurants. All the Anglo-Welsh boats have central heating, hot and cold running water, refrigerators, modern toilets, showering, comfortable beds, and many other modern features.

There are many different routes to take covering nearly 2,000 canal miles. The canals run through the heart of the country, with many historic places to visit. For those who like a stroll, the towpath offers an alternative mode of travel, and an opportunity to stretch your legs. Just get back aboard at the next bridge hole or canal lock. Books offer a wonderful canal vacation for families, since children can help with the boat and enjoy the constantly changing scenery and freedom to leave the canal boat to join the rest of the family in a walk into town or to help operate the locks. The average 10-year old can operate most locks easily. Thousands of couples, groups of couples, singles, or mixed groups have enjoyed canal vacations through the years. My wife and I, sometimes with our family, and sometimes with friends, have enjoyed many years of canal boat vacations.

Write to Cart, Torn Hahn, a veteran of the U.K. Canals for an attractive Anglo-Welsh brochure containing a canal planning guide with maps, color photos and many English and Welsh canal, and skippers and terms of hiring a canal boat, with a complete description/photo/layout of each canal boat for hire.

Capit. Dr. Tom Hahn, American Canal and Transportation Center, P.O. Box 310, Shepherdstown, WV 25443.
CANALS IN THAILAND

Small boats in Phra Phimon Lock, 50 km NW of Bangkok. From SALT, SEASONS AND SAMPANS by Dr. J. A. Hafner.

William F. Trout III

Where else but in Thailand could there have been a canal that marked the beginning of the umbrella wong nam manhak song khul? This and other revelations are to be found in a remarkable 1977 study of Thai canals, which we hope will spur similar studies in other far parts of the globe, so we can at last begin to develop a world view of watercraft and technology.

The canals of Thailand are not mere jungle latches but have an array of locks and a colorful history. Most of them are in the 1200-mile-long delta of the Chao Phraya River — "River of Kings" — which runs through Bangkok. In fact, a kilometer of the river through Bangkok began life in 1837 as the Khlong Klang Thap — the Bangkok "shortcut" Canal — built by King Phutthi Khaphon to cut across a large loop in the river, with a fort to guard it at the lower end. With time, the entire river moved into the canal, and the fort became Bangkok, Bangkok today is still a canal city, with an Amsterdam-like grid pattern which began with a navigable moat around the Royal Palace in the 1780s. Unfortunately for the "son of the king," the Europeans living in Bangkok in the 1860s complained that they couldn't get their pork without a road for riding horses and carriages. King Mongkut obliged by starting a road-building program, and by hinting to his richer subjects that they could obtain much merit by building canal bridges. Only the roads were completed by dopping some new canals alongside them, but by the 1890s Bangkok had filled in and paved many of its canals. Some of these are still lived in tiers from their canal days.

There are still flourishing floating markets in Bangkok, and boat tours, boat rentals, and> are readily available. Ask for the Khlong brochure and a map of Bangkok from the Tourist Authority of Thailand, 6 World Trade Center, Suite 2245, NY NY 10040.

For centuries, water transport was the network holding Thailand together: since at least the early 1230s, kings built canals on a large scale to facilitate commerce, communication, drainage, flood control, tax collection — and other purposes. According to the chronicles, the Maha Veekal Canal in Bangkok was built in the 1780s "so that the city people could swim, in boats, to perform music and to recite poetry"; the Chedi Bucha Canal to Mariam Pathom to the south, was constructed by King Mongkut in 1855 supposedly for the convenience of the faithful traveling to the Buddha pagoda which he had restored. Two philosophers, and their tribe, however, are said to have built the "Canal of the Two Brothers" by wearing down a jungle path over the years!

It is not yet known if there are any early, indigenous, navigable water control structures in Thailand, but the locks (and there are more than 40 in the central plain) date from the 1830s and are in European design. Dr. Hafner tells us that there are several operating locks around Bangkok, one on the Hakhong Canal (1886) a short distance north by road from the International Airport, another less than 400 yards from the Erawan Hotel at the end of the Pathumkan Canal, and others near the National Museum and Ministry of Interior close to the Pratunam Market. We'd appreciate reports on the Thai canals from any canal buffs who get this far from home.

