

# Groundwater Rising After Severe Drought

by Lizzie Short

After the driest summer in 150 years, groundwater levels in Boston are recovering, though hot spots in the Back Bay and South End remain vulnerable.

Low groundwater poses a significant threat to many Boston buildings. These structures rest on wood pilings that begin to rot once exposed to air. Oxygen-reliant microbes attack the wood once it is above water, but, unlike corrosion, the decay process stops once the water level rises and the microbes die.

Hot spots often have lower groundwater levels than surrounding areas, according to Christian Simonelli, executive director of the Boston Groundwater Trust (BGT). But he says these

areas have benefitted from the 6 inches of rainfall in October, which is more than the city had in the previous four months.

“It gives you an idea of where we are drought-wise,” Simonelli quipped darkly.

In the Back Bay, he said that the area around Fairfield and Beacon Streets has shown lower groundwater since the middle of this year’s drought.

In the South End, levels on Clarendon Street, as well the area between Chandler and Appleton Streets, are also low and have been for several years. Simonelli is trying to determine why there are drops in these areas and around the city in general.

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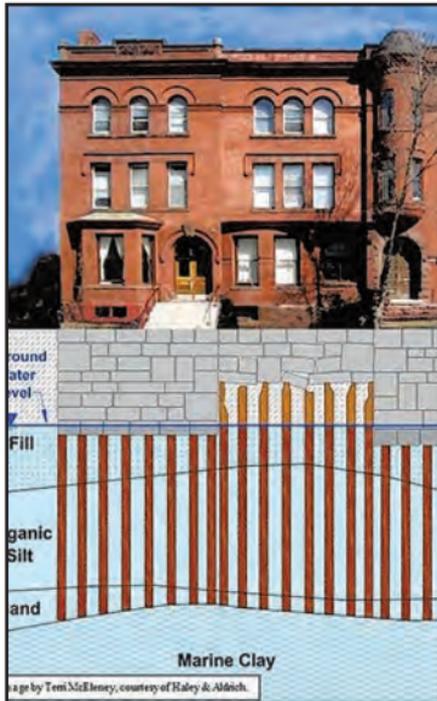


Image: Courtesy of Boston Groundwater Trust

# Groundwater

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Some other hot spots, according to the BGT well locations map, include Blagden Street and Trinity Place in the Back Bay and Brimmer Street on Beacon Hill. Wells on Stuart Street, from Berkeley to Clarendon Streets, are low. In the Fenway, a stretch of Burbank Street has low readings.

“In September we had numbers we had never seen, 4 to 5 feet. If the piles are 5 feet and the groundwater level is at 4 feet, a foot of the pile is exposed to air and will rot,” Simonelli said.

The BGT assigns an elevation level of five to the City of Boston, meaning,

most pilings supporting buildings are 5 feet high.

Readings over the month of November in the city’s 19 different well zones showed many wells to be in the five to seven range, Simonelli said, indicating a general improvement over readings in September. The BGT did not measure wells in December, and readings will resume in January.

This year’s historic drought is one reason for the low groundwater levels.

“Typically, Boston gets 40 to 45 inches of rain a year. This year we’re at 29, at 11 months out of the year. So we definitely need more rain,” Simonelli explained.

Another reason some of the so-called hot spots may have low groundwater levels is due to compro-

mised infrastructure.

Anything below ground, such as pipes, sewers or subway tunnels, has the potential to damage the well network. If a subway tunnel has a hole or is not completely watertight, it can cause groundwater to leak into the tunnel, depleting valuable water from the groundwater table.

“Imagine you had a bathtub full of water, and it springs a leak. All the water is eventually going to drain into that hole,” Simonelli explained.

That was the case on Dartmouth Street four years ago. After noticing unusually low levels in that area, a leak was discovered in a sewer.

“We fixed that, and the groundwater levels came back up and have been fine ever since,” Simonelli said.