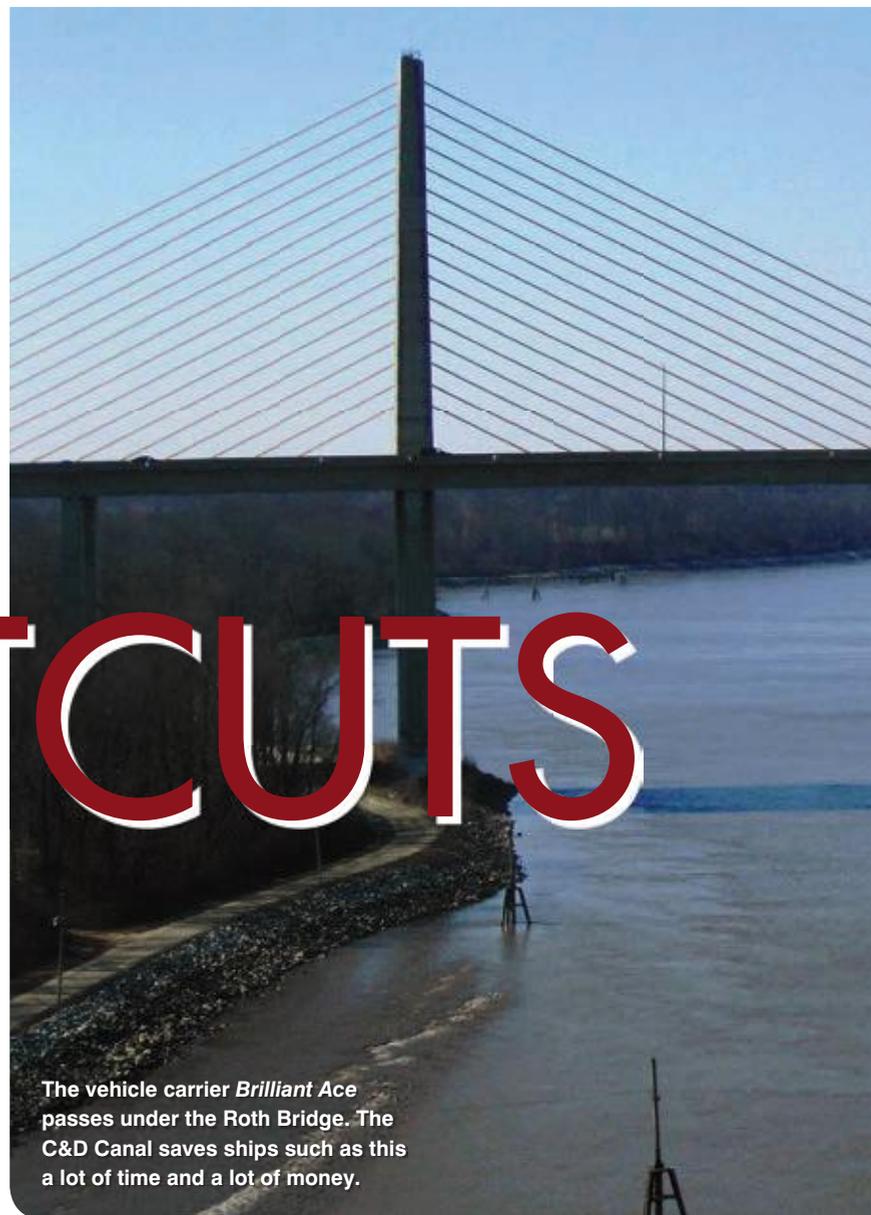


THERE ARE NO SHORTCUTS

The C&D Canal can save a lot of time, but it's important to plan ahead

By Stephen Blakely

The pleasures of the Chesapeake and Delaware Canal are widely praised. After all, what's not to love about a shortcut that saves hundreds of miles and many gallons of fuel and offers the charms of a tie-up in lovely Chesapeake City? But if you haven't experienced the C&D yet, you should know that a safe transit demands a little planning and preparation. This seemingly peaceful 14-mile connection between Delaware Bay and Chesapeake Bay has had its share of maritime tragedy.



