

Chesapeake
AND *Ohio*
Canal MARYLAND





Typical view of the Chesapeake & Ohio Canal today. The canoeist, hiker, and angler have replaced the old canal boat, mule, and driver. Visitors to the restored levels, extending 22.1 miles between Georgetown, D. C., and Seneca, Md., will find illustrated historical markers describing the early years of the Chesapeake & Ohio, now preserved as an unaltered example of the great American canal-building era.

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THE COVER

An old boating scene on the Chesapeake & Ohio Canal. During the canal era, which came in the first half of the nineteenth century, a large part of the traffic between the East and West was via the canal boat, towed mile after mile by the plodding mule.



UNITED STATES DEPARTMENT OF THE INTERIOR

HAROLD L. ICKES, *Secretary*

NATIONAL PARK SERVICE · NEWTON B. DRURY, *Director*

Chesapeake & Ohio CANAL

We are greatly and rapidly—I was about to say fearfully—growing. This is our pride and our danger; our weakness and our strength. . . .

JOHN C. CALHOUN, the great advocate of States' rights, made this admission in 1817 during the early period of our national growth. The unity of the young Nation, whose frontier was already spreading far beyond the economic and political influence of the older East, was one of the gravest problems confronting the new republic. Yet it continued to grow into a vast and firmly united Nation—the pride of every American. To our resourceful forefathers, who were quick to improve the facilities of transportation between the people in the widely separated sections of the growing Republic, must be given a large share of the credit for this building of the Nation. The early attempts to improve the navigation of inland waterways, the post-Revolutionary turnpikes, the antebellum canals and railroads, the telegraph, and the streamlined automobile and airplane of recent times—all of these developing means of communication—mark stages in the growth and unity of our country.

The colorful era of the canal came during the second and third decades of the nineteenth century—a period of great westward expansion. This significant epoch of the canal boat was a product of the growing political and economic influence of the fast-developing frontier. The early years of that century saw the number of inhabitants of the trans-Allegheny country increase from one million people in 1800 to a third of the Nation's total population in 1830, or more than three and a half million persons. Far removed from the old-line States of the East, and not guardians of the treasured States' rights principles, these people looked first to the Federal Government for aid in providing the improvements in transportation necessary to their growth and existence. These views, voiced during the 1820's in a clamor for internal improvements, reflected a spirit of nation-

alism in the West which became a pertinent force working for the unity of the Nation and in molding our democratic system of government. Henry Clay of Kentucky, an ardent nationalist, brought widespread support to the movement for Federal aid in building facilities of communication with his formula for the national development popularly known as the "American System." Clay's eloquent presentation of this plan in 1824 which advocated a protective tariff for home producers and extensive internal improvements, brought considerable Federal aid to roads and canals during that period.

The post-Revolutionary turnpikes, built during the early years of the Republic, had already contributed greatly to the development of the West. The most notable of these, significantly called the National Road, extended from Cumberland, Md., to Wheeling on the Ohio. This trans-Allegheny thoroughfare, together with auxiliary highways leading to Baltimore, Md., gave great advantage to this tidewater city in the coveted trade with the fast growing West. Yet the tedious and costly passage over this and other wagon routes gave little comfort to the fixed frontiersmen, now eager for a more economical means of transport for their increasing raw materials and agricultural products seeking a profitable market. New York's successful Erie Canal, begun in 1817, soon demonstrated that the problem had been solved, when, to the disadvantage of Baltimore and other seaboard cities, vast quantities of the products of the West began to reach New York City by way of this new water route at less than one-fourth the cost of transportation. Typical of the history of American transportation, the innovation of the canal marked the decline of the older turnpike system, and the launching of a great canal building era. Maryland, Pennsylvania, New Jersey, Delaware, and other seaboard States, eager to share in the profitable western trade, feverishly began the construction of canals joining their tidewater cities with the interior. By 1840 more than 4,000 miles of canal had been completed or were well underway in the Nation.

Maryland's Chesapeake & Ohio Canal was promoted to follow the Potomac River Valley where the old Potomac Company, fostered by George Washington, had attempted earlier to provide a navigable waterway westward by removing the obstructions from the Potomac River channel. Unfortunately, the geographical location of Baltimore was not suitable for competitive canal connection with the West. In her dilemma, she promoted the first trans-Allegheny railroad—the renowned Baltimore & Ohio. Again demonstrating the adaptability, skill, and talent of the ingenious American, this improved agency of communication marked the beginning of a new era in transportation.

THE POTOMAC COMPANY

PROMOTION AND ORGANIZATION

The consideration of a plan to provide an easy passageway along the Potomac Valley by means of a navigable waterway began as early as the 1750's. One of the first to become interested in this possibility was the 22-year-old George Washington. In 1754, he began to contemplate a project by which the Potomac River might be made navigable from tidewater to a point west of Cumberland, Md., and there connect by transmountain roads with streams leading to the Ohio River. His efforts to secure the organization of a company for this purpose were interrupted by the Revolution, but in 1784, a few months after resigning his commission as commander in chief of the Continental Army, he secured the passage of acts in the legislatures of Virginia and Maryland which achieved this object. Chartered under the name "Potomac Company," sufficient stock had been sold by the next year to warrant formal organization. Washington was elected the first president, and James Rumsey, the early experimenter with the steamboat, was engaged as the chief engineer.

CONSTRUCTION

The removal of rocks and other obstructions from the Potomac River channel was begun immediately. In August 1785, four "flat boats" and two "setts of hands," numbering 50 men each, performed the initial work of this type for the Potomac Company. In addition to removing the loose rock and sand bars from the river bot-

tom, other devices were designed and built to improve the channel. "Chutes," or narrow passageways, were blasted through the solid rock formations to provide sufficient depth to some sections. At many points along the river low dams were constructed, which raised the level of the river approximately 18 inches and diverted the water thus collected into walled channels 20 feet wide and which were used by boats for passing over the shallow rapids. By these structures and a series of five short canals skirting the major river falls where a channel could not be provided, it was hoped that boats might float with ease from west of Cumberland to tidewater at all stages of the river.

