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Chemical Leak

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Is There Something In The Water?

By [GLYNIS BOARD](#) (/PEOPLE/GLYNIS-BOARD)



http://mediad.publicbroadcasting.net/p/wvbn/files/201402/Water_drop_001.jpg

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Water: It flows through our very blood, carrying oxygen and nutrients to cells. It flushes waste from our bodies, cushions our joints and allows us to digest and absorb food. The average adult human body is about 60 percent water. Perhaps it's not surprising that so many are still offended and disturbed by the water crisis in the Kanawha Valley—"Kanawha" which, by the way, means "water way."

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It's been about two and a half weeks since communities have been given the "all-clear" to trust their tap water for everything from drinking and cooking to washing their babies. Still, due to questionable industrial accountability, confidence is far from restored.

Environmental scientist and licensed remediation specialist Marc Glass says we live in a world where water concerns aren't far from anyone's mind. More and more people are reaching out, and into their own pocket books, to test and see if something is in the water.

Water Testing

Glass says in the wake of significant oil and gas developments in the state, there've been equally significant rises in interest in water quality testing.

There are, of course, water analysis test kits and multiple laboratories equipped for such investigations. But it's important to note that **test results are defensible to degrees**. The state of W.Va., for example, will only accept data and information about water quality *prepared* and *tested* by state certified labs.

Glass says it's good to begin with some basic questions when approaching water quality concerns. 'What am I worried about?' and, 'What level of quality does my data need to be?'

"Say I've got some kids at home at they're drinking out of this tap water, I want to be able to sleep at night and know it's good," Glass says. "I don't need to prove that to anybody else; I need to prove it to me. So I can take a sample, get a number. That's one use of the information and it would be fairly inexpensive."

Test For What?

What kind of contamination is most concerning? Hands down, Glass and many experts agree: You gotta watch out for **poo**.

“Bacterial contamination, fecal coliforms, things like that,” he says.

Fecal contamination can happen anywhere because of many different things, Glass explain, from septic tanks getting into ground water, surface water getting into your ground water, or animals or insects getting access to well water.

“You also want to test for some of the basic nutrients that can also indicate that.”

The next tier up after that is testing for **metals**. Glass says ground water flows through geology and inevitably comes in contact with metals. Some, like iron or calcium, pose little risk, and some, like arsenic or barium, are only safe in low concentrations.

And then there are general **chemistry parameters to** consider like ph, conductivity, total dissolved solids, and total suspended solids.

“And then I think the next most important thing is all of the **ions**: bromide, chloride, fluoride, sulfate. Those can tell you a lot about not only the chemistry of your water but also what might be influencing your water.”

Glass says it’s getting easier to pick out **influences from certain types of waste and industry**. The oil and gas industry, for example, mines deep geology and brings radioactive nuclides, as well as benzene, toluene, and other compounds (both manmade and naturally occurring) which we definitely do not want in our water.

From there it becomes a question of managing costs based on risk. So basically, you could spend as much money as you want.

Well vs. City vs. Bottle Water

If you’re digging your own well, there’s a certain amount of testing that’s obligatory. Or if you’re within piping distance, you can drink city water and let your taxes pay for testing instead.

Glass explains that water utilities have the ability and obligation to test their water

and continuously monitor the supply for various contaminants—moreover they publicly report findings.

Unlike, say, bottled water companies.

In fact, these rules and regulations set by Congress in the Safe Drinking Water Act are all but absent for bottled water industry which is instead regulated by the Food and Drug Administration.

“There are questions about the containers that bottled water is even stored in,” Glass points out. “Are we having exposure more plastics and some of the constituents in plastics? Plus, it produces a lot of waste.”

“So I’m a huge fan of public water supply systems for energy efficiency, and probably for safety and I think that’s where we should put our focus if we’re worried about having good water.”

Safeguarding

What are the cheapest and easiest actions that individuals can take to personally safeguard? **Carbon filters.**

Perhaps ironically, coal is nature’s carbon filter. So water percolating through West Virginia’s coal-filled mountains could be some of the more pristine sourced water in the world.

In the meantime, though, Glass says using carbon filters gives the best bang for your buck.

“Literally that can be just a few dollars a month or maybe even less just depending on your consumption. It’ll take care of most things that cause odors, a lot of the compounds that are carcinogenic, any of the petroleum constituents—anything carbon-based. It’ll get it out of there and it just doesn’t cost that much money.”

One other affordable step you could consider is getting your scientist on. **Monitor your tap water’s conductivity and PH regularly**, and keep notes. Any major fluctuations could be a red flag that... there’s something in the water.

To Be Continued...

Obviously there are other water contamination issues that should be addressed, like [disinfection by-products](http://water.epa.gov/drink/contaminants/basicinformation/disinfectionbyproducts.cfm) (<http://water.epa.gov/drink/contaminants/basicinformation/disinfectionbyproducts.cfm>), and the growing threat of emerging contaminants we're just becoming aware of... But that, as we say, is another story.

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