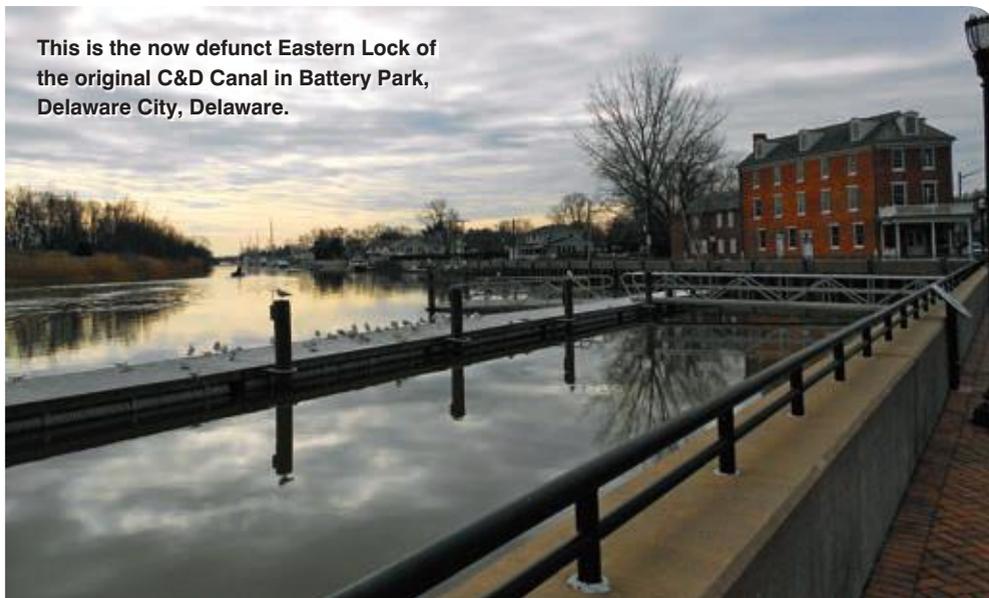
The vehicle carrier *Brilliant Ace* passes under the Roth Bridge. The C&D Canal saves ships such as this a lot of time and a lot of money.

The worst accident in recent years was in early 2007, in extremely dense fog, when a 520-foot bulk ore freighter bound for Baltimore collided with the tugboat *Swift* and its barges at the western entrance to the canal near Chesapeake Bay. The tug went down so fast it took the captain and three deckhands with it.

Just two months later, on a crystal-clear night near the same spot, a cruise by the vintage 45-foot wooden schooner *Heron* and its crew of three came to an unscheduled end in the C&D. Trying to catch a fair tide east to Delaware Bay, the skipper entered the canal about 3 a.m. In the blackness just west of Chesapeake City, Maryland, he failed to recognize the lights of an oncoming barge and steered directly into its bow. The sailboat instantly went straight to the bottom. The skipper and his crew were driven underneath the barge (one was below in the cabin at the time), but all of them managed to surface and were rescued.

At the other end of the canal, tragedy struck the oceangoing tug *Bay Titan* in 2001 as it was heading north up Delaware Bay towing a barge loaded with 850,000 tons of liquid sugar bound for the Domino Sugar plant in Baltimore. When it reached Reedy Point, Delaware — the eastern entrance to

This is the now defunct Eastern Lock of the original C&D Canal in Battery Park, Delaware City, Delaware.



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Dos and don'ts

- Anchoring is strictly prohibited in the C&D — all boats are required to keep moving.
- Sailing is prohibited because it reduces maneuverability. Sailboats must motor through.
- Be prepared for fog, and don't enter the canal if poor visibility has closed it.
- Honor the "Rule of Tonnage": Let the big boat go first.
- Ships have to hold to the center of the channel, so smaller boats — meaning all recreational boats — should keep to the side and must stay out of the way of commercial traffic.
- The Army Corps monitors channels 13 and 16, but channel 13 (bridge to bridge) is the working frequency and should be used in the canal to communicate with ships and the Army Corps dispatcher in Chesapeake City. Any problem with controlling your boat, such as engine failure, should be reported immediately.

the C&D — the tug turned west into the canal, but the barge did not, its momentum carrying it past the tug. Attached by the towline, the much bigger and heavier barge swung the stern of the tug sideways, causing it to flip and quickly sink. A crewman who was caught below went down with the tug.

Then there's the 20-foot runabout that anchored in the canal not far from Reedy Point in 2006 just before a tug-and-barge rig passed. Anchoring in the C&D is a violation of canal rules, but anchoring

stern-first proved to be an even worse breach of basic seamanship: The wake from the tug and barge swamped the runabout, throwing all three passengers into the water. None was wearing a life jacket. The one who couldn't swim is the one who drowned.