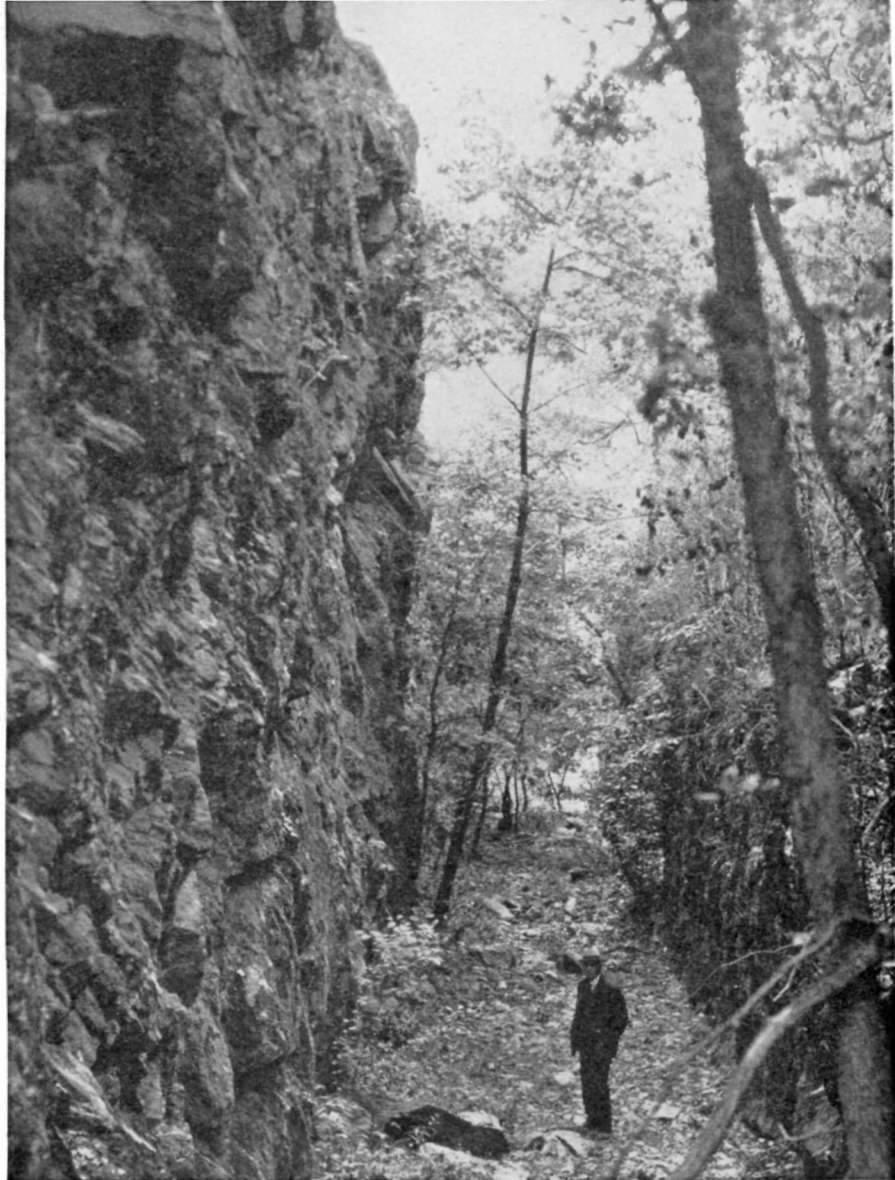
Washington was actively engaged in planning and supervising the work of the Potomac Company until the period when his duties as President of the United States required all of his time and energy. On numerous occasions in 1785 and 1786 he rode to Great Falls, Seneca Falls, Harper's Ferry, and other points along the river to participate in the inspection of river conditions, location of the company works, and to conduct such business as fell to him in his capacity as president of the organization. The frequent references in his diary and correspondence to these affairs reveal that he not only gave the support of his already famous name to the project, but devoted to it a large share of his time.

In 1802, the Potomac Company river and canal navigation system was substantially completed. Five canals, varying in length from 50 yards to more than 2 miles, had been excavated. The longest of these was located on the Maryland side of the river around Little Falls, a few miles above Washington City. At Great Falls, on the Virginia shore, a canal three-quarters of a mile long and having five lift locks, was constructed. The third short canal was built around Seneca Falls and the fourth and fifth near and above Harper's Ferry.

BOATS AND CARGOES

"Gondolas" and "sharpers" carrying furs, whisky, flour, and lumber followed this treacherous and winding channel from Western Maryland to Georgetown. The "gondola" was a flat-bottom raft, 50 to 75 feet long and 9 feet wide. When loaded, it drew only one foot of water and was propelled by poles with the help of the river currents. It is said that this type of boat did not

This deep cut, blasted through the rocky cliffs for the Potomac Canal around the Great Falls, was considered a great engineering accomplishment in its day. It may still be seen on the Virginia shore of the Potomac River.



attempt the hard upstream trip, but was sold for lumber upon reaching Georgetown. The “sharper” was more securely built. Boats in this class were pointed at both ends and measured 60 feet long and 7 feet wide. When their cargo had been discharged at tidewater, the boats were poled, against the currents, back up the river through the canals and channels of the Potomac Company. In 1807, about 65 boats of these types were in operation on the Potomac Company system. During this year \$15,000 were collected in tolls, the largest sum reported up to that time.

FAILURE

More than \$500,000 was expended on this project; yet the removal of obstructions to navigation

was never successfully completed. It was found that the boating season was limited to periods of high water, or freshet, which did not much exceed 2 months a year. The shippers complained that boats waiting for the river to rise were often delayed so that cargoes were not delivered on the date promised. Frequently, the boat and cargo were seriously damaged in the perilous passage down the river. It became obvious that a more serviceable route to the west was needed if cheap and reliable transportation to the Ohio was to be secured. In 1821, a joint committee appointed by the Maryland and Virginia legislatures to examine the affairs of the Potomac Company recommended that its charter be revoked.

THE CHESAPEAKE AND OHIO CANAL

PROMOTION AND ORGANIZATION

The men who supported the movement for an improved means of communication along the Potomac route visioned a continuous canal of some 360 miles in length connecting tidewater of the Potomac River, near Georgetown, with the navigable waters of the Ohio River at Pittsburgh. The feverish enthusiasm which arose in Maryland, Virginia, and the District of Columbia in the 1820's for this new thoroughfare resulted only in part from the failure of the Potomac Company to establish reliable water communication with the West. Great stimulus came after 1817 when the rival States of New York and Pennsylvania began to plan and build extensive canal systems connecting their tidewater cities with the interior. This threat to trade already coming to Baltimore via the Cumberland Road and the desire of the District of Columbia cities to enhance their commercial position were convincing arguments used by the promoters of a Chesapeake & Ohio Canal.

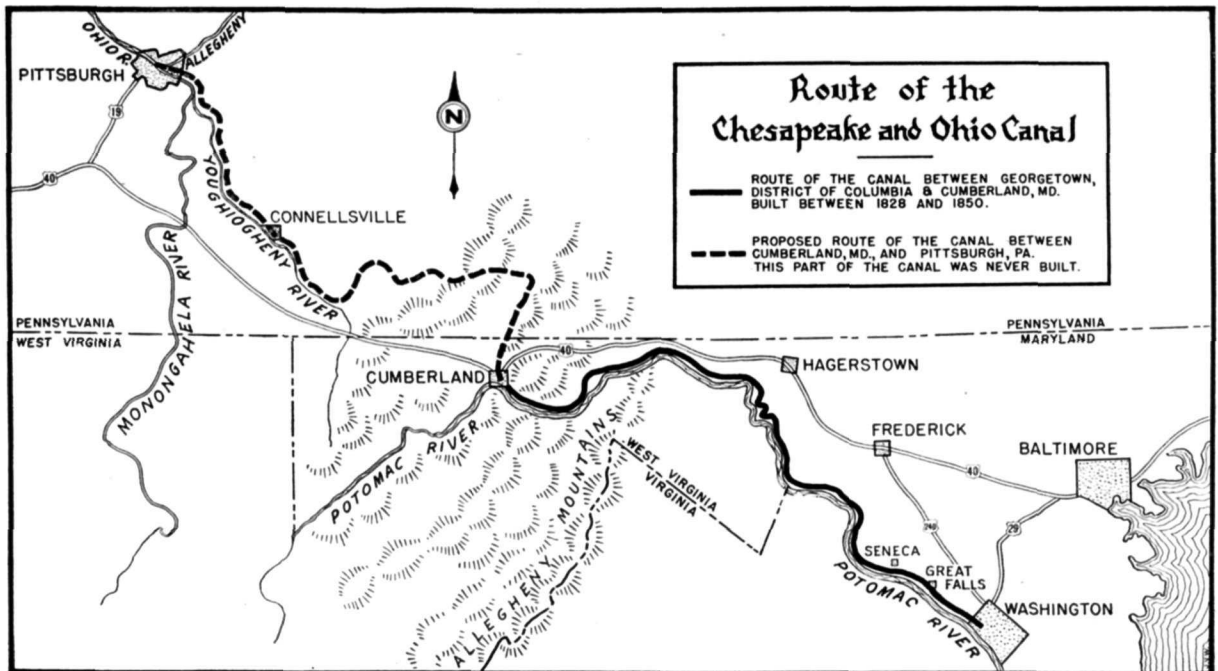
The canal movement gained momentum when the first surveys indicated the practicability of the undertaking. Local and State-wide conventions called to consider the project were enthusiastically attended. The route of the canal, its dimensions, and probable cost were carefully studied. In June 1828, the Chesapeake & Ohio Canal Co.