The 1977 report deserves more attention and appreciation. Copies are available at $13.50 from NTOC, 2255 Fort Royal Road, Springfield, VA 22161; ask for their AD-777/984, THE HISTORY OF ITALIAN WATERWAYS DEVELOPMENT IN THAILAND, by R. V. Hubbard and James A. Hafner. Others in the series are ECONOMIC PERFORMANCE OF THE CANAL SYSTEM IN CHIANG MAI, AD-003481; THE ROLE OF RIVER TRAINING IN IMPROVING WATERWAY TRANSPORTATION EFFICIENCY IN CENTRAL THAILAND, AD-003481; the ROLE OF RIVER TRAINING IN IMPROVING WATERWAY TRANSPORTATION EFFICIENCY IN CENTRAL THAILAND, AD-003481; PHYSICAL WATERWAY SYSTEMS IN CHIANG MAI, AD-003481; ECONOMIC PERFORMANCE OF THE CANAL SYSTEM IN CHIANG MAI, AD-003481; the ROLE OF RIVER TRAINING IN IMPROVING WATERWAY TRANSPORTATION EFFICIENCY IN CENTRAL THAILAND, AD-003481; PHYSICAL WATERWAY SYSTEMS IN CHIANG MAI, AD-003481.

A WALK THROUGH THE LANDSFORD CANAL

In the long, hot summer of 1890, Robert Lackie, the engineer building the Landsford Canal alongside the South Carolina Catawba River, decided to halt the work. The suffocating heat and humidity were driving the strength of his labor force, and some were falling to malaria, including Lackie himself.

Lackie recovered, but he decided to avoid the "unhealthy season" and work on the canal in late fall, winter, and spring. The 2-mile canal opened for boat traffic in the summer of 1893, but the silt layer built up during construction foreshadowed the future of the waterway. It never showed a profit, and by 1897 Landsford Canal was abandoned.

A section of the canal, one in a series of waterways built in South Carolina in the early 19th century, has been operated as part of the Landsford Canal State Park near Rock Hill, South Carolina. Giant trees were cut out of its bed and the stonework rebuilt. Today, a nature trail winds from the river into the entrance of the canal, and for more than a mile it follows the towpath and even descends into the dry bed of the canal itself. Vegetation grows along the top of the stone walls, and the forest closes in on either side to pull out cooling breezes.

Graphics along the path describe the canal's construction and the workings of the locks and controlling towers and walls. The trail ends in a clearing near the landing lock and stone bridge, which are recently restored by marketing the original stones.

Landsford Canal was built as one of several waterways to transport cotton to Charleston. The state sank more than $300,000 in the construction and upkeep of the waterway, which never justified the expense. Many upcountry farmers and merchants preferred the longer and more expensive, but safer, overland route to market in Charleston. Others shipped their goods by land to Augusta and then by river to Savannah.

Soon, however, the railroad became the iron workhorse of ferrying freight. The canal was abandoned, and the towns began to decay. Another site at the park include a restored lock keeper's residence to be opened this summer, with a museum and a two-story dogtrot log cabin, located in a picnic area near the river.

Landsford Canal State Park is located off U.S. 21, approximately 15 miles south of Rock Hill, South Carolina. It is open daily during daylight hours.

Fun on the Trent Canal

Pleasure boaters can travel 240 miles by the beautiful Trent-Severn Waterway from the eastern end of Lake Ontario through a canalized series of rivers and lakes to Georgian Bay. The trip is not only beautiful, but the engineering feat of its locks is unique in the world. They are literally ship elevators in which boats are lifted over rapids and other impassable points. The lock system consists of 67 locks and 11 canals. It is raised in these canals 50 feet in 90 seconds.

The route was discovered in 1615 by Samuel de Champlain, but was so tortuous that it was not used regularly until 1829. A railway was abandoned in 1896 and a canal railway, and forty locks have turned it into.

Charts for the trip are available at $8.00 and $10.00 at some of the locks and by writing to the Trent Canal Office, 107 Front Drive, Peterborough, Ontario. Special Liftboat Cruises are available at Peterborough, which is just north of Toronto.

