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Department of Environmental Protection Proposes Regular Releases from Schoharie Reservoir to Enhance Flood Mitigation, Support Downstream Ecology

The New York City Department of Environmental Protection (DEP) on Friday announced a proposal to further reduce flood risk in the Schoharie Valley and support downstream ecology by making regular releases of water from Schoharie Reservoir for the first time since the reservoir was put into service in 1927. The two-tiered program of downstream releases would reduce the likelihood of water spilling from Schoharie Reservoir by limiting its storage during fall, winter and early spring, and it would also support fish, bird and other natural habitats by providing a baseline flow of water in Schoharie Creek immediately below Gilboa Dam. A similar program of releases has already been implemented at four of DEP's other reservoirs in the Catskills. Extensive modeling by DEP—which analyzed the effects of future Schoharie releases by using 65 years of historic records—determined that releasing water regularly would not compromise the city's ability to reliably deliver high-quality drinking water to 9.4 million New Yorkers every day.

"The proposal for regular water releases from Schoharie Reservoir is the latest example of DEP's commitment to balance the needs of our water supply, the concerns of downstream communities, and the ecological health of rivers and creeks below our dams," **DEP Commissioner Emily Lloyd** said. "This proposal comes after years of discussions with residents and elected leaders in the Schoharie Valley. The City has appreciated their input, and we look forward to strengthening these relationships for the benefit of our water supply and the communities that surround it."

"I am encouraged by these proposed changes from the DEP regarding the Schoharie Reservoir operations," said **Congressman Chris Gibson (NY-19)**. "Two of our biggest goals across the Catskill Watershed are flood mitigation efforts and appropriate water releases at the dams to help maximize better ecology and recreational uses of our many downstream waterways. This plan for the Schoharie Reservoir is a large step forward in helping with both these goals, and I commend DEP Commissioner Emily Lloyd and her entire team for working with our local constituents and leaders to achieve this important policy change."

"This is a positive first step that will help answer concerns that those who live in the Schoharie Valley have voiced for some time," **State Senator James L. Seward** said. "I am encouraged by this plan and am hopeful this will lead to future collaborations between the NYC DEP, local elected officials, and residents to improve flood mitigation, protect our natural resources, and enhance recreational opportunities."

"This is an intelligent and thoughtful response to our joint request to use the

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Gilboa Dam for flood protection,” said **State Assemblyman Pete Lopez**, who has been spearheading a coalition of federal, state and local officials to protect the region from future storm events. “Creating a void in the Schoharie Reservoir to blunt the impact of potential floods is an historic first step in protecting the community. The addition of the sustained cold water releases for fishing and recreation is also long-awaited good news. The City of New York is listening to us.”

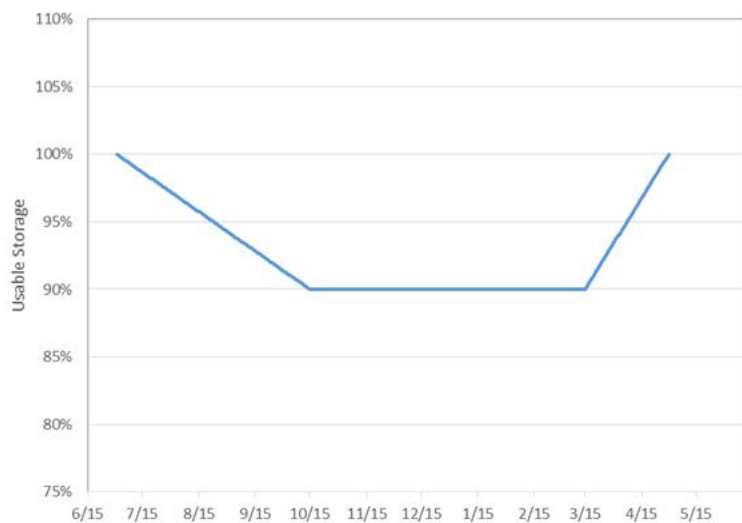
“The Schoharie County Board of Supervisors and the residents of Schoharie County are happy to hear that DEP is cooperating with the county by keeping a 10 percent void in the Schoharie Reservoir,” said **Richard Lape, Chairman of the Schoharie County Board of Supervisors**. “The Flood Committee as well as community organizations are also happy to hear about this progressive action. DEP has proven to this county that it is willing to be a good neighbor.”