was organized with a capital stock totaling some \$3,000,000. Soon afterwards the old Potomac Company turned over all its charter rights and privileges along the Potomac Valley to the new company.

CONSTRUCTION

Construction was officially begun on July 4, 1828, when President John Quincy Adams turned the first spadeful of earth at elaborate ceremonies held near Little Falls. During the next month, contracts were let for approximately 17 miles of the canal, extending from Little Falls to Seneca, Md. By the next year, the scene along the Potomac Valley became one of intense activity when hundreds of laborers using the axe and stump-puller, the horse-drawn plow and scraper, shovel, wagon, and wheelbarrow began the excavation of the canal ditch. During the same season, many boatloads of stone secured from the nearby quarries were delivered along the canal right-of-way where expert stonemasons began the construction of the locks and lockhouses.

Labor trouble was one of the many difficulties which the Chesapeake & Ohio Co. encountered during its long period of construction. The tremendous demand for workmen on the many canal projects underway throughout the East brought about a general shortage of labor. To meet this situation the company sent agents



abroad to contract for the importation of men to be employed under terms of indenture for their passage to this country. During 1829 and 1830 more than a thousand English and Irish laborers were added to the work crews on the Chesapeake & Ohio Canal by this means. Camps were established along the Potomac Valley where the contractors furnished food, lodging, and medical care to the hundreds of men in their employ. The meager wage of \$10 a month, the long hours of labor, poor housing and food, and a generous daily allowance of whisky were the causes of serious dissension among the laborers. Insubordination and general disorder were common. Many of the indentured workmen ran away from the canal project and had to be returned by force to complete their terms of service. On one occasion considerable canal and private property was destroyed when two Irish factions, known as the Longfords and Corkonians, attempted to settle a dispute in a pitched battle fought near Oldtown, Md. The unhealthy "shantee" conditions under which the men lived made them easy victims of the dreadful cholera epidemic of the early 1830's. In some areas, the laboring forces were so depleted by this disease that work had to be suspended.

In November 1830, the first completed section of the canal, extending from Little Falls to Seneca, Md., was opened to navigation. The following summer, water was admitted to the Georgetown level between Little Falls and Rock Creek at Georgetown. A controversy between the Chesapeake & Ohio Co. and the rival Baltimore & Ohio Railroad Co. over the right-of-way along the narrows of the Potomac Valley between Point of Rocks and Harper's Ferry delayed the opening of the canal above Seneca until 1833. By this early date, when only 62 miles of the canal were completed, the resources of the company had been practically exhausted. There followed a long 17-year period of severe financial struggle before the canal finally reached Cumberland. The State of Maryland repeatedly responded to the company's plea for aid and, by 1839, had invested more than \$6,000,000 in the project. During this period, the waterway slowly extended its line westward; by 1837, it had been completed as far as Dam 5, 107 miles from Georgetown; in 1839, it reached Dam 6, 50 miles from Cumberland. At this point, 7 miles west of Hancock,

Md., navigation of the canal terminated from 1839 until October 10, 1850, when the line was opened to Cumberland. The extension of the canal across the mountains to Pittsburgh, as originally planned, had long before been given up in the face of the mounting financial troubles. The total cost of construction totaled more than \$11,000,000, or an average of some \$60,000 a mile.

YEARS OF OPERATION

Boats began to appear on the canal soon after the first short sections were completed. As water was admitted to the upper divisions reaching out into Western Maryland, the trade on the canal increased when cargoes of flour, grain, building stone, and whisky began to float along the winding levels toward Georgetown. It was not until the canal reached Cumberland, however, that the tonnage transported reached an appreciable figure. Coal from the rich mines of this locality then began to follow the canal route to tidewater in great quantities. It was to become the sole profitable carrying trade. Throughout the entire history of the canal the ascending traffic amounted to only a small percentage of the total tonnage, and consisted largely of fish, salt, fertilizer, and iron ore. During the two decades following the War between the States the coal trade increased rapidly until in 1871, the peak year, about 850,000 tons were carried on the Chesapeake & Ohio. In some years of this period the canal company made a considerable operating profit, which was quickly applied to the payment of back interest on its tremendous debt. During these halcyon years of the canal's prosperity, more than 500 boats were in operation.

In the late 1870's the canal trade commenced to decline when many of the Allegheny coal operators began to ship over the Baltimore & Ohio Railroad—the canal's greatest competitor. In later years, 250,000 tons of commerce yearly were considered an average season. The great flood disaster of 1889 found the company with insufficient funds to repair the serious damage done to the canal embankments. Forced into bankruptcy, the company passed into the hands of the bondholders. Trustees were appointed, and the canal entered the last period of its existence. In 1924, after the railroad had captured almost all of its carrying trade, the old Chesapeake & Ohio Canal ceased to operate.

BRANCH CANALS OF THE CHESAPEAKE & OHIO

By a provision in the charter of the Chesapeake & Ohio Canal Co., the cities of Baltimore, Alexandria, and Washington were empowered to extend branch canals from their tidewater harbors to connect with the main line of the Chesapeake & Ohio. While the Baltimore extension was never excavated, the Alexandria Canal and the Washington City Branch were begun during the early years of the company's existence.

ALEXANDRIA CANAL

The Alexandria Canal Co. was chartered by Congress in 1830. Work on the 7-mile branch canal was begun in 1833, but financial and construction troubles delayed its completion until 1843.

The Alexandria Canal crossed the Potomac River by an aqueduct 1,100 feet long. It was originally planned as a seven-arch, all stone structure, but lack of funds made it necessary to substitute a wooden trunk, or trough, 17 feet wide and 7 feet deep. The remains of the north abutment and eight stone piers, upon which this imposing bridge-like structure rested, may still be seen above Key Bridge.