[Ad for American Canals, No. 42, August 1982]
The Pennsylvania Canal Society Tour of the locks and dams of the Allegheny River, May 15, 1982 went off without a hitch—great weather and a capacity load on the "River Belle". They left the South Man Dock at Station Square in Pittsburgh, proceeded around "the Point" and up the Allegheny, through five locks, to Kittanning. They had lunch en route with a chance to enjoy some of Dave Wright's talks, when not viewing industrial sites along the river and some beautiful scenery upstream. They bused back from Kittanning, in time for an informal dinner at Station Square.

Co-Chairman for the event were Axel Peterson and Dave Wright, Denver Watson sent us the accompanying photos.

Land view of the "River Belle" during one of the stops.

"LOCK ONE PARK"
OPENED AT PORT DALHOUSIE

St. Catharines, Ontario; June 1, 1982 Today marked the official opening of the revitalized Old Lock One of the Second Welland Canal in Old Port Dalhousie.

The Welland Canal Preservation Association, with the cooperation of the City of St. Catharines, has transformed the abandoned, neglected canal into a three-level parkette where area residents and visitors can sit, stroll and reflect on the world-wide importance and historical significance of the beginning of the Welland Canal.

The opening of the parkette is an important achievement of the association which was founded in 1978 as a non-profit corporation created to preserve, restore and develop the Old Welland Canal in the belief that it could become a fine example of a restored "Heritage Waterway" and function as an attraction for tourists and recreation in the Niagara region.

Old Lock One is just part of a larger plan of restoration and preservation. The association's goal is to develop four of the original five canals. Already completed are the restoration of Lock 1 and the opening of the new parkette.

The efforts of the Welland Canal Preservation Association are fully worthy of the support of residents of the region. Its record of achievement in addition to the revitalization of Old Lock One includes the successful completion of a unique education and community development program in the region.

From the days of the early explorers to the present day, Canada's inland waterways have made a significant contribution to the nation's growth and prosperity. It is good to know that the historical record is being maintained for the generations yet to come.

(From the Evening Tribune, St. Catharines.)

THOMAS HART BENTON

Thomas Hart Benton, United States Senator from Missouri for 30 years, representative of Missouri in St. Louis, was the notable leader of the Andrew Jackson forces in many political battles and took his first canal trip in 1835.

He and his family were on their way back to Washington from their home in St. Louis. Mostly "Old Bullion" as he was called because of his advocacy of hard money, travelled mostly by stage coach, but on this trip he decided to try the new removed canal.

The following account is from "Old Bullion Benton: Senator from the New West" by William Nisket Chambers of Washington University, published in 1956.

"At town after town, Old Bullion was greeted with fanfare and invitations to public dinners. Always he declined, always in long manuscript letters, in which he reiterated the new views of the day as he saw them.

"From Pittsburgh to Philadelphia, the Bentons went by the way of the new Pennsylvania canal system. Along it they traveled wide-eyed, passing through two tunnels, crossing a mountain ridge by ten inclined planes. The Colonel was amazed by the magnificent works which permitted us to go day and night without loss of sleep or rest—which enabled us to ascend mountains without fatigue—poor rocks without a jolt—go through where we cannot go over."

"Ever admiring progress, Benton perhaps did not realize that the Pennsylvania canal system was a part of the technological genius that was to remake America, taking it far from the agrarian society he praised as he traveled."

(Submitted by Earl Minkman.)

Anyone who has traveled the English Canals will appreciate a little, hardcover book by J. H. Barman entitled ECHOES OF A CANAL TRAVELLING MAN. It is an interesting series of poems, articles about modern-day life on the English Canals, in both antique verse and rhyming meter. Available from the Author at $5. Write: J. H. Barman, Kingsfisher, Aqueduct Lane, Alveston, Words, W64 7BP, England.

AMERICAN CANALS, NO. 42 - August 1982
CANAL DU MIDI
SNUBBING POST
UNVEILED

Bill McKelvey, of the Canal Society of New Jersey, recently arranged for a 426-pound, 300-year-old "sunning post" to be brought from the Canal du Midi in France and presented to CNMU as a permanent part of their Canal Museum complex at Waterloo Village, N.J., by the government of France. As shown in the photo, Paul Alexandre Guyomard represented the French Government in the unveiling ceremony.