Between 1938 and 1950 — before the canal was widened to its current size — eight ships collided with bridges in the canal, with loss of life. Danger lurked on shore, too. The canal has always had a railroad lift bridge, which is supposed to be lowered whenever a train comes through. But twice, in 1862 and in 1890, it didn't work out that way. The bridge was still raised as trains crossed and ran into the canal. Two men were killed in the first accident.

So whether you're a professional mariner or a recreational boater, the C&D deserves your attention and respect as you transit. This deceptively serene stretch of water is far trickier and more turbulent than it looks, and it has charged a tragically high price for poor conditions, bad luck and ignorance.

What and where it is

The C&D is a 14-mile-long sea-level connection between the upper end of Chesapeake Bay and the Delaware River in Maryland and Delaware. The canal is currently 450 feet wide and 35 feet deep, which allows it to handle all sizes of cargo ships, tankers, tugboats and barges, and container-carrying vessels up to Seawaymax-classification (740 by 78 feet, 116 feet high, with a draft of 26 feet).

The canal is a vital link for cruisers and a crucial shortcut for com-

Stopping along the C&D

Inside the canal

- Because anchoring is prohibited in the canal, the cozy little basin at Chesapeake City on the western end (and southern side) is the only place for boats to legally drop the hook inside the C&D. It's small and crowded on weekends, and its one waterfront facility — Chesapeake Inn Restaurant and Marina — has limited dock space. Immediately across from the Chesapeake City anchorage on the north side of the canal is the newly reopened Schaefer's Restaurant and Canal Bar, which has bulkhead space for tie-ups. Boats should be well-fendered, as they will catch the wake of every passing vessel.

- Near the eastern end of the canal is Summit North Marina in Bear, Delaware, in a protected little creek 7.5 miles from the Reedy Point entrance to Delaware Bay. A limited number of transient slips are available, so call in advance.

Outside the canal

- On the eastern side, behind Reedy Island and just below the entrance to the canal, is an anchorage that is somewhat protected by a submerged rock wall that runs between the south tip of the island and the Old Reedy Island Light. (The rocks are exposed at low tide.) Although this gets you safely away from commercial traffic, it is fully exposed to the wind and reversing tides. Holding is said to be good, but a solid anchor set and anchor watch are essential and the view is less than charming: Directly across the river, on the New Jersey side of the river, looms the massive Salem nuclear power plant.

- Also on the eastern side, about 2 miles north of the Reedy Island entrance to the C&D, is Delaware City Marina, a full-service marina and perhaps a better choice in bad weather. During the summer you can catch a tour boat from here to visit Pea Patch Island (just off Delaware City), home of Fort Delaware State Park, to see the crumbling remains of a notorious Civil War prison that housed (and buried) many Confederate soldiers.

- On the western side, Chesapeake Bay offers far more (and far more attractive) stopover options. Small shallow-draft boats can navigate the skinny channel to Harbor North Marina, just west of Chesapeake City, below the entrance to Elk River. Deeper-draft boats can comfortably drop the hook in the Bohemia or Sassafras rivers, which often are used as stopover points by boats waiting out unfavorable currents or bad weather.

