

CDC: Concerns necessitate bottled water in Pearce Creek

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Pearce Creek-area residents pick up bottles of water following Saturday's meeting with federal, state and local health officials.

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Dr. Karl Markiewicz, a federal toxicologist, discusses the findings of a review of data collected from Pearce Creek-area residential wells in 2013.

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Dozens of people attended a Saturday meeting on concerns over residential well reports in the Pearce Creek communities.

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Ginny Kearney, deputy director of the Maryland Department of the Environment's Water Management Administration, talks to the crowd during Saturday's meeting at Bohemia Manor High School.

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Cecil County Health Officer Stephanie Garrity updates Pearce Creek residents on the federal recommendation to switch to bottled water pending the completion of a public water service line.

CHESAPEAKE CITY — “Everyone has heard of Flint, Michigan, and its issues with lead. This is not that situation.”

Dr. Karl Markiewicz, a toxicologist with the U.S. Center for Disease Control's Agency for Toxic Substances and Disease Registry (ATSDR), summed it up best as he tried to alleviate worries from the dozens of Pearce Creek-area residents who attended a hastily scheduled public meeting at Bohemia Manor High School on Saturday.

Two weeks earlier, the ATSDR, upon reviewing data of residential wells in the communities bordering the Pearce Creek Dredge Material Containment Facility in Earleville, recommended that residents switch to drinking and cooking with bottled water due to concerns about the effect of high manganese levels on infants and young children.

Manganese, a naturally occurring metal found in rocks, is currently a contaminant still under review by the U.S. Environmental Protection Agency. A secondary standard of 0.05 milligrams per liter was set for drinking water for aesthetic reasons, as high manganese levels can cause staining as well as an odor. Meanwhile, a lifetime health advisory rate of 0.3 milligrams per liter and a short-term acute standard of 1 milligram per liter for 10 days have also been adopted by the EPA.

“Lead has no benefit to the body whatsoever, but manganese is an essential nutrient that we need for healthy growth and development of the body,” Markiewicz told the crowd. “It's when you have too much that you have the potential for toxicity.”

Markiewicz confirmed that a growing number of studies suggest that prolonged ingestion of high levels of manganese, especially by infants and young children, could be neurologically damaging in regards to memory and motor activity. Those studies, especially two from Bangladesh in Southeast Asia, typically saw daily consumption of water with manganese levels of 0.5 milligrams per liter or more for at least five years, Markiewicz said.

“In these studies, there are often other chemicals in the mix,” he said, explaining such variables make it hard for scientists to draw firm conclusions. “The Bangladeshi water had high levels of arsenic as well as manganese, along with other things.”

Markiewicz noted that a popular soy-based baby formula had as much as 1.2 milligrams of manganese per liter in the early 1980s, but decreased that level to 0.3 milligrams per liter after case reports suggested neurological effects. He added that no research links manganese to cancer and that connections to manganism, a disorder similar to Parkinson's disease, are currently exclusively to breathing manganese-laden fumes and dust, typically found in the steel industry where the element is an additive.

The situation here differs from Flint because in the Pearce Creek communities of Bay View Estates, West View Shores and Sunset Pointe as well as homes along Pond Neck Road, the overwhelming majority of homes either have water treatment systems or exclusively drink bottled water. For decades, homeowners have contended with degraded well water as the byproduct of years of dredge spoil dumping leaching into the aquifers that feed residential wells. Therefore, most do not drink raw water and treatment systems, when serviced properly, have been proven to effectively remove excessive levels of manganese.

While those private residential wells are not regulated by the federal government, local officials grew concerned about findings in the Pearce Creek communities and sought help.

Fred von Staden, the health department's Environmental Health Services Division director, said his department contacted the CDC in July 2014 about concerns in the Pearce Creek well water datasets and sent them to the CDC a month later. While manganese, as a secondary standard, is not typically tested for in health department studies of well water, it was included in 2013 due to the U.S. Geological Survey's request for a broader sampling in response to residents' concerns. Elevated levels of manganese as found in the Peace Creek area is not what one would typically find in Cecil County, von Staden said.