Company F, 15th New Jersey Volunteer Infantry provided a rifle "salute" at the conclusion of the dedication ceremony. Salutes were given in honor of seven individuals who played major parts in transmitting canal technology to France, to England and from both countries to the state of New Jersey. They were: Leonardo da Vinci, who surveyed the route of the Canal du Midi in 1516; Pierre-Paul Riquet, Baron de Bonrepos, builder of the 150-mile Midi, completed in 1661; Francis Egerton, the future Duke of Bridgewater, who visited the Canal du Midi in 1762 and was inspired to pioneer the development of canals in England; Thomas Jefferson, who in 1781 toured the Canal du Midi in order to gain information about it and to help build canals in the United States; Canvas White, who was sent to England to learn how canals were constructed there by Benjamin Wright, the Chief Engineer of the Erie Canal. Canvas White later became Chief Engineer of the Delaware and Raritan Canal. James Renwick, an English engineer and consultant to the Morris Canal, who implemented the means on English Canal Technology of Robert Fulton; and Robert F. Stokton, President of the Delaware and Raritan Canal Co., who had built in England the steam canal tug NEW JERSEY, the commercially successful screw propeller driven vessel, and the first iron hull vessel to cross the Atlantic.

Following each rifle salute was a nostalgic whistle or horn salute reproducing the sound of the conch horn, steam canal boat, mule drawn boat, etc., and the J. B. WRIGHT, which was the last canalboat in the state of New Jersey. This part of the program was presented by Mr. Jack Haddad, an air horn collector/repairer extraordinaire, and was at one member stated: "a horn signal from the past to which everyone present responded."

Map issued by the Fort Hunter Canal Society, showing remnants of the old Erie Canal, and other attractions in the Fort Hunter, New York area. For information on the Society, write Miss Marian M. Hovey, 7294 Main Street, Fort Hunter, N.Y. 12069.

OPENING OF THE C & O CANAL

The following appeared in the National Intelligence of Washington D.C. on Dec. 1, 1835:

"It is with no little pleasure we mention that the navigation is now open on the Chesapeake & Ohio Canal from Georgetown to Shepherdstown.

"To show the great effort and consequences of the program already made in this great work, we state the fact that among other boats, a single boat has just arrived at Georham in less than two days passage from Shepherdstown (a distance of about a hundred miles) containing eight hundred barrels of Flour, and drawn by one horse.

"Let it be borne in mind that to transport this same quantity of Flour by land, in double the space of time, it would take fifty six horse wagons! So that here is one more performing a task on a Canal which it heretofore required the power of three hundred horses to perform.

"The only expense is the canal toll and that by no means equals the expense of tolls when the wagons would have to pay on bridges and turnpikes. Eighty tons of produce drawn by one horse! Is there any rival road to equal that?"

(Submitted by Earl Minderman, A.C.S.)

John O'Toole, Master of Ceremonies, assists Paul Alexandre Guyomard, Deputy Consul General of France, in the unveiling of the Canal du Midi sunning post at Waterloo Village, New Jersey. In the background is the special "detail" which participated in the ceremonies.
ILLINOIS CANALS – RESOURCE WITH A FUTURE?

By Judy Graves

Perhaps the most under-utilized recreational and cultural resources in Illinois are the Illinois and Michigan Canal and the Hennepin Canal. While the history and condition of each canal are different and planning for their futures presents different problems, each is a deteriorating resource in need of rehabilitation, preservation, interpretation and recreational development. Each has incredible potential for a great variety of trail-based recreation, fishing, boating, wildlife habitat and historic interpretation. Decisions made in the near future at the State and federal level will have a major influence on the future of these areas.

The Illinois and Michigan (I & M) Canal

From the time of the earliest explorers, there were proposals to build a navigation route which would connect Lakes Michigan and the Illinois River. However, it was not until 1832 that the Illinois and Michigan Canal became a reality. The I & M was an instant success — transforming the tiny village of Chicago into a thriving city, spurring the growth of cities all along the corridor, and providing the major means for transporting people and goods between the East and the West.