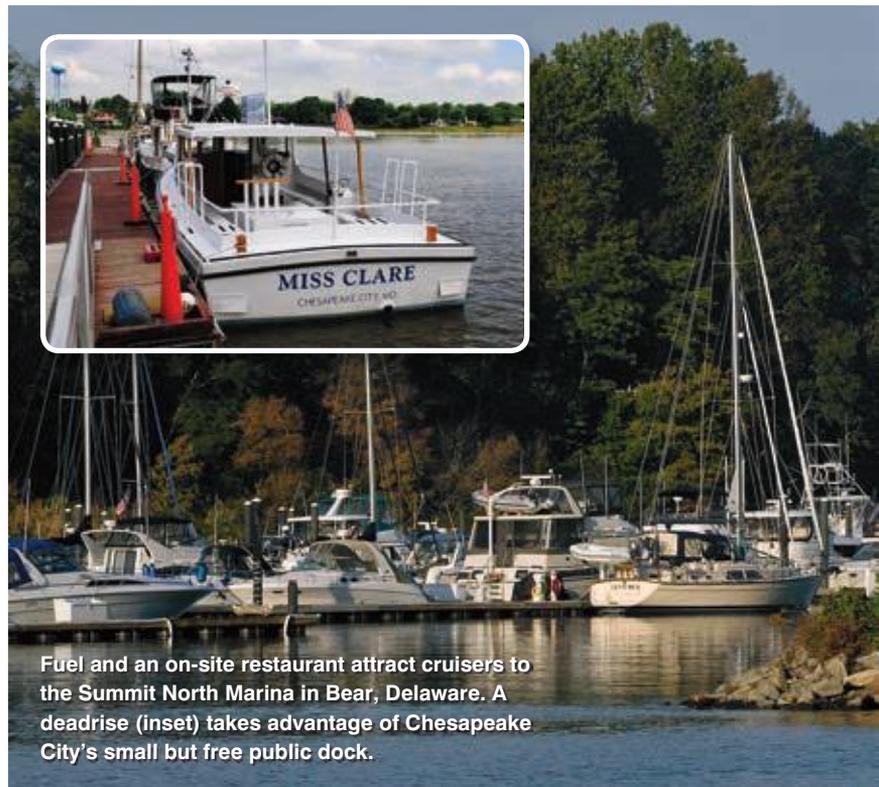
mercial traffic between Baltimore and ports to the north, especially the petrochemical plants of Delaware, Pennsylvania and New Jersey. Millions of tons of cargo, accounting for 40 percent of the shipping traffic in and out of Baltimore, go through the canal each year. For the average ship going between Philadelphia and Baltimore, the C&D saves about 300 miles, six to 10 hours of steaming and roughly \$7,000 in fuel from the alternative route between the two cities, which is to head out Delaware Bay to sea, run along the coasts of Delaware and Maryland, and then turn and travel all the way up Chesapeake Bay.

Not surprisingly, the C&D is among the busiest canals in the nation. An average of two to three cargo ships pass through each day, and tugboats, barges and other types of smaller commercial vessels transit more frequently. Recreational boat traffic on warm-weather weekends can be heavy, which can make for crowded and risky conditions, especially in bad weather and strong currents.

The canal and the five high-span roadway bridges that cross it are owned and maintained by the Army Corps of Engineers Philadelphia District, which has its operational office for the canal in Chesapeake

City, Maryland. A rail and pipeline bridge also cross; all are high enough for cargo ships and no problem for sailboats.

The Army Corps also operates the C&D Canal Museum in Chesapeake City, located in the original pump house used to lift water into the uppermost waterway. The full-size replica Bethel Bridge Lighthouse — an example of lighthouses used to warn vessels of locks and bridges prior to 1927 — is also near the museum (at the entrance to the Chesapeake City anchorage basin). For boats overnighing in the anchorage, the free canal museum is well worth a visit.



Fuel and an on-site restaurant attract cruisers to the Summit North Marina in Bear, Delaware. A deadrise (inset) takes advantage of Chesapeake City's small but free public dock.

The Army Corps constantly monitors the canal by video and radio because it occasionally has to close the waterway, either because of heavy fog or an accident that results in a sinking and obstruction. Red and green traffic lights let you know whether to enter the canal. They are mounted on towers at both ends of the canal — the western Chesapeake entrance at Old Town Point Wharf on the southern shore and the eastern Delaware entrance near the north jetty of Reedy Point.

The only town on the C&D is Chesapeake City, which is also the canal's operational center. In addition to the Army Corps offices, NOAA's C&D tidal station is there, and the Chesapeake City Bridge is where harbor pilots switch off between the two bays. Ships entering Delaware Bay, for instance, pick up a licensed Delaware pilot in Lewes, Delaware, who disembarks at Chesapeake City in the C&D. At the same time, a licensed Maryland harbor pilot comes aboard to guide the next leg of the passage to Baltimore or points south. The process is reversed for ships leaving the Chesapeake and headed for Delaware Bay. From either shore you can watch "the changing of the pilots" as the pilot boats come alongside freighters passing under the Chesapeake City Bridge.

Fog

As demonstrated by the tugboat *Swift's* sinking, heavy fog in a narrow and sometimes swift-flowing canal can make for deadly condi-

tions. Fog can develop anytime in the C&D, but it is more common in the spring and fall, and boaters passing through should be prepared for it: a VHF radio tuned to channel 13, a GPS/chart plotter and (ideally) radar. If fog is present, check with the Army Corps dispatcher to make sure the canal is open.

Bruce Gregory, a licensed delivery captain, was bringing a 43-foot Shannon from Rhode Island to the U.S. Sailboat Show in Annapolis in September 2006 when he encountered fog as he entered the C&D from Delaware Bay. Fifteen minutes in, the fog went nuclear, and vis-

2 to 3 knots, sometimes more than 5 — so sailboats, in particular, will need to make the transit with a fair tide.