Prior to 1861, much of the coal brought from Cumberland reached tidewater via the Alexandria Canal. During the War between the States the aqueduct was drained and used as a bridge. In 1866, the property was returned to the Alexandria Canal Co., which immediately leased it to the Alexandria Railroad & Bridge Co. A vehicular bridge was then erected above the wooden trunk and towpath of the aqueduct, and for many years thereafter it served both canal and bridge traffic.

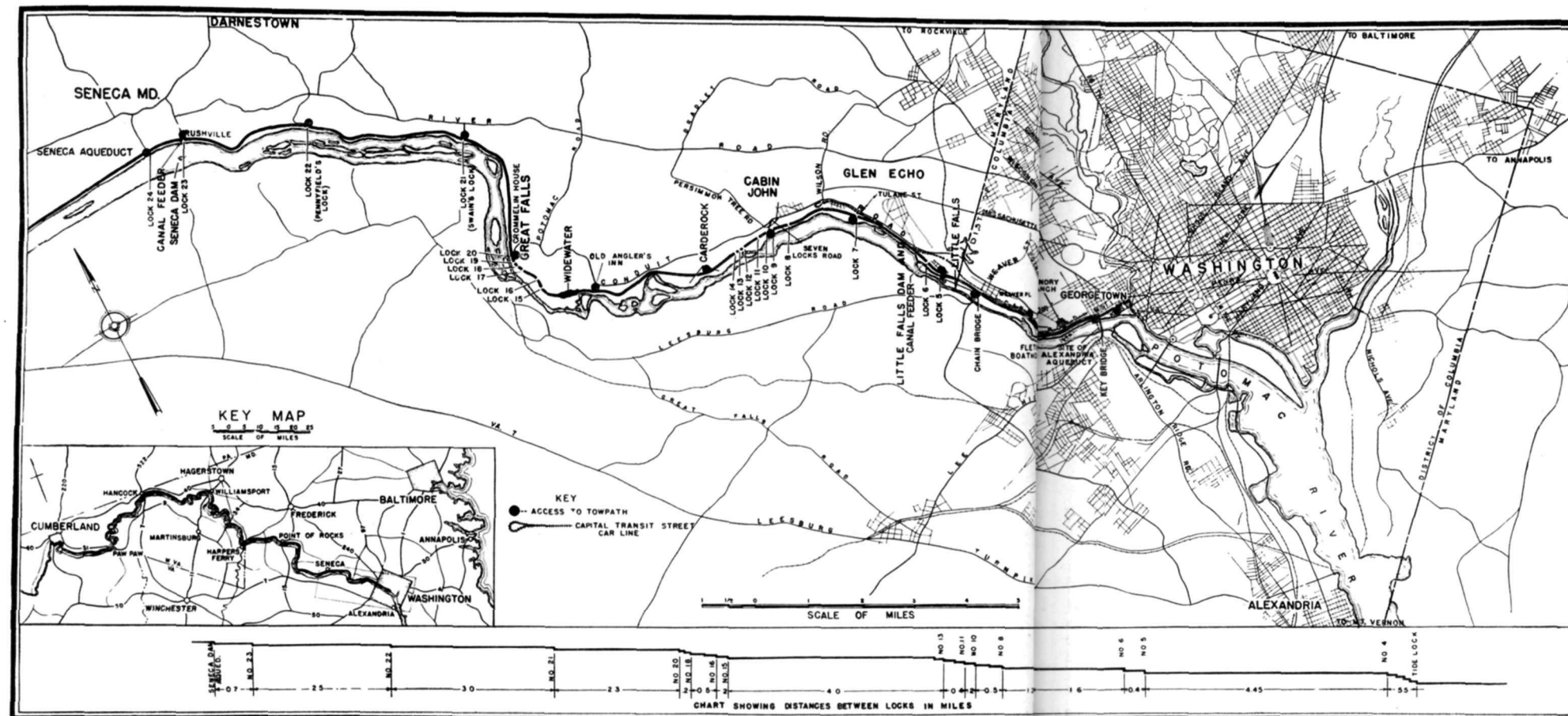
In 1886, the aqueduct was purchased by the Federal Government. The wooden trunk was removed and the stone piers used to support an iron truss bridge. Known afterwards as "old Aqueduct Bridge," it served as one of the principal District of Columbia river crossings until 1933 when Key Bridge was opened to traffic.

THE WASHINGTON BRANCH

The subscription of a million dollars to the stock of the Chesapeake & Ohio Co. by Washington City was made under the condition that an extension would be constructed to connect with the old City Canal. The western terminus of this old Washington waterway, built between 1791 and 1815 along a route recommended on the L'Enfant plan of the city, was on Tiber Creek, which extended from the Potomac to near the present-day intersection of Seventeenth Street and Constitution

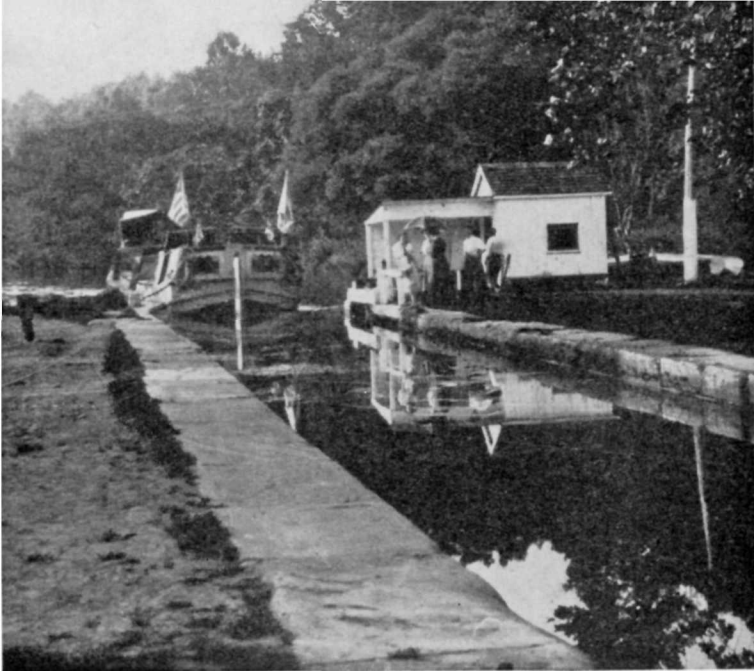
Avenue. The channel of the "Washington City Canal" followed east along the line of Constitution Avenue to midway between Sixth and Seventh Streets. There it turned south, then generally east around Capitol Hill, to Canal Street. Near this point the canal divided, with one branch reaching the Anacostia River near the old Navy Yard. The second branch followed Canal Street and joined the Anacostia west of the Army War College.

In 1832, contracts were let for the excavation of the Washington Extension. It began at the Rock Creek Basin of the Chesapeake & Ohio and followed along Twenty-seventh Street to the site of its existing intersection with Constitution Avenue. At this point it turned east and continued to Seventeenth Street, where it joined with the old Washington City Canal. The extension was completed in 1833. Unlike the Alexandria Canal, the Washington extension was built and owned by the Chesapeake & Ohio Canal Co. This branch canal was little used, and soon after 1855 it was allowed to fill up. The only remains of this old waterway visible today is an old stone lockhouse still standing west of Seventeenth Street on the south side of Constitution Avenue, now used as a public comfort station. The tender who operated the lock, which once joined the Washington Branch of the Chesapeake & Ohio with the old City Canal, lived in this building.

