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Department of Environmental Protection Resumes Normal Operations at Cannonsville Reservoir

Turbid discharge successfully halted; Cannonsville Dam remains safe and uncompromised

The New York City Department of Environmental Protection (DEP) announced that drinking water diversions and downstream releases from Cannonsville Reservoir will be reduced to normal levels beginning Sunday due to repair work that has successfully halted the turbid discharge below Cannonsville Dam. The decision to resume normal operations at the reservoir—made in consultation with engineers at the Federal Energy Regulatory Commission (FERC)—also comes after weeks of testing and around-the-clock monitoring that proved the dam is safe, stable and uncompromised by the cloudy seepage that began three weeks ago.

Intensive monitoring at the site will continue as DEP resumes normal operations at Cannonsville Reservoir. These efforts will include 24-hour observations by on-site staff and surveillance cameras, daily engineering inspections, and near real-time monitoring of turbidity and safety instruments inside Cannonsville Dam. Although DEP is resuming normal drinking water and release operations, reservoir storage will likely continue to decline because the amount of water naturally flowing into the reservoir is generally less than the amount of water released to the river during summer.

On Saturday engineers began pumping two additional relief wells, for a total of four, downstream of Cannonsville Dam. These relief wells have successfully tapped into the pressurized groundwater that was carrying sediment into the West Branch Delaware River. By giving water from that aquifer a new path to flow, the relief wells have ended the mobilization of sediment and the cloudy, or turbid, water. Geotechnical engineers will turn their attention next week to the original boreholes that entered the pressurized groundwater and caused the condition below the dam. The process of permanently sealing shut those boreholes with grout is expected to take approximately one week.

After receiving approval from FERC on Saturday afternoon, DEP began to shift toward normal operations early Sunday morning. The drinking water diversion from Cannonsville Reservoir will be reduced to zero, in favor of diverting more drinking water from Pepacton and Neversink reservoirs. This will begin to balance the storage in the Delaware Water Supply System, in accordance with normal water supply operations. DEP will also begin to slowly reduce the amount of water released into the West Branch Delaware River from 1,500 cubic feet per second (cfs) to 500 cfs, the normal rate outlined in the Flexible Flow Management Program. (Water is currently flowing into the reservoir at a rate of approximately 300 cfs.) DEP has consulted with fisheries biologists at the state Department of Environmental Conservation (DEC) to develop the following

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schedule for reducing the release over the next four days:

- Aug. 2 - 1,125 cfs
- Aug. 3 - 844 cfs
- Aug. 4 - 633 cfs
- Aug. 5 - 500 cfs

Reducing the rate of release will also significantly extend the life of the cold water inside Cannonsville Reservoir, which is important for the fisheries downstream and inside the reservoir itself. There was approximately 25 billion gallons of cold water in the reservoir as of Sunday morning.

DEP will continue to provide updates on its [Cannonsville Reservoir page](#) and its [watershed Facebook page](#). The department also intends to schedule public information meetings toward the end of August to discuss the repairs that were made downstream of the dam. Local press outlets, elected officials, emergency managers, and residents who attended DEP's previous outreach meetings will be notified directly when times, dates and locations are set.

Background

On July 15, DEP increased drinking water diversions and downstream releases from Cannonsville Reservoir in response to an ongoing turbid discharge from a rock embankment below Cannonsville Dam. While DEP, its regulators, and consulting engineers did not believe the condition represented a threat to dam safety, DEP began drawing down the reservoir out of an abundance of caution to prioritize public safety while repairs proceeded. Reducing reservoir storage at Cannonsville has not posed a risk to the city's water supply.

The turbid flow below the dam was discovered when workers were drilling borings in preparation for design and construction of a hydroelectric facility that is planned to be built there. All drilling work ceased when the workers noticed the flow of turbid water coming from a rock embankment near the release chamber.

An investigation indicated that the drilling released ground water under natural pressure, known as an artesian condition, several dozen feet below surface level. This caused an upward flow of water and sediment that was reaching the West Branch Delaware River. Since then, DEP has continued intensive monitoring at the dam. These include 24-hour monitoring by employees at the site, regular analysis of dam-safety instrumentation, and testing of the turbid sediment to identify and understand its origin. Federal, state, county and local officials—including officials from New Jersey and Pennsylvania—have been regularly updated since the condition at Cannonsville Dam was first discovered.

Placed into service in 1964, Cannonsville Reservoir was the last of New York City's 19 reservoirs to be built. Water diverted from Cannonsville Reservoir for drinking water enters the West Delaware Tunnel and travels 44 miles to the upper end of Rondout Reservoir. From there, it is carried in the 85-mile-long Delaware Aqueduct. Water is released downstream from Cannonsville Reservoir under the terms of the 1954 U.S. Supreme Court Decree, and a flow program, known as the Flexible Flow Management Program, agreed upon by New York City and the states of Delaware, New Jersey, New York and Pennsylvania. All other reservoirs in the city's Delaware System have continued to meet their downstream release requirements under the Flexible Flow Management Program while the condition at Cannonsville is repaired.

DEP manages New York City's water supply, providing more than one billion gallons of high quality water each day to more than 9 million New Yorkers. This includes more than 70 upstate communities and institutions in Ulster, Orange, Putnam and Westchester counties who consume an average of 110 million total gallons of drinking water daily from New York City's water supply system. This water comes from the Catskill, Delaware, and Croton watersheds that extend more than 125 miles from the City, and the system comprises 19 reservoirs, three controlled lakes, and numerous tunnels and aqueducts. DEP has nearly

6,000 employees, including almost 1,000 scientists, engineers, surveyors, watershed maintainers and other professionals in the upstate watershed. In addition to its \$70 million payroll and \$157 million in annual taxes paid in upstate counties, DEP has invested more than \$1.7 billion in watershed protection programs—including partnership organizations such as the Catskill Watershed Corporation and the Watershed Agricultural Council—that support sustainable farming practices, environmentally sensitive economic development, and local economic opportunity. In addition, DEP has a robust capital program with nearly \$14 billion in investments planned over the next 10 years that will create up to 3,000 construction-related jobs per year. For more information, visit nyc.gov/dep, like us on [Facebook](#), or follow us on [Twitter](#).

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