

Two employees monitor the state's 671 dams  
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Most of the time, David E. Chopy and the one other Department of Environmental Management employee involved in the state's dam-safety program are assessing the condition of the state's 671 known dams, imagining the "what-ifs" should one of them fail. During the deluge of March 2010, "what if" became "when."

Some of the barriers, like the metal-gated Thundermist Dam in Woonsocket, are frequently inspected. But most are relics of the state's textile-mill past, earthen mounds that once helped provide water power for mills but now sit alone on the rivers they impede.

Some are in populated areas, others nearly forgotten in the woods. But even if an isolated one fails, the stakes can be high. In Hopkinton when a 25-foot section of Blue Pond Dam gave way a year ago, no one was hurt, but it unleashed a torrent that tore up part of Route 3 and swamped neighborhoods. The flow continued into the Wood-Pawcatuck river system, where it washed out roads and bridge abutments that, in some cases, have yet to be repaired.

The flooding of 2010 also led to the rupture of Geneva Pond Dam on the North Providence-Providence border and the breaching of the Sprague Lower Dam in Narragansett, Glen Rock Dam in South Kingstown and Millbrook Pond Dam in Exeter. Chopy said Blue Pond and Geneva were classified as significant hazards because they were near populated areas; the other three were smaller and less dangerous. No one was hurt in those breaks, Chopy said.

The dams have not been rebuilt, reducing the volume of water in the containment areas they create. That reduces the potential for repetition of the 2010 flooding caused by the breaching.

The DEM inspections target the state's 180 high- and significant-hazard dams. When flaws are found, the agency orders the owner to make improvements and repairs, but the regulatory process can take years.

The Blue Pond breach was not a complete surprise. Inspectors had noted weaknesses in that dam in 2007 and the agency had ordered the dam lowered. The owners and the DEM had been going through an adjudication process to determine exactly how to do that when the flood solved the problem for them. The DEM issued a \$56,000 fine in the case, which is under appeal.

Chopy said roughly two-thirds of Rhode Island dams are privately held, with the rest owned by regional water authorities or state or local government. According to the program's 2010 annual report, there are 46 orphan dams with no identifiable owners.

Many of the dams have outlived their purpose and when it can, Chopy said, the DEM likes to get rid them. In 2010, two dams, one on the Pawtuxet in Warwick and another at Shannock Mill in Charlestown/Richmond were removed to create fish passages. Another Pawtuxet River dam in Warwick is slated for removal this year.

Besides physical weaknesses in some dams, Chopy said the crisis exposed gaps in the dam-safety program's response plans.

As water levels rose last year, the DEM, the Rhode Island Emergency Management Agency and local officials were barraged with calls from concerned residents who feared dams in their areas were in danger of collapse.

"When the calls started coming in, the problem was: How do we figure out where to go," Chopy said.

The first job was to check immediately on the condition of the 97 high-hazard dams, ones that, if they gave way, would pose a significant risk to life and property, he said.

The first wave of inspectors went out with cellular phones that couldn't transmit pictures. That led to an inspector in the woods calling Chopy to describe a dam, and Chopy trying to tell the inspector what to look for.

"I wasn't able to see what he's seeing," Chopy said. "I'm pulling out reports and he's trying to explain what he's seeing."

Now dam inspectors are equipped with cellular devices that can transmit images. Chopy said he hopes to equip inspectors with laptop computers so they will have on-the-scene access to the DEM dam database.

BY THE NUMBERS R.I.'s 671 dams, by classification

The state Department of Environmental Management ranks dams by the degree of damage a failure would cause. The rankings don't measure their likelihood of failing, only what might happen if they did.

97 high-hazard dams: A failure is expected to cause deaths.

83 significant-hazard dams: Loss of life is not probable, but significant economic losses would occur.

491 low-hazard dams: Failure would not cause death or significant property damage.

Source: R.I. Department of Environmental Management