Because the C&D tidal reference station is at Chesapeake City, calculating an eastbound transit is fairly easy. Using NOAA's tide and current predictions (tidesandcurrents.noaa.gov), Eldridge Tide and Pilot Book or Reeds Nautical Almanac, locate the slack water times for the Chesapeake City reference station; if heading east, simply show up at the Chesapeake City Bridge either just prior to or at slack water at the start of a flood to ensure a fair current head-



ibility dropped to zero. "We got word from the dispatcher that the canal was officially closed, and even though we were less than half a mile in, we were told to continue on our course to the western end and not stop or turn around," Gregory recalls. "Fog was very thick in spots. It was impossible to see beyond the lifelines. We couldn't identify any of the halogen lamps on either shoreline as we poked along at a couple of knots. It was nerve-racking for the crew, but we had a very good chart plotter and radar, which we needed to scope down to the shortest-distance setting of half a mile."

As the captain and the only one aboard with fog experience, Gregory took the helm and ordered everyone topside for extra eyes. Although he could see no landmarks or boat traffic — "I neither passed nor was passed by another vessel" — he announced their position on the VHF at every major landmark he could identify on the plotter. As soon as they cleared the canal's western entrance, they anchored until the fog lifted.

Timing your transit

With the canal running roughly east-west, the current floods eastbound (from the Chesapeake toward the Delaware) and ebbs westbound. This is important for timing your passage if you have a low-horsepower vessel. The current in the canal can be strong — typically

ing toward the Delaware. Conversely, a westbound boat should enter the canal at Reedy Point in Delaware Bay about an hour prior to slack water at the start of an ebb at Chesapeake City to ride the tide toward the Chesapeake.

Small boats should not underestimate the power of the currents here. During my first trip through the C&D several years ago, we arrived at Chesapeake City in the dead of night because of an unexpectedly fast sail up the Chesapeake and we were fighting a strong full-moon spring tide. The 18-hp diesel in my 26-foot sailboat barely overcame the head current. If you're also dancing with a freighter or getting squeezed to the side by a tug and barge, this quiet little canal can become a little too exciting.

Signage in the canal is excellent, and mercury-vapor lamps line the sides of the waterway, a big help at night or in fog. Boaters should be aware that the buoy colors and numbers reverse at the Chesapeake City Bridge. Eastbound (entering from the Chesapeake), red lights and even-numbered markers are on the right (south) side of the canal until the bridge; past the bridge, they are on the left (north) side until exiting the Reedy Point breakwater and entering the Delaware River.

Performance powerboats have been fond of charging through the canal, which prompted Maryland to post a speed limit of 35 knots day/20 knots night, radar-enforced by state Department of Natural Resources police.



Chesapeake City is where Delaware and Maryland pilots trade off as commercial traffic is assisted through the canal.

lion, it was one of the most expensive projects of its time.

With commerce and traffic growing, President Theodore Roosevelt commissioned a feasibility study in 1906 for converting the canal to a “free and open waterway.” The federal government bought the canal from its private owners in 1919 for \$2.5 million and began expansion. By 1927, the C&D had been converted to a sea-level canal 12 feet deep and 90 feet wide at a cost of \$10 million.

The canal was widened again between 1933 and 1938 to 250 feet and deepened to 27 feet for \$13 million. But that was still too small, and in 1954 Congress authorized expansion of the channel to its current size (450 feet wide and 35 feet deep), a job that was completed in the 1970s. With the size of freighters continuing to increase, the Army Corps has studied further expansion, but those plans are on hold.

On some Maryland charts of the area you may still see the name “Back Creek” appearing somewhere in the canal. The name is a ghost from a distant past: That was the creek engineers dug out and turned into the canal — a small, natural and now forgotten waterway sacrificed long ago to progress. ■

Stephen Blakely is a contributing writer who sails his 26-foot Island Packet, Bearboat, on Chesapeake Bay.

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How the canal came to be

The idea for the canal came from a Dutch mapmaker in the 1600s who saw the value of connecting the two bays at their shortest point. It took two centuries for that idea to become a reality. The private Chesapeake and Delaware Canal Co. finally began construction in 1824, and four years later the waterway opened with four locks. (Steam-operated waterwheels raised the water.) It was only 10 feet deep and 66 feet wide, and mules towed boats through the canal. At a cost of \$2.5 mil-

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