

# Can New Jersey's Missing Link Be Restored?

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What's 66 miles long, 75 feet wide, and 175 years old? You've probably guessed that it's the Delaware and Raritan Canal, the best kept secret in Central New Jersey.

This long, narrow, state park is a peaceful haven for the residents of this, the most densely populated state in the nation. The D&R offers miles of wooded towpaths and gently flowing water where visitors can walk, jog, bike, fish, take photographs, bird-watch, ride horses, cross-country ski, canoe, kayak, or just sit and enjoy the quiet. But the D&R Canal is much more than just a nature park. It is the engine that sparked the industry and the economy of 19th-century central New Jersey.

From its opening in 1834, the D&R was a commercial success. Due to the Civil War and the expansion that followed it, the 1860s and 1870s were the most profitable years for the waterway. In fact, in 1866, a record 2,990,000 tons were shipped through the waterway—more tonnage than was carried in any single year on the much longer and more famous Erie Canal.

Anthracite coal was the chief cargo transported on the D&R. It was shipped from the coalfields of northeastern Pennsylvania to Easton, via the Lehigh Canal, or to Philadelphia, via the Schuylkill Canal. From Easton, boats proceeded south on Pennsylvania's Delaware Canal to the outlet lock just below New Hope and crossed the Delaware River on a cable ferry. The river's current carried the boats across in either direction. From Philadelphia, canalboats were towed up the Delaware River to enter the D&R Canal at Bordentown.

The business of the canal was to serve business. All along the route, canalboats delivered Pennsylvania anthracite coal to factories, homes, and coal yards in New Jersey, New York harbor, and points north and south. They brought farm products to market; carried store-bought goods to residents in the interior; delivered raw materials to factories; and distributed finished products to outlets throughout the region. Businesses along the canal included food packing companies, rubber reclaiming plants, distilleries, coal yards, quarries, lumber yards, pharmaceuticals, terra cotta, wallpaper manufacturers, farms, and many more.

This great waterway follows the centuries-old transportation corridor across the narrow waist of New Jersey. In prehistoric times, the Lenape followed trails across this route to harvest seafood along the shore. The earliest stage routes traversed this right-of-way between New York and Philadelphia. Here, too, the Camden & Amboy Railroad first laid its track between Bordentown and South Amboy. Since this was the flattest and easiest crossing of the Garden State, it was natural that canal supporters proposed this route for a waterway.

The D&R, a 44-mile, artificial waterway, crossed New Jersey, connecting Philadelphia and New York. Boats entered the canal near Bordentown on the Delaware River. Traveling north through seven locks, the vessels were lifted fifty-eight feet to the summit (highest point of the canal) in Trenton. Seven more locks lowered the boats to tidewater at New Brunswick, on the Raritan River.

And where does all of the water come from? The Delaware River is the major source of water for the D&R Canal. At Bulls Island (Raven Rock), north of Stockton, a wing dam in the river diverts water into a 22-mile feeder, which was dug parallel to the Delaware. The water then flows downstream and joins the main canal in Trenton, providing enough water to fill the canal's forty-four miles. In addition to being a water conduit, the feeder was navigable by canalboats. Traffic on the feeder greatly increased after changes were made in the 1840s, allowing boats to cross the Delaware on a cable ferry and enter the canal at Lambertville.

Once an integral part of the East Coast's Atlantic Intracoastal Waterway, the canal is now the missing link. Thousands of boaters and canal enthusiasts ask, "Why not again? Why not reopen this vital waterway to through navigation? Why not shorten the long ocean voyage around Cape May by 274 miles?"

Why not again be connected to the world? Canalboats once took you to the ports of Bordentown and New Brunswick. From there you boarded a steamboat to the harbor at New York or Philadelphia, and then ocean-going vessels that sailed the seven seas. As part of the Intracoastal Waterway, the D&R Canal connected the Chesapeake Bay with New England ports. And why not again? Thirty-six miles of canal are still watered, and five locks are still intact.

We have studied examples of canal renaissance in the United States and the United Kingdom. Following a long life as a suc-

cessful commercial artery, the Forth & Clyde Canal in Scotland was closed in 1963. After years of requests from recreational boaters, British Waterways (the organization that cares for 2,200 miles of the country's canals and rivers) reopened the Forth & Clyde in 2001. The agency was careful to consult with neighborhood groups to discuss where closed sections might be rerouted. All major roads that cross it once permitted full mast headroom by using rolling or swing bridges and the minor roads used bascule bridges. Many have been renovated, replacing fixed spans that had been built when the canal was closed. Innovative thinking created new solutions: at Dalmuir a drop lock lowers vessels under the road and raises them on the other side, eliminating the need for a moveable bridge. At Falkirk, a flight of eleven locks had once connected the Forth & Clyde with the Union Canal. Instead of rebuilding the locks, the engineers were told to come up with a visionary solution, creating a truly spectacular and fitting structure that would act as an iconic symbol for years to come. That solution was the Falkirk Wheel ([www.thefalkirkwheel.co.uk](http://www.thefalkirkwheel.co.uk)).

In Illinois, the Friends of the Hennepin Canal are planning the reopening of their canal, with cooperation from the state and local officials. A state park like the D&R, the Hennepin also connects two rivers. When it is again navigable, this waterway will be a valuable short-cut for boaters on the Mississippi and Illinois rivers.

Of course, changes will have to be made to make the D&R navigable again. Instead of entering the canal at New Brunswick, where the prism was filled in many years ago, boats would have to continue upstream on the Raritan to Landing Lane. Here they would enter the canal via a new lock. Road bridges that cross the canal would have to be raised or replaced with moveable spans. Gates must be installed in locks 8 through 12; during this phase, water would continue to flow through bypass channels, since the canal is an active reservoir, delivering drinking water to customers along the route. Navigation would continue from Landing Lane through Lawrence Township. In Trenton, the waterway continues under U.S. Route 1 for about a mile. Farther downstream it is filled in and covered by Route 129. Several solutions can be considered. Engineers could use the route planned for a modern ship canal in the 1940s, but never built. Another possibility is the use of truck carriers to transport vessels to the Delaware River; we have seen such vehicles used along the Ottawa River in Ontario.

Why should the Delaware and Raritan Canal be reopened to through navigation? In the U.K., boaters are a boon to the economy. Regenerated canals and recreational boating on the British canals brings \$2 billion to the communities along the water and the economy of Great Britain. Boaters patronize restaurants, marinas, tourist attractions, banks, grocery stores, and fuel suppliers. Workers in the construction trades would be employed to rebuild the locks and bridges. Locktenders, bridgetenders, and maintenance crews would provide more jobs. A reopened canal would allow safe passage for vessels that now must navigate the dangerous "graveyard of the Atlantic" along the New Jersey coast. And East Coast boaters would have new places to explore in the Garden State.

In conclusion, bear in mind the slogan we saw on a canalboat tied up in a quaint English village: "Remember, canals were made for boats."