

Repairing the Delaware Aqueduct

THE CATSKILL WATERSHED

Facts on the Catskill System, the repair, and plans for the aqueduct shutdown

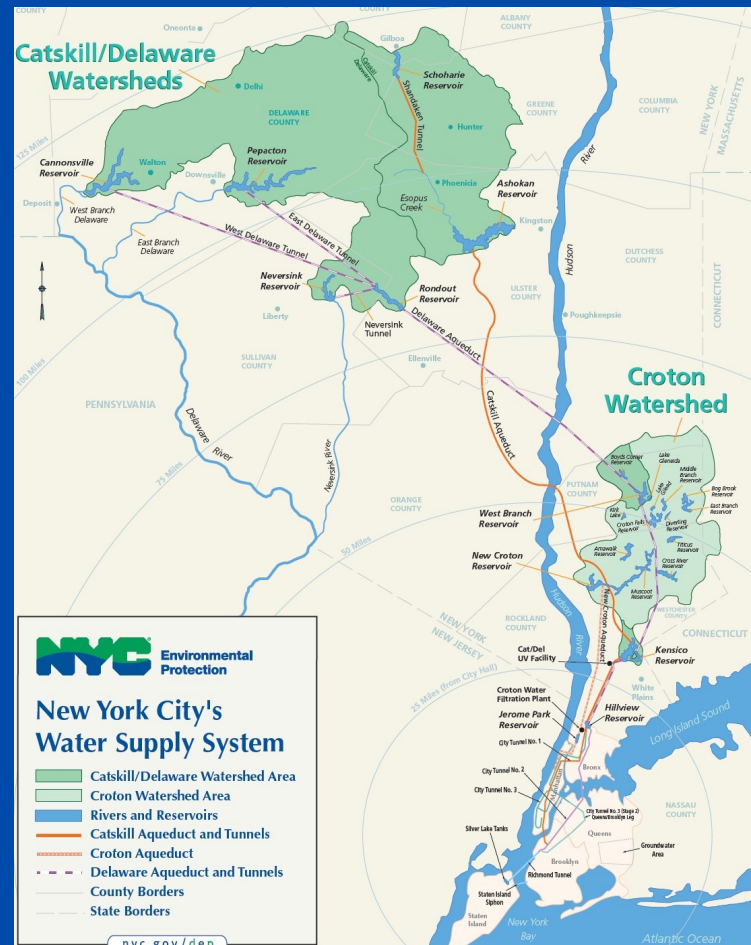


For more than a decade, the New York City Department of Environmental Protection (DEP) has been working on a large capital project to repair two leaks in the Delaware Aqueduct. It is the largest and most complex repair project in the 180-year history of New York City's water supply system. DEP will be taking the Delaware Aqueduct out of service for up to 8 months, starting in the autumn of 2024, to complete the repair.

The following is a brief summary of the project, and a description of how DEP will operate its Catskill System reservoirs during the aqueduct shutdown.

This map shows New York City's reservoir systems. The Ashokan, Schoharie and the Kensico reservoirs make up the Catskill System which is typically responsible for about 40 percent of the total water supply

- New York City's water supply comprises three separate reservoir systems – Croton, Catskill and Delaware.
- The systems provide 1.1 billion gallons of drinking water each day to nearly 10 million people, including those in New York City and more than 70 communities and institutions north of the city.
- It is the largest municipal water supply system in the United States.



About the Catskill System

- The Catskill System is one of three watershed systems working together to provide high-quality water to about half of New York State's population, including all of New York City.
- The Catskill's Schoharie and Ashokan reservoirs in Ulster, Greene and Schoharie counties typically provide about 40 percent of the City's water supply via the 92-mile long Catskill Aqueduct, which flows from the Ashokan to the Kensico Reservoir in Westchester County and then further south into Yonkers.
- The Schoharie Reservoir, the most distant reservoir from the City at about 125 miles, sends its water to the Ashokan via the 18-mile long Shandaken tunnel, which flows into the upper Esopus Creek before entering the Ashokan.
- Excess water from the Ashokan is either released or spills into the lower Esopus Creek, which ultimately flows into the Hudson River 33 miles away.
- DEP is required to release water downstream from the Ashokan to the lower Esopus pursuant to a State regulated Interim Release Protocol (IRP), which also seeks to maintain a 10 percent void in the Ashokan during colder months to mitigate spills and attenuate downstream flooding from major storms.
- The Catskill System's complimentary Delaware System, which includes four reservoirs in the western and southern Catskill Mountain region, sends water to New York City through the separate 85-mile-long Delaware Aqueduct, the longest continuous tunnel in the world.
- The Catskill and Delaware systems working together typically account for 90-100 percent of the City's water supply.

About the Delaware Aqueduct Repair Project

- The Delaware Aqueduct leaks in two locations – near the Hudson River north of Newburgh, and in the Ulster County Town of Wawarsing.
- DEP has been working for nearly two decades on the design and implementation of a repair project to fix both leaks. Construction work on the projects began about 10 years ago.
- The largest leak, in Newburgh, is being repaired through the construction of a bypass tunnel that will connect to structurally sound portions of the existing Delaware Aqueduct and convey water around its leaking section.
- The Delaware Aqueduct Bypass Tunnel is 2.5 miles long and roughly 600 feet below the Hudson River.
- DEP has finished the excavation of the bypass tunnel and lined it with steel and concrete.
- DEP must shut down the Delaware Aqueduct for up to 8 months to connect the new bypass tunnel to the existing aqueduct on both sides of the Hudson River.
- The shutdown and connection is scheduled to begin in October 2024 and continue through the spring of 2025.
- DEP has performed capital projects on other parts of its water supply system, complex modeling, a full environmental review, and dozens of other tasks to ensure the system and the downstream communities are prepared for the Delaware Aqueduct shutdown.

Catskill System operations during the aqueduct shutdown

- DEP will change the operations of its three reservoir systems leading up to and throughout the aqueduct shutdown.
- DEP expects to substantially draw down the Delaware System reservoirs leading up to the shutdown and preserve the water in the Catskill System, which will be the City's primary water supply during the shutdown, as well as the older and smaller Croton System in Westchester and Putnam counties.
- DEP anticipates maintaining the IRP's 10 percent spill mitigating void in the Ashokan during the fall and winter while preserving as much water as possible for use throughout the shutdown.
- Although DEP will operate the reservoirs to minimize their likelihood of filling and passing water through their spillways, there is always a chance that large storms or runoff events could occur during the shutdown.
- Independent studies and decades of gage data show that the reservoirs do not cause flooding when they spill. Their dams always provide significant attenuation of peak flows from large storms and runoff events.
- Recreational uses of the Catskill System reservoirs and surrounding lands are not anticipated to change throughout the shutdown.
- During the shutdown, DEP will monitor for excessive waterfowl at the Ashokan and may use motorboats and pyrotechnic noisemakers to disperse them and protect water quality, which may be noticeable from the Ashokan Rail Trail and Promenade.

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