

Paw Paw Tunnel

C&O Canal National Historical Park
Maryland



Portions of the Chesapeake and Ohio Canal had been operating nearly 20 years before completion of Paw Paw Tunnel opened the final link between Georgetown and Cumberland, MD. Engineers said a tunnel directly through the mountain was the best alternative to a winding, six-mile stretch of the Potomac River known as Paw Paw Bends.

The original contract called for completion of the tunnel in two years. Instead it took fourteen, from 1836 to 1850. Original estimates set the costs of construction at \$33,500. Instead it costs over \$600,000. At times the work slowed, or stopped entirely, because of labor problems and lack of funds. But when finally finished, the 3,118-foot, brick-lined tunnel was the largest and most impressive structure on the canal.

Through the Tunnel

If you make the 20-minute walk through the tunnel, you will hear the muffled footfalls on the towpath and the drip, drip of water echoing off the walls of the great arch. As daylight dwindles to a pinpoint at either end of the tunnel, the sense of being under a mountain heightens. When canal boats traveled through, the steady beat of mule hoofs and the slap of displaced water marked their progress. Sometimes music filled the chamber as boat crews sang to hear the echoes of their voices or to calm children afraid of the dark.

For a time the canal company assigned a watchman to regulate traffic in the tunnel. Still, stories abound of boats meeting in the

narrow one-way channel. The towpath provided no room for passing or turning. A downstream boat supposedly had the right-of-way, so the upstream boat would have to back out of the tunnel. But sometimes stubborn captains refused to budge. One standoff lasted several days, until a company official threw green cornstalks onto a roaring fire at the upwind end of the tunnel and forced the offenders out with smoke. In the canal's heyday Paw Paw Tunnel was a bottleneck even under the best of conditions, with boats lined up at either end waiting for clearance to enter.

Canal Troubles

The tunnel epitomized the troubles that hampered canal construction almost from the start. Lee Montgomery, a Methodist pastor turned contractor, picked his crew and began work on the tunnel with great zeal in June 1836. They drove the tunnel from both ends simultaneously—cutting 890 feet into the mountain at the north, or downstream, portal; 200 feet at the south, upstream, portal. Vertical shafts from the hilltop down to tunnel level provided extra working faces in each direction.

But boring through the hard, loose shale proved more difficult and costly than expected. An optimistic Montgomery had estimated progress at 7 to 8 feet per day; but his full crew working three shifts a day advanced only 10 to 12 feet per week!

Irish laborers on the canal lacked the skills in tunneling and stonework required at Paw Paw, so Montgomery imported miners from England and Wales and German masons from Pennsylvania. Rising labor costs and the slow, difficult pace of construction left Montgomery in dire straits. The company had fallen behind two months in wages when angry workmen surrounded the office in 1838. The mob “insisted upon destroying the work they had done, since they were to receive no pay for it,” Resident Engineer Charles Fisk reported to the canal company's board of directors.

This was not the first incident of labor unrest. Riots and violence occurred up and down the canal during the construction

years, often the result of old-world prejudices the immigrant laborers brought with them. Rival Irish factions bitterly clashed with one another or with newcomers who competed for their jobs.

These episodes of violence frequently centered on the tunnel. Company officials posted armed guards to protect canal property and, in 1838, they black-listed 130 troublemakers. In August 1839 violence again erupted when an Irish mob vandalized the English and Dutch camp; the Cumberland militia had to restore order.

Poor living conditions and sickness contributed to the laborers' unrest. The militia described the workers and their families as being “in a suffering and deplorable condition.” Outbreaks of cholera and other illness slowed the pace of canal construction and isolated the workers from local townspeople who feared spread of the epidemics.

Besides these periodic interruptions to the tunnel's progress, a lack of funds caused suspension of work at Paw Paw between 1842 and 1847. Work resumed when new contractors, with fresh funds, sublet the project to the firm of McCulloch and Day.

For two and a half more years, workers pressed on—setting off charges of black powder to blast out sections of rock, slogging with pick and shovel, hauling out rubble by horse carts to the huge spoil banks. At last, on October 10, 1850, the canal's “final fifty miles,” including Paw Paw Tunnel, officially opened to navigation.

Paw Paw Tunnel continued in use until 1924. By then, recurring financial problems, devastating floods, and competition of the railroads had taken their toll. The Chesapeake and Ohio Canal—intended to make the Potomac River a major artery to the West—had become obsolete, as more versatile and cost-effective forms of transportation pushed past it.

