Tap water is regulated by the EPA, while bottled water is regulated by the FDA, which has weaker standards.

Know thy water – tap or bottled?

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Water, water everywhere, but which drop to drink? Plastic single-use bottles are convenient, but only about 30 percent are ever recycled, and the water inside can be dirtier than what comes out of your tap. On the flip side, how can you know for certain that your tap water is clean?

If your water comes from a public supply, not a private well, it is treated and tested before it is sent rushing through pipes to your home, school or workplace. But even the clean water from a treatment plant can become contaminated by the very pipes it flows through, as we learned from the tragic situation in Flint, MI. In recent years, portions of at least six counties in New Jersey have exceeded standards for lead levels in drinking water, and several additional counties have identified various perfluorinated compounds in water sources.

We are hearing more about drinking water contamination issues in the Garden State because the New Jersey Department of Environmental Protection (NJDEP) has adopted more stringent testing requirements for lead and copper and NJ is the first state in the nation to set drinking water standards for perflourinated compounds.

In April, the NJDEP proposed strong drinking water standards for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS); in 2017, NJDEP adopted standards for Perfluorononanoic Acid (PFNA) and 1,2,3-Trichloropropane. All of these perflouronated chemicals are remnants of our industrial past, used in firefighting foams, nonstick cookware, coatings for fabric and paper products, stain resistant carpets, and applications in aerospace, automotive, semiconductors, photographic imaging, construction, electronics and aviation products. Perflourinateds have a variety of human health impacts, including hormone alteration, developmental impairments and cancer.

Know your water

The vast majority of New Jersey tap water is clean and meets the tougher NJ *Safe Drinking Water Act* standards. If you are concerned or curious about the quality of your tap water, you have the right to

review your drinking water quality test data. First, you need to learn if you have a public or private water supply. If you pay a water bill, you have a public source. If you have a private well, the location of it should be marked on the property survey map on your deed.

Public water supply:

- Public water supply quality data is available at: www.epa.gov/ccr . All public drinking water supplies are tested frequently and comply with the federal and state *Safe Drinking Water Act* standards. Your water company is required to send you an annual copy of their drinking water quality report. Drinking Water Watch allows users to view drinking water information for NJ water systems. *https://www9.state.nj.us/DEP_WaterWatch_public/index.jsp*
- Although water is certified as clean as it leaves a water treatment plant, pipes leading from a treatment plant to your home may contain lead or be fitted together with lead solder. This lead can leach out of pipes if the water is too corrosive, as was the case in Flint and some areas in northern NJ. You can have the tap water in your home tested by searching the internet for "NJ certified drinking water labs." A professional will come to your home and take a water sample. You will get the results within a week. The test will cost you $80 to $130.
- If you do find elevated lead levels, the lab is required to report the finding to the NJDEP. Your water company is then required to offer you a safe drinking water alternative, such as installing a filter on your faucet.

Private well:

- If you have a well, you are 100 percent responsible for ensuring that your water is safe to drink.
- A certified drinking water lab can assist you with developing a testing regimen for your home. You will want to test annually for the basic drinking water quality standards, including lead, arsenic, bacteria, and nitrates. You should also regularly test for volatile organic compounds (VOCs) if you are in an agricultural area, and for mercury and radiation, depending on the types of naturally occurring rocks in your region.

A certified lab can help you identify what tests you need and how often. Testing your tap water can ease your mind about the safety of your family's drinking water so you can forego the expense, questionable quality and environmental impact of single-use plastic bottles.

Say no to bottled water

The bottling industry has done a great job of selling us on the myth that bottled water is healthier and better than tap water. Why? It's extremely profitable. Bottled water is the largest US beverage category by volume. In 2018, national sales of bottled water came in at $18.5 billion. Bottled water can cost consumers nearly 2,000 times the price of tap water, three times the price of a gallon of milk and four times the price of a gallon of gasoline (Food & Water Watch).

Unlike tap water, which is regulated by the US Environmental Protection Agency,

Pipes leading from a treatment plant to your home may contain lead or be fitted together with lead solder.

bottled water is regulated by the US Food and Drug Administration (FDA). FDA standards and testing for bottled water are weak. In April, Consumer Reports (CR) released an in-depth investigation highlighting the elevated levels of arsenic in bottled water. Arsenic is a naturally occurring heavy metal, but regular consumption over extended periods increases the risk of cardiovascular disease, can lower IQ scores in children, and can cause certain cancers and other health problems.

The FDA says that 10 parts per billion is safe, but research indicates that this is too high and levels should not exceed three parts per billion. CR also found that the federal government's safety inspections of water bottling facilities hit a 15-year low in 2017. In 2010, the FDA conducted 371 inspections; by 2017, that number fell to 209. Few states regularly conduct independent tests on bottled water for contaminants, as local water suppliers must for tap water. The NJ Department of Health does have a bottled water program, but with only one full-time employee to oversee it.

Don't drink the plastic

A 2018 study by Orb Media shows that water inside a single plastic bottle can contain thousands of microplastic particles. Tests on more than 250 bottles from 11 leading brands reveal widespread contamination with plastic debris, including polypropylene, nylon, and polyethylene terephthalate (PET). Plastic was identified in 93 percent of the bottled water samples.

When plastic is exposed to sunlight or heat, the harmful chemicals used to make the plastic bottle itself leech into the water. Use of plastic products leads to ingestion and/or inhalation of large amounts of both microplastic particles and hundreds of toxic substances with known or suspected carcinogenic, developmental or endocrine-disrupting impacts.

Then there's the issue of the empty bottle itself. What happens to 70 percent of plastic bottles that never get recycled? In the US alone, we go through 50 billion bottles annually and most end up as litter, in a landfill or incinerated. Food and Water Watch reports that local municipalities in 2016 spent more than a staggering $100 million to clean up and dispose of waste from non-recycled plastic water bottles.

What to do

What can communities do to increase public confidence in tap water? Here are some ideas:

- For a fun, interactive activity at you next green event, host a "water tasting bar." Offer passersby samples of tap and bottled water (using paper cups of course) and ask if they can tell the difference.
- Pledge to have NO plastic bottled water at all events. Tell food/beverage vendors that they cannot sell bottled water. Instead, bring in water buffalo trucks from a local water company and make sure to advertise that people should bring their own reusable bottles. Some of NJ's landmark events, such as Barnegat Bay Day, already do this.
- Offer convenient water refill stations throughout your town. For example, the Hoboken Hydration Station Program allows local businesses to place stickers in storefronts for free water refills. Customers bring their own reusable bottles and restaurants get extra foot traffic and green business recognition. www.hobokennj.gov/resources/hoboken-hydration-station
- Install water refilling stations in public spaces and schools and watch the counter track how many bottles were saved!

Given the cost, quality and environmental impact of plastic-bottled water, the only reasonable answer is to drink tap water. With a little bit of research and testing, you can feel comfortable with your decision to take back the tap.

Sources:

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