

Groundwater Levels Remaining Stable

 THE BOSTON GUARDIAN · THURSDAY, SEPTEMBER 6, 2018

By Jacob Geanous

The groundwater levels that ensure Boston's structural stability have remained relatively unchanged over the last year, according to the Boston Groundwater Trust (BGwT).

The large swath of Boston's historic metropolitan area, from Fenway to East Boston, sits on a vast subterranean underwater forest that keeps the city from collapsing in on itself, which is an infrastructural challenge specific to Boston because of centuries old architecture. The city originally sat on a much smaller multi-pronged peninsula, which was expanded by dumping dirt and filler on top of wetland. As the city grew, whole trees were debranched and jammed into the wet silt to support buildings in the ever growing city.

Today, The BGwT monitors groundwater below the city and the estimated 6,000 buildings supported by wooden pilings. Christian Simonelli, Executive Director of the BGwT, keeps an eye on the groundwater levels year round, and monitors hundreds of groundwater wells that regulate the water that keeps Boston's buildings above ground.

"The piles are basically a tree trunk stripped of branches driven upside down into the ground," Simonelli said. "A whole forest in Maine basically lost its life to build this city."

The pilings are supposed to be submerged in groundwater at all times, or else they will be exposed to air microbes and insects that degrade and rot the wood, endangering the structural integrity of the city above. If the water level drops, the wood is exposed, said Simonelli.

"The piles can last indefinitely hundreds of years and be fine," said Simonelli. "And when the piles rot, it takes years, so it's a race against time."

According to Simonelli, a lot of new residents are unaware of this detail when they decide to move to the city. For residents, maintaining and possibly repairing the structure below their home is their complete responsibility. Although the BGwT is tasked with monitoring the groundwater wells, if repairs are necessary, the piles must be dug out by hand by a contractor and the expenses fall squarely on the homeowner. This could take anywhere between \$200,000 and \$2 million, according to Simonelli.

“I get people all the time that will call and say they are looking to buy in Back Bay or the South End, and I walk them through it,” he said. “That’s part of it, the public outreach.”

The BGwT recently released a series of award-winning educational videos to help educate the public and make them aware of the importance of monitoring their property’s groundwater.

“Now people can get a good overall picture and we’re not always going to prevent [deterioration], all these buildings are at different heights and were built at different years,” Simonelli said. “The reception [to the videos] has just been overwhelming.”

[South End Forum Neighborhood Association of the Back Bay Beacon Hill Civic Association](#)