

Drought Is Increasing Groundwater Worries

by Christian Bergeron

The state's severe drought is complicating the area's already precarious groundwater levels.

"I would not characterize it as a crisis, but we are seeing some of the lowest groundwater levels since 2000," said Christian Simonelli, executive director of the Boston Groundwater Trust (BGT). "We really need rain."

Simonelli said 18 inches of rain have fallen this year with only 2 inches in June and July, making it the "driest seven-month stretch since 2000 when we began measuring precipitation." Boston typically receives 43 inches of rain annually, according to U.S. Climate Data.

Engineers and environmentalists caution shrinking groundwater can cause century-old pilings supporting buildings across the Back Bay and adjacent neighborhoods to rot by exposing them to wood-eating microbes.

Simonelli noted that sewer lines, subway tunnels and subterranean parking garages can damage aquifers that hold groundwater, causing them to leak.

He is monitoring a 1-foot drop

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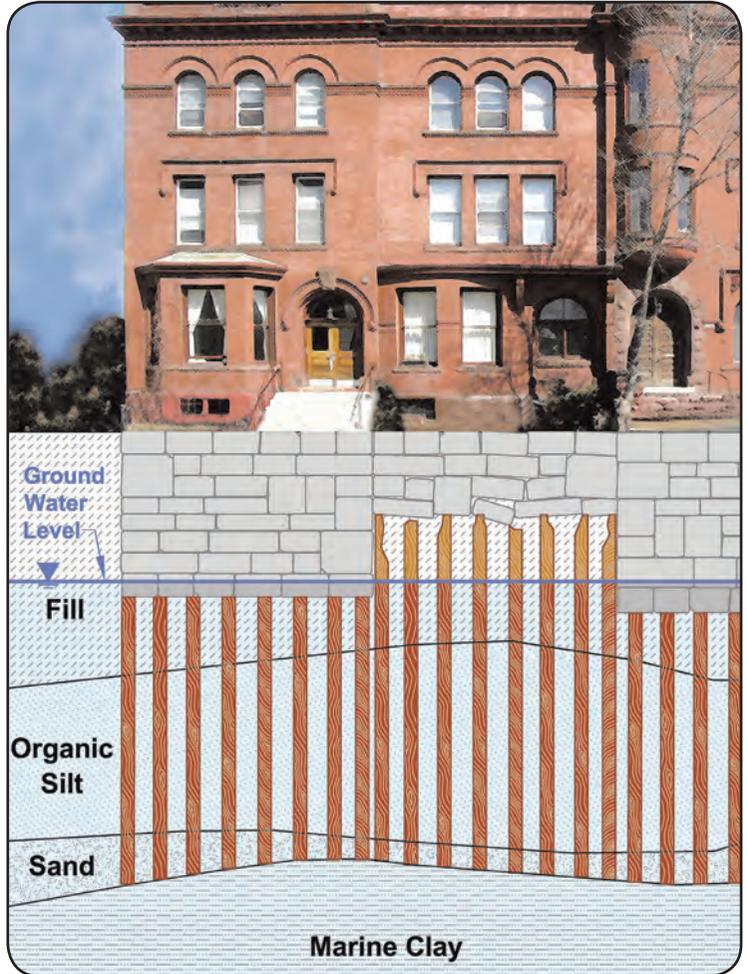


Image: Courtesy of Boston Groundwater Trust

Groundwater

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in the groundwater level in the area bounded by Exeter and Gloucester Streets, along Beacon and Marlborough Streets.

Since the drop was “substantial,” Simonelli attributed it to a break in the aquifer from a sewer line or “some other infrastructure” but not the drought.

He said, however, “Across the network we have been seeing (groundwa-

ter) levels dropping since May.”

Since the BGT measures groundwater levels in 800 “wells” throughout Boston, Simonelli said, “It’s very hard to take an average for the city.”

“A good number of wells are high. Others are low,” he said. “It depends where you are.”

Robert Zimmerman, executive director of the Charles River Watershed Association, said the current drought “has been building for quite a while from below-normal rainfall since March 2015.”

“If it continues through the winter,

Boston will have to worry,” he said.

As a result of reduced rainfall, Zimmerman said the Charles River is at “a record low flow.”

“The average flow is 300 cubic feet per second, which is like 400 Olympic-sized pools. Now, it’s less than 12 (pools). That’s a scary low,” he said.

He stressed shrinking groundwater levels have dire economic consequences.

“We’d be looking at big bucks. The cost of replacing pilings is off the charts,” he said.

Elliot Laffer, who served as the

BGT’s first executive director, said extensive portions of the Back Bay, Fenway, South End, the flat of Beacon Hill, Bay Village and several other neighborhoods were built on reclaimed land.

“After the Suez Canal, it was the second largest public works project of the 19th century,” he said.

A trained mechanical engineer, Laffer stressed that maintaining stable groundwater levels is a vital economic necessity.

If groundwater levels dropped for a long period of time, pilings would rot,

leading to loss of support of the buildings above and uneven “settling” of the land they sit on that could require costly repairs or, even, demolition.

Laffer said when the problem affected the Boston Public Library, major repairs in 1929 cost \$250,000, the equivalent of several million dollars today.

“A huge portion of Boston’s tax base is sitting atop those pilings,” he said. “If you lose those pilings, you lose that history that makes Boston viable.”