Microplastics Discovered in Key Drinking Water Source

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Photo: AP

The one thing we humans have done an incredible job of leaving behind is plastic. Microplastics, in particular, are seemingly everywhere these days: in sea turtles, table salt, and even beer. Now, a new study offers evidence that microplastics may be infiltrating our groundwater supply, too. Illinois-based researchers found microplastics in springs and wells from two aquifers in the state.

This latest study, published in the journal Groundwater last week, claims to be the first to find microplastics in fractured limestone aquifers, which make up about a quarter of the drinking water supply worldwide. Because of their geology, these aquifers are highly porous, so they can easily absorb water from the surface above—and all that comes with it. The team of researchers from the Illinois Sustainable Technology Center and Loyola University Chicago collected 11 groundwater samples from an aquifer near St. Louis and six more from an aquifer in northwestern Illinois.

Only one sample came back microplastic-free. The researchers speculate the tiny plastic fibers they found are coming from household septic tanks, perhaps carrying runoff from laundry loads.

Clothes have previously been identified as a key source of microplastic pollution, with each wash potentially releasing hundreds of thousands of tiny plastic fibers. In this latest study, the highest concentration of plastics found in a sample was around 15 particles per liter.

That doesn't really mean much right now. Not enough data on microplastics in groundwater exists for scientists to say whether this is a lot. Plus, we still don't know much about the impacts of microplastics on our bodies, so there's no concentration that's deemed unsafe or illegal.

"The research on this topic is at a very early stage, so I am not convinced we have a frame of reference to state expectations or bounds on what is considered low or high levels," said Tim Hoellein, a professor of biology at Loyola University Chicago and co-author on the new study, in a press release. "Our questions are still basic: How much is there, and where is it coming from?"

These researchers didn't just discover microplastics in the water. They also found medicine and household contaminants, supporting the idea that the particles originated in household septic systems.

A study out earlier this year found some microplastics in groundwater, but not enough to raise any alarms. Last year, a separate study warned that the impacts of microplastics on land-based ecosystems, including soils and

freshwater, may be just as harmful as impacts in the ocean.

This new study is just the latest to remind us that our local water supplies may be vulnerable. And whether microplastics are entering our drinking water or our fish, they're eventually making their way back to us.

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I mostly write about how environmental policy and climate change intersect with race and class though I occasionally write about animals, science, and art, too. We all need an escape, right?