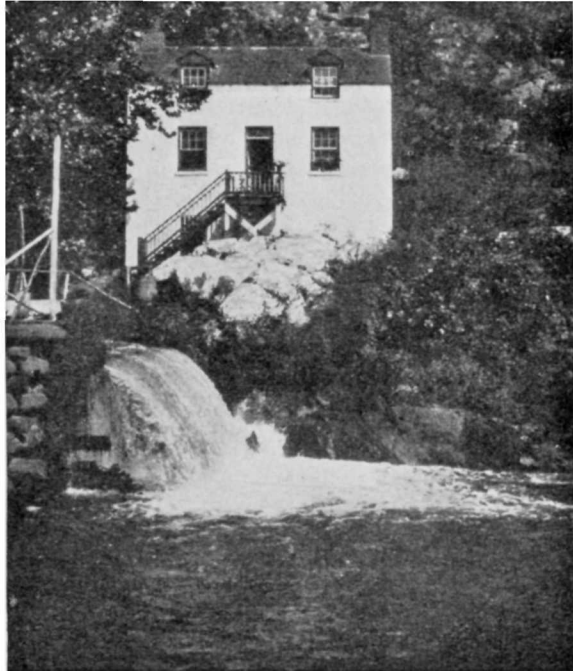


To reach the section of the canal between Georgetown, D. C., and Lock 5, the most direct automobile route is via Canal Road (Extension of M Street, NW.). To reach Seven Locks, Carderock, Widewater, and Great Falls the motorist should turn right from Canal Road over Foxhall Road or Weaver Place and then left on MacArthur Boulevard.

To reach Locks 21, 22, 23, and Seneca the motorist should take the River Road (left from Wisconsin Avenue near Albemarle Street) and drive west through Potomac, Md. Directional markers direct the visitor from River Road to these locks.



The loaded canal boat entering a lock was a familiar scene on the canal prior to 1924 when the Chesapeake & Ohio ceased to operate. Constant reminders of these old days are the well-worn snubbing posts, like those seen in the picture, still standing at the locks.



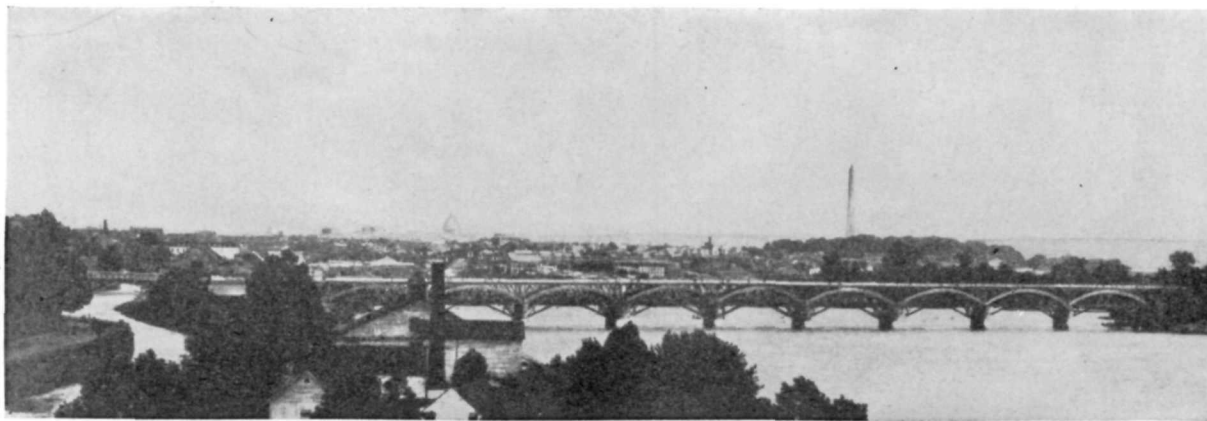
The lockhouse at Lock 16. Picturesque stone, brick, and frame lockhouses built by the Chesapeake & Ohio still stand at many of the canal locks. The locktender, always on the alert for the approaching boatman's call, or horn, occupied this building as part of the remuneration for his services. Courtesy Fine Arts Division, Library of Congress.

CANAL LOCKS AND LOCKTENDERS

The total distance by the canal between Georgetown, D. C., and Cumberland, Md., was 184.5 miles. The elevation of the western terminus at Cumberland was about 605 feet higher than Georgetown, D. C., where the canal reached tide-water. To overcome this rise, or incline, 74 lift locks were constructed, each having the capacity to lift or lower a boat approximately 8 feet. The distance between the locks, called "levels," varied from less than 100 feet to 8 miles.

The locks are constructed of stone, which was quarried in most cases near the building site. They measure 100 feet long, 15 feet wide, and about 16 feet deep. The lock is filled, or emptied, by the small iron paddle gates, or valves, located near the bottom of the large wooden gates at each end of the lock chamber. Boats moving "down canal" entered a full lock through the upper gates, whereupon the lock was emptied by opening the small

The Alexandria Aqueduct as it looked between 1866 and 1886. During these years it served both canal and bridge traffic. Boats passed along the canal-like wooden trunk at the lower level, while the vehicular traffic crossed on a deck constructed above the trough of the aqueduct.



iron paddles in the lower gates. When the water in the lock dropped to the level of the lower section of the canal, the gates were opened and the boat passed out of the lock. This process was reversed for boats going "up canal." After the boat had entered the lock, and all gates were closed, the paddles in the upper gates were opened, and the lock was filled. By this method the boat was elevated approximately 8 feet, a "stepping process" which was repeated 74 times in making the "climb" of 605 feet between Georgetown and Cumberland.

During the first and final years in the life of the canal, when traffic was light, the simple and unhurried existence of the lock tender was only occasionally interrupted by the boatman's sing-song cry "lock ready," or his bugle, which were the lock tender's cues to prepare the lock for going through. Between 1868 and 1880, however, when the canal reached the heyday of its existence, there were but few leisure hours at the lock. In the peak year of 1871, the cargoes transported totaled approximately a million tons, and it was necessary for the locks to be in almost continual operation. On some occasions during the busy years of this period, more than a hundred boats passed through a single lock in one day. The lock-tender's hours of duty ran from "dawn to dawn," and the boatman's call was heard almost as often at night as it was during the day. Although record time for "locking through" was set at 3 or 4 minutes, it usually required about 10 minutes for one boat, or 15 or 20 minutes for two boats, going in opposite directions, to pass through the same lock.

The use of the familiar stone, brick, or frame lockhouse seen at almost every lock, and a small garden plot, were a part of the compensation for the services of the lock tender. In addition to furnishing the house and garden plot, the company paid a salary, which ranged from \$100 a year to \$75 a month during the long years when the canal was in operation.