The construction of the canal was followed rapidly by railroad building. By 1844 passenger service had switched to the railroads, and by 1915 freight traffic on the canal had virtually ended. With the completion in 1933 of the Illinois Waterway, which provided a new link between Chicago and the Mississippi, government began to consider recreational use of the canal. A number of parks were developed along its shores, and the I & M itself was used for fishing, ice skating and pleasure boating. The Civilian Conservation Corps (CCC), created in 1933 by President Franklin Roosevelt, constructed hiking trails and built picnic areas and shelters along the I & M. Their work continued until the bombing of Pearl Harbor at which time war became the national priority. The CCC was dissolved by Congress in 1942, and many of these facilities along the I & M fell into disrepair.

Late in 1980, Senator Charles Percy was successful in obtaining Congressional authorization for a study of the entire I & M corridor to consider ways in which the cultural and recreational potential of the area could be preserved and enhanced. The study was done by the National Park Service (NPS) with input from the Department of Conservation and over 100 individuals representing various other state and local interests. The resulting conceptual plan was approved by the Secretary of the Interior in 1981, and federal legislation is being drafted to develop a means for implementing the plan.

The draft legislation calls for the establishment of the “Illinois and Michigan Canal National Heritage Corridor.” Unlike traditional National Parks, the I & M Canal National Heritage Corridor would not be owned or managed by the National Park Service. Instead, existing management patterns would be maintained. A 15-member Commission, appointed by the Secretary of the Interior, would have the responsibility for coordinating, promoting and assisting State and local entities involved in the corridor development. The primary purpose of this development would be to enhance and interpret the cultural, historic, natural and recreational resources for both their recreational and cultural values and to improve the economic climate of the corridor.

The Hennepin Canal

Planning for the Illinois and Mississippi Canal, later renamed the Hennepin Canal, began even before the Illinois and Michigan Canal was completed. Boats were to use the Hennepin to cross the natural divide between the Mississippi and Illinois Rivers and enter the Illinois and Michigan Canal, thus reducing the barge passage distance from Chicago to the Upper Mississippi by some 419 miles. The Hennepin Canal was not completed until 1897 and was never known to carry as many barges as the Illinois and Michigan Canal. Even so, it was a valuable part of the State’s navigational system. It was always a prime route for commercial navigation in Illinois.

With the end of commercial navigation, a group of citizens interested in the Canal’s recreational and wildlife potential lobbied for its preservation as a recreational corridor. In 1976, after 20 years of extended negotiations, the Hennepin Canal was transferred from the U.S. Army Corps of Engineers to the State of Illinois, Department of Conservation. An interpretive center, six major parks, two boat access areas, and some trails have been constructed. The major recreational uses of the canal are fishing, boating, picnicking, hiking, wildlife observation, snowmobiling and horseback riding.

A public meeting was held on October 19, 1981. The public input was that the DOC should plan and seek funding for complete rehabilitation. This is the course that the DOC is currently pursuing.

The major barrier to achieving the goal of rehabilitation, interpretation and recreational development of the two canals is financial. As part of the 1983 capital budget proposal, the DOC has requested $260,000 for repair and renovation on the I & M Canal and $235,000 for planning and specifications for rehabilitation on the Hennepin Canal.

In a State deficient in recreational land, the two canals together could provide almost 200 linear miles and more than 5,000 acres for many types of recreational use. Inability to act now will place an even higher price on future rehabilitation of these resources. Decisions in the next year at the State and Federal level will play a very important role in determining the future role of Illinois’ turn-of-the-century canal system.

(From Planning Update, Winter 1982, Illinois Department of Conservation.)

An old woodcut, thought to date back to about 1885, showing a water-powered inclined plane in Europe, published in Bouillet’s ‘Traits des Moyens de Rendre les Rivières Navigables’ (Bath Collection, Swarthmore College—Courtesy Robert S. Mayo, P.E.)

AMERICAN CANALS, NO. 42 - August 1982
This unusual photograph of the Erie canal at Little Falls, New York is from the stereo-photograph collection of Robert M. Vogel who speculates that it features the building of an Erie canal boat. Any comments from American Canals readers?