While the department's main focus was on the 2013 data, county officials sent all Pearce Creek data, including sets from 2011 and homeowner-requested tests of the 1990s, as well.

“We were looking for guidance because these were so much higher than the established secondary levels,” he said last week. “Now, they're estimating that over 50 percent of the raw water and 10 percent of the treated water is something they would be concerned about.”

Health department officials cautioned homeowners from reading too much into the data, however, noting that each test of groundwater is only a “snapshot in time.” Groundwater found in aquifers moves, meaning that concentrations of chemicals do not remain in perpetuity but change often.

Von Staden said that his department identified 25 properties that had data sets in both 2011 and 2013:

five of which had better raw water quality in 2013, while seven had worse – two of which had grown from below secondary levels to levels of concern for the CDC. The 10 percent of homes with treated water levels of concern identified by the CDC may also be those in need of treatment system servicing, he added.

“If you service your treatment system, they are very effective in removing chemicals of concern,” he said.

Officials stressed that manganese is only a chemical of concern if ingested, and residents should not be worried about skin contact. While there are a handful of homes where officials know residents consume raw well water, the new recommendations do not mean that there is a need for prior concern.

“There are residents who consume raw water where manganese may not have even been close to a level of concern,” von Staden said. “When found in excessive amounts, manganese causes a coloration, smell and odor which people would not likely find palatable.”

Markiewicz noted that the studies that drew conclusions of neurological damage were premised on long-term exposure where manganese-laden water was the only source of potable water.

“Bottled water is being implemented now because there is recognition of more concern,” von Staden said noting that the CDC’s full analysis of the data is expected to be released later this year. “They saw enough about manganese to draw concern now. You want to be proactive in the protection of the public’s health.”

Cecil County Council Vice President Alan McCarthy, who represents the Pearce Creek communities at the county level, questioned officials Saturday as to why it took 22 months for officials to determine that residents should switch to bottled water.

The coalition of county, state and federal officials said the variability of data, especially in regards to the role of treatment systems, may have led to some of that delay.

“When you’re reviewing data it does take time, but not that much time,” Markiewicz said, noting that if an acute danger had been detected an earlier recommendation may have been made. “This is an emerging science.”

While officials continue to work toward building a public water service line from Cecilton to the Pearce Creek communities, scheduled to be completed in March 2018, the Maryland Port Authority and later the U.S. Army Corps of Engineers will bear the \$19,000 a month cost of providing 1 liter of water a day for every Pearce Creek resident in the meantime. The interagency partnership signed onto a service agreement with Eastern Shore Coffee & Water, of Salisbury, to deliver water to residents weekly.

After the meeting, seven-year Bay View Estates resident Mike Bateman, who attended the meeting with

his 2-year-old daughter, Clara, said he was satisfied with the answers provided by officials. While he lives full-time in the Pearce Creek area, his family has a water treatment system and their well findings came back with good results.

“Clara has never drank our water, we've always bought bottled water,” he said. “We cook with raw water and I drink it occasionally, but for most drinking we use bottled water. After some questions were raised prior to the first report coming out, we just felt it was in our best interest to make the switch.”

Meanwhile, Wendy and Wayne Dulaney, who were the last homeowners to build a home in Bay View Estates, said they were most upset with the fact that the issues with local wells were never disclosed to them prior to buying years ago.

“The problems should have been disclosed to us when we built,” Wayne said, adding a neighboring property has now been denied a building permit until the water issue is resolved. “We're ready to sell our home, but we'll never get fair market value right now.”

While they have a water treatment system, the Dulaney's said they would be switching over to bottled water at the CDC's recommendation.

“We've got to take each day for what it's worth,” Wendy said.