CANAL BOATS AND BOATMEN

Prior to 1850, before the canal was completed, there were but few boats operating on the Chesapeake & Ohio Canal. Beginning with 1850, however, they began to increase steadily. In 1851, the first full boating season after the canal reached Cumberland, the number advanced from 154 to 205. As the business expanded other men were



Loaded canal boats waiting near Key Bridge for their turn at the unloading docks in Georgetown. Boat captains, eager to make the average of two or two-and-a-half trips between Georgetown and Cumberland a month, did not usually welcome delays of this kind. Underwood and Underwood Photo.



A typical canal boat. An extra mule team was carried in the forward cabin. The small structure in the center of the boat was the "hayhouse" where the mule feed was kept. The captain and his family, or the hired crew, lived in the aft cabin. Underwood and Underwood Photo.



Georgetown to Cumberland Packet, 1859. Although space was limited, the traveler was provided with meals, a shelflike bunk, and the best liquid refreshments aboard the packets of the great canal era. Courtesy, Office of Chief of Engineers, U. S. Army

attracted to the boating occupation. In 1871, the peak year in the canal's prosperity, as many as 540 boats were navigating the Chesapeake & Ohio. Soon afterwards the coal trade, which had become the only important commodity transported on the canal, began to decline. By 1878 only 378 boats were listed on the "register." The number decreased as the business of the canal became less. After 1900, scarcely a hundred boats were in use.

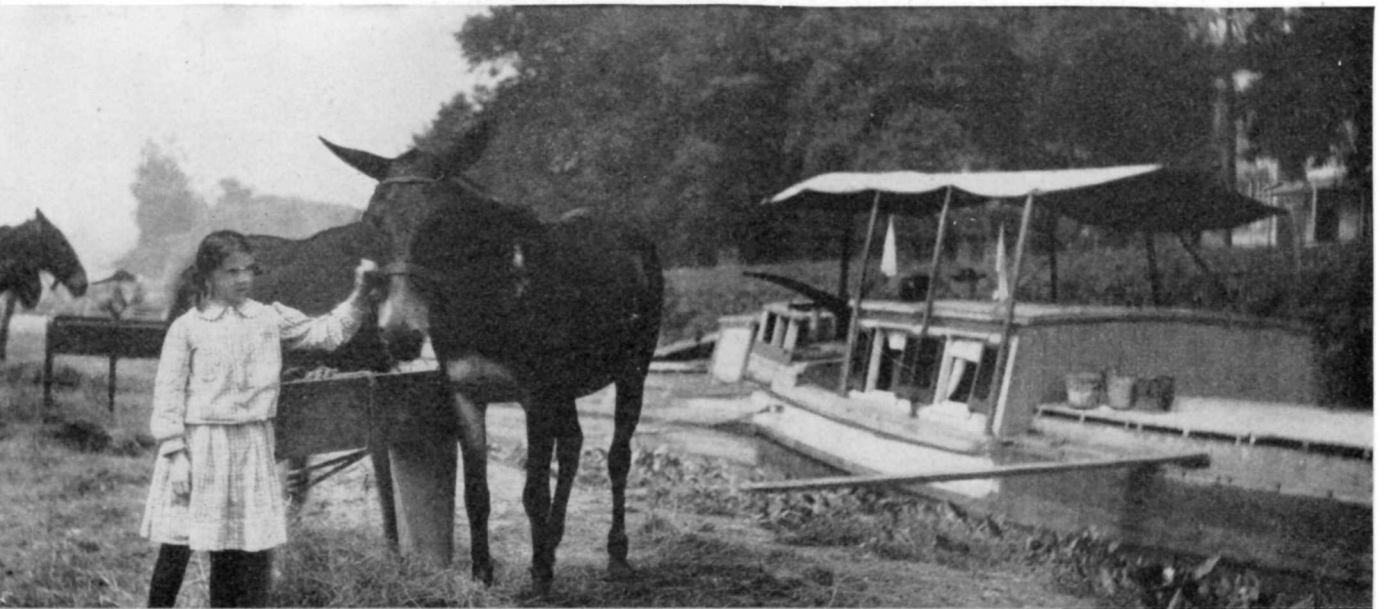
The over-all size, draught, and cargo capacity of boats varied little in the fleet which navigated the canal. The restricting dimensions of the locks, and the desire of the boat owners to carry as much tonnage as possible each trip, were controlling factors which had to be considered in the boat design. The barge which met these conditions best, judging from the great number falling into this class, measured 92 feet long, 14 feet 6 inches wide and had a draught, when loaded, of 4 feet 6 inches. Its cargo capacity was 110 to 130 tons. The expert steersmen had little difficulty in guiding a boat of this size into the locks of 100 feet in length and 15 feet in width.

The many and varied boat names listed on the company register make an interesting study. Hero worship, pride in the beauty and construction of their craft, patriotism, and humor were all reflected in the owners' selection of names. Almost every American hero was remembered, including *General George Washington*, *Andrew Jackson No. 1* (and *No. 2*), *Tip and Tyler*, *A. Lincoln*, and *Old Zack*. During the decade before the War between the States there appeared the *Union*, *Yankee*, *American Flag*, *Liberty*, *Constitution*, and *Scow Uncle Sam*.

Canal boat child. Many children were born and spent most of their lives on the canal. At the early age of 6 or 7 some began to help with the driving of the mules. The boys often advanced from driver to steersman to captain as they grew up, and the girls usually married men who worked on the canal. Photo by L. C. Handy.

Much of the earth's fauna was represented among the Chesapeake & Ohio Canal boats, including the *Ant*, *May Fly*, *Cock Robin*, *Reindeer*, and *Scow Lion*. Honor was also conferred upon *Jenny Lind*, *Katie Darling*, *Grampa*, *Susan*, and *Ida*. It may be inferred that to question the superiority of the *Belle*, *Enterprise*, *Advance*, *Rough and Ready* and *Morning Star* was a considerable personal risk not to be ventured by the man of ordinary stature.

Certain regulations for the navigation of the canal governing speed, right-of-way, preference in passing locks, and other matters were established by the Chesapeake & Ohio Co. The interpretation of these rules by the boatmen often depended upon the circumstances at hand. To be defeated in a race to the 150-yard post, a station above and below the lock which determined the order in which the boats passed through, was a mark of discredit upon the boat, team, and the captain's skill. No self-respecting crew would accept so serious a brand without question, disputes were often heated and sometimes developed into fights. It is certain that the sternly phrased rules and regulations had little bearing on the boatman's behavior when so much was at stake. The physical superiority of a boat crew had other advantages, as shown on one occasion when a boat was actually pulled from the lock chamber and forced to wait until the opponent passed through. On the whole, however, most of the regulations were reasonably well observed. The captain of the ascending boat did not ordinarily question the right-of-way of the boat moving down the canal. He usually pulled over to the berm side of the canal, opposite the towpath, while the descending boat passed. Nor does it appear that the speed limit of 4 miles an hour was often violated.



