

Lesson #5

When emergency measures create future dangers, go back and fix them

Raging floodwaters in Mendon Brook threatened the water supply system for Rutland during Irene. Water treatment plant supervisor Michael J. Garafano and his son Michael G. Garafano lost their lives when they went to check on the intake during the storm. The flood destroyed the water intake, plugging it with debris and rock, and forcing the utility to rely on a back-up on East Creek. At one point the city was down to a 13-day supply of water; its reservoir typically holds a 30-day supply. The backup system helped to refill the reservoir for a few days, but eventually the East Creek water levels dropped too low to be used. The city faced an emergency situation, and needed to reopen the Mendon Brook intake as quickly as possible.



Emergency measures to protect the Rutland water supply led to later sediment build-up in Glen Dam, a hydropower source. Affected parties worked together to go back and correct the problems.

Emergency work ensued to stabilize a berm, protect the pump and inlet area, confine the brook to its channel, and ensure a stable water supply. Bulldozers windrowed the river channel creating nine-foot high levees on either side of the stream. It took almost a month to get the water intake functioning again, but eventually the reservoir began to refill.

The work that occurred on Mendon Brook in the immediate aftermath of Irene was clearly necessary, but it also created problems. The brook lost access to floodplains between it and East Creek, making future flooding potentially more dangerous. The channelization of the stream increased its velocity and transport capability. Excess sediment settled out in the Glen Dam impoundment.

Glen Dam sits just downstream of the confluence of Mendon Brook and East Creek. It was owned and managed by Central Vermont Public Service (CVPS – now Green Mountain Power). From Glen Dam water passes via a penstock to the 2,000-kilowatt Glen Station on the western side of Route 7 in Rutland Town, generating power. Excess accumulation of sediment in the impoundment threatened future power generating ability.



The Mendon Brook near the Rutland water intake jumped the left bank near this spot threatening the intake. Photo by Lori Fisher.

CVPS/GMP worked with Rutland and the Department of Environmental Conservation to reconfigure some of the stream alterations that had taken place under emergency conditions. They lowered berms, brought large debris into the stream channel to help slow the water flow, and opened floodplain access along the river bank opposite the drinking water intake. While the stream still shows clear signs of channelization, the future flood risk has been reduced.

By necessity, work done under emergency conditions prioritizes speed over perfection. Mistakes will be made. Mike Kline of the Vermont DEC Rivers Program estimated that “Twenty percent of the (river) work after Irene reduced flood vulnerability; 40 percent of the work put the river back where it had been, but that was already a vulnerable condition; and 40 percent of the work made our risk and vulnerability greater.” Rutland and CVPS/GMP went back and mitigated their mistakes. Their follow-up efforts deserve the same degree of commendation that the initial emergency work received.