William Gooding - Canal Engineer (An Autobiography)

I was born April 1, 1803 in the Town of Erskine, Ontario County, New York. My father's name was James Gooding and my mother's Caroline Andrews. They were both born in Dighton, Massachusetts and settled in the place of my birth when all Western and Central New York was wilderness. I was educated in the common district schools in the town where I was born, but in a great degree self-educated. My studies were such as were usually pursued in common schools at that period, with special in some branches of mathematics, surveying, etc., by a private teacher in an evening school.

My life ended on August 10, 1862. In 1862 I obtained a situation in the engineer department of the Welland Canal in Canada, which was then in course of construction, having made my mind to do work in civil engineering for which I had, as I thought, a natural taste and some qualifications. I served as an assistant engineer on this canal under the chief engineership of Alfred Barlow until the spring of 1862.

I remained until the following April 1862 employed in the business of the firm, which I did not like. I then left for Illinois where my father and his family and my oldest brother from Ohio had settled the previous autumn after the termination of the Black Hawk war. It may not be out of place to mention that when I made my journey west with my young wife in May 1832, we passed over the only connected passenger railroad (six miles) in the United States, from Albany to Schenectady. This was built with a light steam rail and the rolling stock consisted of three or four coaches much like ordinary stage coaches and the locomotive that moved them was a single horse.

When we made our journey the following spring from Detroit to Chicago, stage-coaches ran only as far west as Niles, Michigan, and I made a special contract with the stage proprietors to send us from Niles to Chicago, between whom places, up to that time, only a horseback mail had been carried once or twice a week. From Niles to Chicago we were three days in a stage wagon during the very wet season and were the first passengers who ever came with the mail along the road of Lake Michigan.

When we arrived in Chicago the first day of May 1833 there were not, probably, more than one hundred or one hundred fifty persons there except in the garrison.

We reached Founders Grove in Will County the third of May 1833 and settled there upon a farm. Although occasionally employed in forming I considered my profession that of a civil engineer, which I had adopted because I had a taste for it.

In 1834 and 1835 I was employed by the surveyors of the Illinois & Michigan Canal in making surveys for the extension of the Wabash and Erie Canal the construction of which had been commenced in 1833 by the Illinois and Wabash Canal Company, since when I have been employed by the Illinois and Michigan Canal by the canal commissions, W. T. Thornton, Wm. B. Archer and Gordon S. Hurlbut.

I commenced my duties in February 1836 and continued to act as Chief Engineer in forming the completion of the canal in the spring of 1839, except for a time during the suspension of the work caused by the failure of the State to provide funds for its prosecution. From July 1839 however, I acted under the canal trustees, they having assumed control of the canal and canal property under the new law which gave the roadholders control until all canal indebtedness should have been paid.

In 1849, immediately after the sudden death of Robert Stuart, who had held the office of Secretary of the Board of Trustees since its first organization, I was appointed to fill the vacancy thus caused. I continued to act in this capacity, with the duty of assistant treasurer added, until the close of the trust in 1871.

In the meantime I was appointed United States civil engineer to make, in conjunction with the Honorable H. P. Wilson, a survey and estimate for the improvement and enlargement of the Illinois and Michigan Canal and the improvement of the Illinois river which duty we performed with much credit, and I was one of the special commissioners of the Board of Public Works of the city of Chicago for the description of the public works of the city of Chicago.

(Submitted by Keane Ragan.)

ACS DIRECTOR HONORED BY A.S.C.E.

Robert S. Mayo, P.E., ASC Director, of Lancaster, Pa., has been selected by ASCE as the recipient of the 1982 Civil Engineering History and Heritage Award. Mayo has written "Practical Tunnel Driving" — the definitive work on American tunnels — (1941, 1975, 1976, 1978) and is a member of the same tennis club which published "Tunneled by American Canals: A History of American Canal Engineering." The Award will be made at the ASCE Convention in New Orleans, October 29, 1982.
NEW ERIE CANAL – PLUS ENERGY ISLE

Robert E. Feldberg, P.E., of Harrisburg, PA, says, "This time not once, but twice—merchants along the Great Lakes and Canada have carved out of their many rivers, canals, the path of commerce."