THE CANAL TODAY

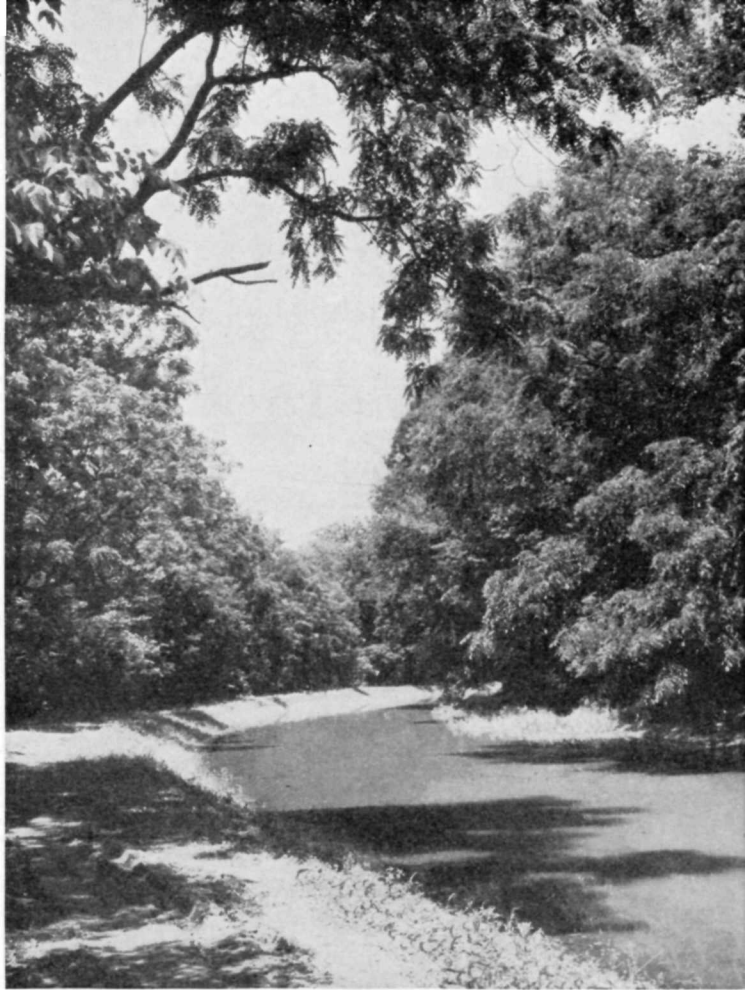
Except for the lack of passing boats, the restored lower division of the Chesapeake & Ohio, extending for 22.1 miles between Georgetown, D. C., and Seneca, Md., revives a scene of the early nineteenth century when the great canal era was at its peak. At frequent intervals the towpath hiker, or canoeist, reaches one of the old stone lift locks built more than a hundred years ago. The trim stone lock houses seen nearby, the illustrated poster markers describing the old canal boats and cargoes, and the ever-changing views of the Potomac River are among the pleasant attractions of the towpath.

The first four lift locks are located in Georgetown, once the busy congested tidewater terminal of the Chesapeake & Ohio. The remains of the outlet lock seen at the mouth of Rock Creek formerly provided access from the canal to the Potomac River. Here also is old Wisconsin Avenue Bridge, the lone reminder of four arched stone bridges, which once crossed the canal in Georgetown. At Thirty-sixth Street, just west of Key Bridge, the visitor may see the north abutment and piers of the Alexandria Aqueduct.

The stranger to the towpath will be interested in the arched masonry underpasses, or tunnels, running beneath the canal at Foundry Branch, Fletcher's Boathouse, and Carderock. These structures, together with the high walls of dry stone masonry seen near Cabin John Creek, Widewater, and Great Falls, are impressive illustrations of the work done by the skillful stone masons of the great canal building era.

At Lock 5, near Little Falls, the first feeder canal may be seen. The water for the lower level, between Georgetown and Lock 5, is conducted from the Potomac River into the main line through this short feeder canal. The supply of water necessary for this purpose is provided by a low stone dam which crosses the river in this vicinity, raising the level of the water and directing a considerable flow into the feeder. The historical interest of this site is enhanced by the fact that this short auxiliary was originally a section of the old Potomac Canal built to skirt the Little Falls of the Potomac. Although it has been greatly altered by the Chesapeake & Ohio Co., it is an important relic of the old river and canal navigation system fostered by George Washington.

Up the towpath a short distance, near the north abutment of the Little Falls Dam, the



The canal above Great Falls as seen today. The old waterway retains its original dimensions: approximately 60 feet wide at the water surface and 6 feet deep. The level towpath, generally 12 feet wide, makes an ideal foot-trail.

elaborate ground-breaking ceremony marking the beginning of construction of the Chesapeake & Ohio Canal was held on July 4, 1828.

The "Seven Locks" series, located in the Cabin John-Carderock region, includes Locks 8 to 14. Here, in the short distance of about $1\frac{1}{4}$ miles, canal boats passed through seven lift locks over a rise, or fall, of 56 feet.

The 4-mile level above Lock 14 offers one of the most attractive areas for canoeists who wish to avoid the portage around locks. The upper end of this level, reached from Old Angler's Inn, forms Widewater. This area is one of the most beautiful and interesting to be seen along the towpath. By utilizing an inactive river channel for the canal bed in this section the early canal engineers avoided a vast amount of blasting and excavation. The deep rocky gorge occupied by the canal is blocked off from the main stream by high towpath embank-

ments. This placid expanse of water, about 500 feet wide and 40 feet deep at some points, has been a popular area for hiking and fishing for many years.

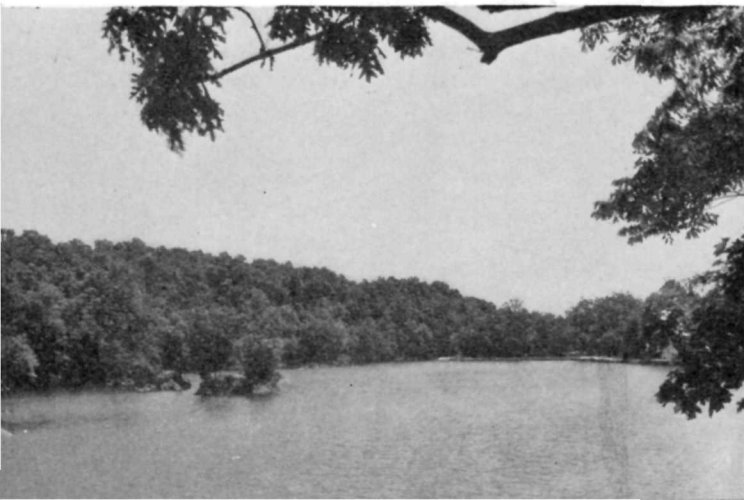
Lock 15, at the upper end of Widewater, is the first of "Six Locks." About three-fourths of a mile beyond this point is Lock 20, the last in the series which carries the canal over the abrupt 41-foot rise of ground at the Great Falls of the Potomac. More people visit this area than any other section of the towpath. The interesting old Great Falls Tavern built by the Canal Company between 1828 and 1831, the series of locks just described, and the majestic river falls reached from this point attract the thousands of excursionists who come to Great Falls each year.

The long levels of the canal between Great Falls and the end of the restored section at Lock 23 seem far removed from the city. Quiet and not frequently visited, this area is well suited for nature walks and canoe trips. Pleasant views of the river and canal, the old stone lockhouses at Locks 21 and 22, and the Seneca feeder canal and dam at Lock 23 may be seen along these levels.

