



Unregulated Drinking Water Systems

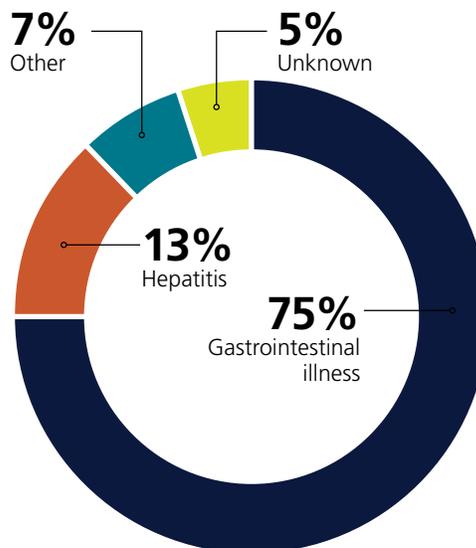
BY DOUG FARQUHAR

Although 89.5 percent of U.S. drinking water comes from public water systems governed by the federal [Safe Drinking Water Act](#), the remaining 10.5 percent comes from sources that are unregulated. Those sources—private wells and systems that serve less than 15 residences—provide water for more than 34 million people.

Between 1971 and 2008, [disease outbreaks](#) from public drinking water systems declined, but the number of outbreaks from private water sources increased. Once a private water well has been constructed, it is the responsibility of the well owner to test the water and ensure it remains free of pollutants. Most states recommend annual testing for bacteria and nitrates, and many recommend testing for standard contaminants and volatile organic compounds, as well as performing a radiological analysis every three to five years.

Contamination of these wells comes from landfills, failed septic tanks, underground fuel tanks, fertilizers and pesticides, naturally-occurring arsenic and uranium, and runoff from urban areas, all of which can seep into private wells.

Illness from Unregulated Water



Source: American Society for Microbiology, 2016

If contaminated well water is consumed, it could lead to illness. The most common ailment is gastrointestinal illness, but hepatitis and other threats are also common.

Did You Know?

- One in 9 Americans gets his or her drinking water from a private well.
- An estimated 20 percent of private wells have contaminants above Environmental Protection Agency drinking water standards.
- Disease outbreaks from private wells are increasing, according to the Centers for Disease Control and Prevention.

Recent studies show [23 percent of private wells](#) contain contaminants in excess of EPA drinking water standards. A study in Iowa showed 8 percent of private wells had arsenic above EPA standards; a similar study in [New Hampshire showed that number to be 20 percent](#). Most of these contaminants came from natural sources, such as radon and arsenic, but nitrates from fertilizers and septic systems were found in a quarter of all wells in agricultural areas.

Federal Action

The [U.S. Environmental Protection Agency \(EPA\)](#) does not regulate private drinking water wells, but does provide information for homeowners in the care and maintenance of private wells to protect their health.

The Centers for Disease Control and Prevention's (CDC) [Safe Water for Community Health \(Safe WATCH\)](#) helps state health departments reduce harmful exposures from wells and other private drinking water systems. This program encourages health departments to strengthen and improve their programs by:

- Identifying gaps in their current program using the [Environmental Public Health Performance Standards](#).
- Taking actions to address identified gaps and reduce exposures to contaminants.

State Action

Like the federal government, no state requires maintenance and annual testing of private wells, but most recommend it. [Connecticut](#) requires testing of newly constructed wells and [New Jersey](#) requires landlords to test their wells every five years. New legislation in North Dakota requires mineral developers to test private wells within one-half mile of their development. New Mexico requires well identification tags on private wells.

The state of [Washington](#) regulates private systems serving two or more households, requiring owners to follow [water quality and operation requirements](#). Wells must be tested for bacteria annually.

Several states require owners to disclose whether their property uses an unregulated water source upon its sale. Arizona, Connecticut and Illinois require sellers to disclose "any issues" with the private water supply. Testing results of a property's water source must be disclosed by sellers in Alaska, Colorado, Connecticut, Iowa, Kentucky, Louisiana, Maine, Maryland, Michigan, Mississip-

New Hampshire's Recommended Private Well Testing Schedule

Testing should be performed by a certified lab at the following intervals:

Annually

Bacteria and Nitrates

Three to five years

Standard analysis test for:

- Arsenic
- Chloride
- Copper
- Fluoride
- Hardness
- Iron
- Lead
- Manganese
- pH
- Sodium
- Uranium

Radiological analysis test for:

- Radon
- Uranium

Volatile organic compounds test for:

- Solvents
- Gasoline
- Greases
- Cleaners
- Pesticides

Additional Resources

[Centers for Disease Control and Prevention's \(CDC\) Safe Water for Community Health \(Safe WATCH\)](#)

[Environmental Protection Agency, Private Drinking Water Wells](#)

[National Groundwater Association](#)

[Brian Hubbard, National Center for Environmental Health](#)

pi, Nebraska, New Hampshire, New Jersey, New York, North Carolina, Oregon and Pennsylvania.

[State programs](#) also provide assistance for private well owners to test their wells. [Delaware](#) offers a low-cost test kit. [Iowa](#) offers homeowners a subsidized testing program and [Illinois](#) will test a private well upon a homeowner's request. [Maine](#) provides testing, but charges the homeowner for the service.

Six bills were enacted in 2017 regarding testing and treating private well water. [Connecticut](#) allows local departments of health to require wells to be tested for contaminants that may be found in the groundwater. [Maine](#) also requires private labs to report testing results from private wells to the state department of health.

[North Carolina](#) clarifies private drinking water well permitting requirements. North Dakota provides that if a person refuses to consent to the testing of a water well or water supply by a mineral developer, the person forfeits any claim for relief against that developer.

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