But for nearly 75 years, hundreds of boats carried cargoes of coal, farm products, and manufactured goods through Paw Paw Tunnel. A remarkable achievement of strength and engineering skill, the tunnel stands as a reminder of the growing pains of a developing nation.

Inside the Tunnel

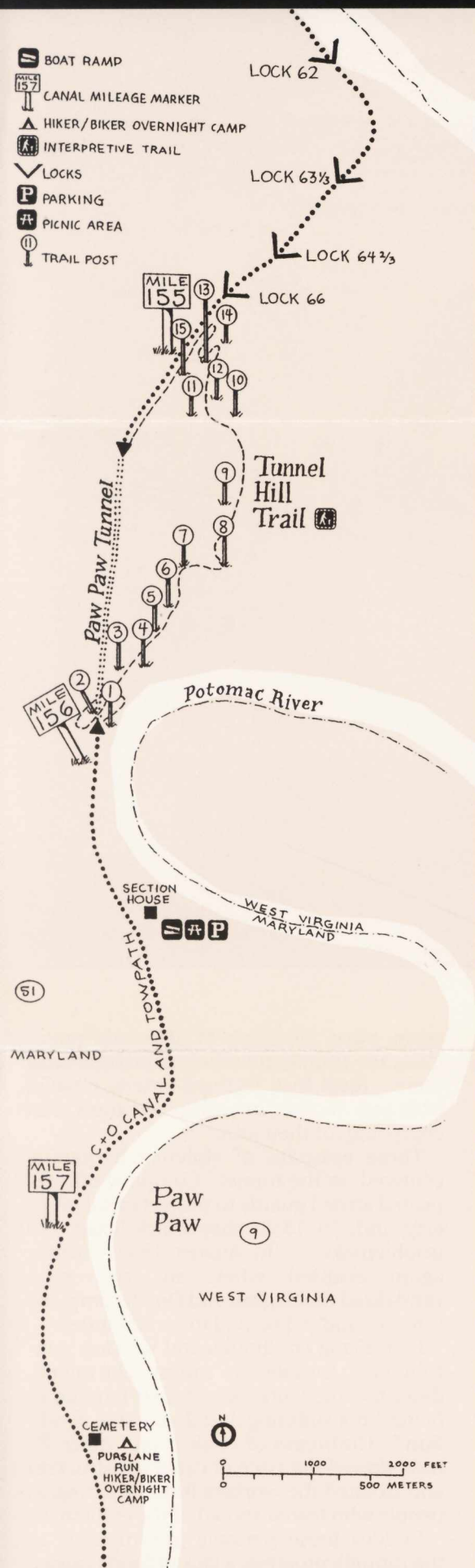
CAUTION: Towpath surface is uneven. Bring a flashlight and use the guardrail as a guide.

Look for:

- Rock steps outside (Dangerous—do not climb.)
- Weep holes—spaces in the tunnel lining to allow drainage from behind the almost six million bricks.
- Rope burns—grooves worn in the railing by the towlines
- Rub rails—planks fastened to sides of canal to keep boats from bumping and scraping the lining

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Tunnel Hill Trail

The trail takes off just to the right of the upstream, south, entrance of the tunnel. A series of posts numbered 1 to 15 leads up and over the ridge above the tunnel. Hikers and bikers will find the two-mile pathway strenuous, requiring about one hour. Signs and orange blazes mark the trail. Be careful.

Please protect your national parks by preserving the plants and animals that live there.

1. Potomac River Early Americans saw the river as an avenue for trade to unify the new nation. George Washington's venture, the Patowmack Company, founded in 1785 to make the river navigable, was the forerunner of the C&O Canal Company.

2. Fire A fire years ago is discernible in the charcoal tree trunk. Ash from fires releases nutrients to soil, encouraging new growth for animal browse and shelter. Because trees spring up in variety, no single disease or pest can wipe out an entire stand.

3. Rocks Tunnel Hill is composed of Brallier shale, a layered sedimentary rock that caused special difficulties for the miners. The freezing and thawing action of water crumbled the rock, causing huge slides in the deep-cut approaches to the tunnel.

4. Pileated Woodpecker Chips fly when this crow-sized, red-crested bird drills deep holes in dead trees, searching for carpenter ants and wood-boring larvae. Largest of the woodpeckers after the vanished Ivorybill, the shy bird, once endangered, has increased in numbers in North American forests.