The hiker will find the towpath in easy walking condition as far as Seneca Creek, seven-tenths of a mile beyond the termination of the restored section. The first of 11 interesting stone aqueducts still standing is located here. "Aqueduct No. 1" over picturesque Seneca Creek is 114 feet long and has three arches with a span of 33 feet each. Twenty miles beyond Seneca is the Monocacy Aqueduct built of white granite. This is probably the most admired Chesapeake & Ohio Canal structure. Its length of 438 feet and 7 arches of 54-foot span each are unequalled elsewhere on the canal.

While the restored levels of the canal are typical of the entire waterway, most of the locks, aqueducts, culverts, and feeder canals are located along the undeveloped section which extends for more than 160 miles between Lock 23 and Cumberland, Md.

Widewater as seen today.



One of the most interesting of these features is Paw Paw Tunnel some 30 miles above Hancock, Md. Here the canal passes under a high hill through a tunnel more than 3,000 feet long.

TOWPATH A POPULAR NATURE HAUNT

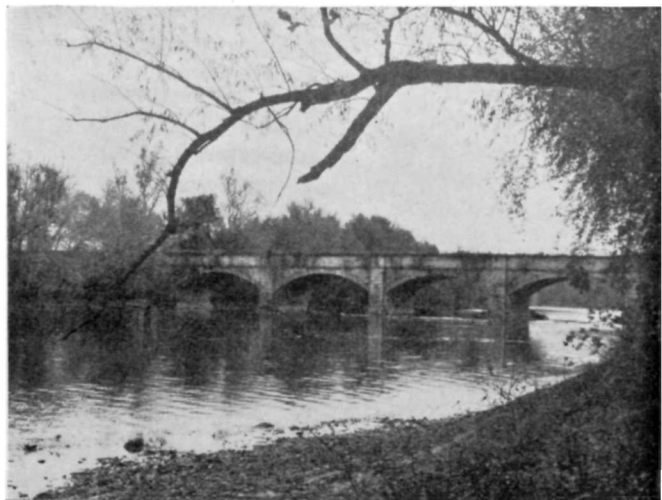
For years the interesting and varied flora, fauna, and geology along the towpath of the Chesapeake & Ohio Canal have attracted many nature students and enthusiasts. Many kinds of birds make this region their favorite haunt. Here will be discovered the nesting place of the colorful wood duck and nearby that of the bald eagle. Local bird students make year-around use of this area.

Not so frequently seen are such interesting woodland animals as the fascinating flying squirrel and its cousins, as well as the muskrat, opossum, chipmunk, woodchuck, rabbit, innumerable small rodents, turtles, and many other wild creatures.

No stroll along the towpath is possible without having one's interest arrested by the varied and luxuriant plant life. From the towering sycamore and tulip trees, the tropical appearing paw-paws, and even the lowly but interesting duckweed, emanates the refreshing breath of the woodland. Each season brings a new picture. The dogwood and redbud blossoms are followed by those of the black locust and the catalpa. The violets, spring beauties, hepaticas, anemones, jack-in-the-pulpit, and gill-over-the-ground give way to the elephant's foot, trefoils, jumpseed, trumpet creeper, touch-me-not, heil-all, jerusalem artichoke, wild sunflowers, goldenrods, and asters. The resplendent colors of autumn and the silent majesty of winter present still other natural pictures.

The intriguing story of the rocks will also interest the nature lover who hikes the towpath. The canal here and there follows precariously along the side of steep rock cliffs which line the shores of the Potomac River in many places. These palisades

The Monocacy Aqueduct. Built of white granite.



are evidence of the tremendous cutting power of the famous stream, while the crystalline rocks bear witness to the one time presence of ancient mountains in this region. These high peaks have been worn slowly to the rolling plane of the Piedmont Plateau into which the Potomac River is still cutting its gorge. At Widewater, the greatly contorted white and gray bands in the Carolina Gneiss give evidence to the ceaseless, though usually slow movement of the earth's crust. Still other geological stories are revealed as one travels past Great Falls on up the canal through the gap at Harper's Ferry and on to Cumberland.

There are a number of labels along the towpath directing the visitors' attention to these and other natural history features of the Potomac Valley region. Future plans contemplate the use of several of the old lockhouses as natural history exhibit stations. Here will be described in detail the natural history features seen along the canal. Frequently conducted nature outings along the towpath are offered by the park naturalist.

ADMINISTRATION

The Chesapeake & Ohio Canal was purchased by the United States Government in 1938. It extends for 184.5 miles along a narrow right-of-way between Georgetown, D. C., and Cumberland, Md., adjacent to the north shore of the Potomac River and covers a total area of 5,253 acres.

Restoration of the lower division of the canal, reaching for 22.1 miles between Georgetown, D. C., and Seneca, Md., was begun by the National Park Service, of the Department of the Interior, soon after the canal was acquired. In 1940 the work was

Great Falls Tavern, 1831. Officially named "Crommelin House" to honor the Crommelin Brothers, an Amsterdam banking firm which lent one million and a half dollars to the cities of Washington, Alexandria, and Georgetown for the payment of their subscription to the stock of the Chesapeake & Ohio Co. Throughout the years hundreds of excursionists have traveled to Great Falls via the canal, making their headquarters at this picturesque old tavern.



sufficiently advanced to readmit water to the restored section. The area constitutes a unit in the park system of the national capital. All communications should be directed to Irving C. Root, Superintendent, National Capital Parks, Interior Building, Washington, D. C.

VISITOR USE AND HOW TO REACH THE CANAL

Hiking, canoeing, boating, fishing, picnicking, ice skating, and nature walks are popular recreational activities enjoyed by visitors to the restored section of the Chesapeake & Ohio Canal. Canoes and rowboats may be rented at Great Falls, Md., and all types of privately owned hand-propelled craft may be launched on any of the restored levels. Personnel is not available to operate the locks, but canoe docks and other facilities have been installed to aid the visitor in portaging. Poster markers describing the history of this old waterway have been erected along the towpath. Plans for future development of the canal contemplate additional visitor facilities near Georgetown and at Carderock, Great Falls, and Seneca. Canoe and food concessions, and play, picnic, and parking areas will be centered at these points.

From Washington, D. C., the most direct automobile route to the developed section of the area is via Canal, MacArthur Boulevard, and River Roads. By reference to the map on page 8 the reader will observe that Canal Road is an extension of M Street, in Georgetown, and gives access to the canal as far west as Chain Bridge. To reach the Seven Locks, Carderock, Widewater, and Great Falls areas, located beyond Chain Bridge, the motorist should turn right from Canal Road over Foxhall Road, or Weaver Place, and then left on MacArthur Boulevard. The location of the bridges and underpasses by which the pedestrian may reach the towpath are shown on the map and are identified on the ground by directional markers. Summer travelers from the District of Columbia to Locks 21, 22, 23, and Seneca should take the River Road (left from Wisconsin Avenue near Albemarle Street) and drive west through Potomac, Md. Directional signs guide the visitor from the River Road to these locks. Inquiry should be made concerning the condition of the roads beyond Potomac, Md., if this trip is made during the winter months. Transportation by streetcar is available between Washington, D. C., and Cabin John, Md.