The concept differs somewhat from the plan proposed by the Army Corps of Engineers in American Canals, Number 339, May 1880. But they endorsed the general idea of ICION.

The "lay" from the enlarged Erie Canal would continue in New York and Complex from the New York City harbor.

"Every other nation in the world would want to use a waterway out of their major assets," British-born marine engineer Nigel Chatsey said recently while discussing his plan with local officials.

ICION — Island Complex Offshore New York and New Jersey, and Erie Projects envision creating a deepwater port and industrial and energy complex offshore, commercially and physically connected to the Great Lakes and the U.S. hinterland by a waterway system.

The complementary Erie Canal project would widen and deepen the Erie Canal to that large barges or four-barge tow could navigate the Great Lakes and cross New York State from Buffalo to Albany and down the Hudson River to the Port of New York and ICION.

ICION envisions construction of a new 15-mile-long, 150-foot-wide, 100-foot-deep, 800,000-cubic-yard river, the Chesaqua River, along the Hudson Trench, along the coast of New Jersey and New York, to serve as a deep for energy-related activities such as LNG, LPG, crude oil and product transportation facilities, and eventually a new for refineries and petrochemical complexes and polyethylene.

The island complex would provide 8,000 to 10,000 acres of land in its initial stages and include several enclosed deepwater ports and new harbors, capable of handling 500,000 dry cargo and large Great Lakes-type vessels of up to 30,000 cwt.

ICION would cover, at completion of all its initial phases, a 500-foot-wide, 3,500-foot-long area. Protected land area would be up in a series of interconnected parks protected by a vast area of sea dikes.

The ICION complex would need, at minimum, 600,000 cu yd of rock and fill for construction.

To build this complex in such deep water presents a challenge, but new technology is needed, according to Chatsey who is a student of Dutch marine engineering. The vast amount of fill, he said, could be provided by material dug up from the Erie Canal.

Modemization of the Erie Canal by widening and deepening it to accommodate larger-size canal boats and four-barge tow would open up new commodity movements between the Great Lakes and the U.S. hinterland and ICION and the Port of New York. Tycoon curios would be coal, grain, petroleum products, petrochemical feedstocks, fertilizers and metallic ores.

ICION-Erie would work today, says Chatsey. But, he adds, if there's a very careful and complete study before it is launched. Chatsey said that Washington would have him — before applying for federal funds — to allow for a full and complete study — to get significant funds towards planning such studies from Army Corps of Engineers, N.Y. and N.J. (and preferably also from California and Pennsylvania) and industrial and utility users who might be potential private sector users of the island complex and/or modernized Erie Canal.

Detailed studies of the island and canal projects, emphasizing technical, environmental, socio-economic and financial aspects of the idea, will take two years and cost $10 million, says Chatsey.

If the study is successful, the next phase would involve detailed engineering for a portion of the project. The first site for the offshore island could be built using sand and gravel dredged from the Chesaqua River off New Jersey.

"You could," Chatsey said, "create the first phase of the energy island without the canal project."

To build ICION, fill would be dropped from barges and anchored by a layer of sand, gravel and 10-ton rocks. Next would be a layer of 10-ton, 25-ton and 75-ton rocks.

Two dikes would provide double protection — sheltering ships and loading-unloading cargo. A Chesaqua River port would permit access by the largest ships in the world, New York Harbor is 121.1 m x 460 ft. Big ships draw 219 m (70 ft).

ICION, once started, could then be developed in stages over the next 20 years, creating sites for new industry and energy-related activities as well as for revenue and sewage disposal facilities and a deepwater port. This deepwater port would allow the transportation of energy materials into the region at the lowest possible cost — something which cannot be done now because of the shallow of the harbors along the northeast coast of the U.S. (or LNG and low sulfur coal can be brought to ICION by the mainland, available transportation systems. Low sulfur Wyoming coal or Midwestern coal can be transported by rail to the Great Lakes and by water through the Canal and down the Hudson to ICION. Alaskan crude oil can be carried by U.S.-flag tankers from Valdez around the Horn to ICION. Grain, now barged down the Mississippi and then imported via Gulf Coast ports, could soon reach foreign lands via the Port of ICION.