The 2011 state permit that allowed DEP to repair Gilboa Dam also required the City to study the potential for a conservation release from Schoharie Reservoir. That study was recently submitted to the State Department of Environmental Conservation (DEC). The study showed that regular releases into Schoharie Creek could be achieved without affecting water supply reliability, and without significantly reducing the amount of cold water available for required diversions through the Shandaken Tunnel and into the Esopus Creek. DEP is awaiting state approval before implementing the plan for releases at Schoharie Reservoir. Some aspects of the release proposal also depend upon the construction of a permanent release chamber at Schoharie Reservoir, which is expected to be completed in 2020.

Releases of water from the reservoir would come in two forms. DEP would operate Schoharie Reservoir according to a Conditional Seasonal Storage Objective (CSSO) that would set limits for reservoir storage. (See the chart below.) Under the proposed CSSO, DEP would aim to have a 10 percent void at Schoharie Reservoir from Oct. 15 to March 15 of each year, creating room for the reservoir to accept snowmelt and rain in the spring. The proposal would allow storage to slowly ramp up to 100 percent by May 1 to ensure water supply reliability through the high-demand season of summer. It would then ramp back down toward 90 percent through the late summer. If data show that storage in Schoharie Reservoir will exceed the storage objective at any time throughout the year, DEP would release additional water to meet the objective and maintain open capacity in the reservoir. Ashokan, Cannonsville, Neversink and Pepacton reservoirs operate according to similar CSSO curves. Releases to stay within the CSSO mitigate flood risk by providing additional space for them to capture runoff, and by reducing the likelihood that they will spill for long periods of time when they are full.

Currently, DEP mitigates flood risk at Schoharie Reservoir by releasing water equivalent to 50 percent of the amount contained in the snowpack throughout the reservoir’s watershed. That practice would be replaced by the CSSO.

Proposed CSSO for Schoharie Reservoir



The proposal also calls for a daily minimum conservation release of 10-15 million gallons per day (mgd). These minimum releases would improve habitat conditions for smallmouth bass, brown trout, certain birds and macroinvertebrates by providing additional water to Schoharie Creek and by reducing the creek's temperature.

DEP's study found that implementation of these release programs at Schoharie Reservoir would potentially decrease the volume of cold water in the reservoir during late summer and fall, and increase the number of days that water diverted to the Esopus Creek would potentially exceed 70 degrees. DEP operates the Shandaken Tunnel under the terms of a state DEC permit that sets a temperature objective of 70 degrees for water coming out of the tunnel, which is optimal for trout habitat in the Esopus Creek. The DEP study found that the reduction in cold water volume could be mitigated by reducing the summer combined minimum target for the Esopus Creek from 160 million gallons per day to 145 million gallons per day. (The combined minimum is a measurement of water coming from the Shandaken Tunnel combined with water flowing naturally in the Esopus Creek from areas above the tunnel outlet.)

DEP's ability to make spill mitigation and conservation releases would be limited until the permanent Schoharie Release Chamber is finished in 2020. The \$142 million project to build the release works is expected to begin this year. DEP may have the ability to make some of these releases through the temporary siphons that are currently in operation at Gilboa Dam. Those siphons will be removed when the release chamber is completed, and all future releases will be made through the new infrastructure.

Schoharie Reservoir is the northernmost reservoir in New York City's water supply system, which includes 19 reservoirs and three controlled lakes. It stores roughly 19.6 billion gallons of water that is collected from a 316-square-mile watershed. Schoharie Reservoir provides roughly 15 percent of New York City's drinking water on an average day. The reservoir diverts water through the 18-mile Shandaken Tunnel, which empties into the Esopus Creek at Allaben. From there, the water flows roughly 11 miles in the creek before entering Ashokan Reservoir, where it is diverted to the city through the 92-mile-long Catskill Aqueduct. Schoharie Reservoir is impounded by Gilboa Dam, which was completed in 1927 and recently rehabilitated at a cost of \$138 million.

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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