5. Paw Paw You can see across the river to the town in West Virginia named for the pawpaw tree. During the Civil War the town was a Union depot, guarding the canal and railroad against Confederate raids.

Other Points of Interest

- The section house, one-half mile upstream from the tunnel, served as home and office for the section superintendent of the canal.
- Purslane Cemetery is located upstream at Mile 157.4. Cholera ravaged the work camps in 1833 and 1836. Local communities, fearing the epidemic's spread, refused to allow burials in town, so the victims were buried in this cemetery.
- The three locks downstream from the tunnel were constructed of rough-cut stone and sheathed with wood. Lock 65 was eliminated to save construction costs, resulting in the peculiar numbering of Locks 63 1/3, 64 2/3, and 66. Near Lock 66 remains of a carpenter shop show where workmen built and repaired lock gates.

6. Forest Layers From the top canopy of oaks and maples to the understory of redbud and dogwood, the distinct zones of plant life determine the variety of wildlife. Acorns provide food for deer, squirrels, and turkeys; while the understory offers shelter and nesting areas for small woodland animals and birds.

Cross the maintenance road to post 7. Do not leave the trail.

7. The Top From 362 feet above the tunnel, you look down on the 27,018 acres of Green Ridge State Forest, one of the largest in Maryland.

8. Trees The forest on Tunnel Hill is mostly deciduous, with leaves that drop in the autumn. Over decades, woodland develops in an orderly way to reach the stage called "climax," a stable mix of hardwoods such as the maples, oaks, and beeches here.

9. Recycling In nature, all living things return to the soil. Dead trees decompose through the action of weather and insects. New plant life will grow from the old, completing the cycle.

10. Spoil Excavated rock, or spoil, was hauled from the tunnel to fill this hollow. Workers removed more than 218,000 cubic yards of shale from the tunnel and its approaches.

11. Schoolhouse Site A one-room brick building, Sulphur Spring School, also known as Tunnel Hollow, opened on this site in 1840 for the children of local families and canal workers.

12. The Dual Organism The silvery patches on the ground and the gray-green stains spreading across boulders are types of living plants called "lichens." Often confused with mosses, lichens are actually two plants working together: algae producing nutrient and fungi providing the root system.

13. Conifers Needles growing in pairs distinguish the Virginia pine, the predominant cone-bearing tree here. White pine has five needles in a bundle. Pines thrive on the spoil bank because they have shallow roots that do well in rocky soil.

14. Return Now you have come back to the towpath. To the right past Lock 66 are the ruins of the carpenter shop, to the left, Post 15 and the tunnel.

15. Spring House Just uphill, a spring percolates through the spoil bank. A stairway once led from the canal to a stone hut sheltering the spring where canalers replenished their water supplies. *Do not drink this water.*

How to Get There

Paw Paw Tunnel is located at Mile 155 of the canal from Georgetown, about 130 miles by road from Washington, D.C. From Interstate 70 at Hancock, Maryland, take Route 522 south to Berkeley Springs, West Virginia. Turn right on Route 9 and drive 28 miles to the town of Paw Paw. Cross the Potomac River bridge into Maryland (Route 9 becomes Route 51) to tunnel sign on right. Or, from Interstate 68 at Cumberland, take exit 43B to Route 51 south for 25 miles from Cumberland to the Paw Paw Tunnel. The tunnel entrance is a short walk on the towpath, downstream from the parking lot.

Facilities

- Parking, portable toilets, picnic tables, grills
- Drive-In Campground. Boat ramp for carry-in canoes only
- Tunnel and Tunnel Hill Trail not recommended for wheelchairs

Information

The Paw Paw Tunnel is part of the Chesapeake and Ohio Canal National Historical Park. For information:
C & O Canal National Historical Park
1850 Dual Highway
Suite 100
Hagerstown, MD 21740
(301) 739-4200 (V/TDD)

The C&O Canal

Begun in 1828 as a transportation route between commercial centers in the East and frontier resources of the West, the C&O Canal stretches along the Potomac River for 184.5 miles from Georgetown in the nation's capital to Cumberland, MD. Maintained by the National Park Service, the towpath provides a nearly level trail for hikers and bicyclists, and watered sections welcome canoers and anglers. In addition, remnants of locks, lockhouses, and other historical features along the way invite discovery of a bygone era.