The U.S. Army Corps of Engineers is also studying this plan, the "All-American Transportation System," to link the Great Lakes to the Hudson via the Erie Canal. While the Corps

ends a 1957 expansion of the Canal to accommodate four-barge tows, it can't, Chatsey says, fully modernize the project because it overlooks the cost benefit ratio.

Chatsey is referring to benefits to the U.S. economy of increased coal exports. This isn't new, either. It's necessary for the U.S. government to take, he points to an M.I.T. Green Study which warns that the U.S. must increase exports of steam-coal to Europe and Japan if it is to ward off Russia's planned invasions of overseas gas markets.

A dynamic speaker, Chatsey is right now in the process of setting up independent ICION Erie councils throughout New York.

Deepening the 171.5-lm (560-ft) New York State Erie Canal connecting Buffalo with Albany would make Buffalo a port and benefit Rochester, Syracuse and other cities along the canal route. This is one reason why Chatsey is drumming up local support.

Ramp transport is five times as energy efficient as train transport, so, opening the canal would not only lower transport costs.

"I'm not suggesting this be a toll-free canal," Chatsey said. "Egypt makes a good deal of money running the Suez Canal. I don't see why New York State can't do the same thing."

FLASH!

As we were about to go to press, we had a phone call from Don Smithers, President of the newly-formed CANADIAN CANALS SOCIETY. He has just completed the planning for their first field trip at Kingston, Ontario, October 6-7, 1982, which will include a trip along portions of the Rideau Canal in the "Hood Princess." For details call Donald A. Smithers, Trent Severn Waterway, Peterborough, Ontario K9J 6Y5, or phone him: (705) 743-5180, office; (705) 745-8930, home.

Delaware and Hudson Canal

Joe Brolley, of Wilkes-Barre, Pa., has once again provided us with an interesting canal photo from his area. Pictured here is his photo of the well-preserved waste weir near Lock 23 on the Delaware and Hudson Canal at Kimble, along the Lackawaxen River, Wayne County, Pa.
CANALS AND THE NATIONAL REGISTER OF HISTORIC PLACES: AN ASSESSMENT

By Dr. W. E. Trout III

We thought it was about time to compile a comprehensive list of canals on the National Register, in order to see how we have been performing. This comprehensive list includes the latest information from the American Canals of the 19th Century, a comprehensive list compiled by Dr. W. E. Trout. It shows that there are over 150 canals listed in the National Register, with the majority being in the eastern United States. The list includes canals in New York, Pennsylvania, Ohio, and Indiana, among others. The list also shows that canals are being restored and maintained, with many being used for recreational purposes.

INDIANA CANAL SOCIETY

On May 22, 1982, a meeting was held at the Indiana Canal Society to discuss the future of canals in Indiana. The meeting was attended by over 50 people, including canals' enthusiasts, historians, and members of the Indiana Canal Society. The meeting was led by President, Dr. W. E. Trout, and featured a presentation by Dr. J. H. B. Hobbs, a historian and author of several books on Indiana canals.

The event was a great success, with many attendees expressing their enthusiasm for preserving and maintaining Indiana canals. The Indiana Canal Society is planning to hold similar events in the future to raise awareness and support for the preservation of Indiana canals.

Carmen Hudson, First President of the Indiana Canal Society, as sketched by Julia Meek, the talented co-editor of INDIANA WATERWAYS.

North Portal of the twenty-foot stone arch, and which had been damaged by a flood over a year ago, had been mostly repaired. At Delphi, a very cordial group of the Board of Directors of the American Canal Society, led by Dr. W. E. Trout, was waiting to greet us and answer any questions about local history and their project. Along with refreshments provided by the group, it was a heartwarming and fine ending to a very successful tour.

(Submitted by Thomas Meek, Editor, Indiana Waterways.)

While researching for TOWPATHS TO TUGBOATS, we ran across this old profile of the old Miami and Erie Canal in Ohio, presumably among some old issues of TOWPATHS, the house organ of the Canal Society of Ohio. It shows the high elevation to which this canal climbed in passing across western Ohio, from north to south.

Cincinnati, Dayton, Columbus, Indianapolis, Fort Wayne, Michigan City, Chicago, etc., etc.