

Groundwater Awareness: FAQs

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For more information:

www.sjbpublichealth.org/water-quality

www.colorado.gov/cdphe/drinking-water-private-wells

www.wellowner.org

What is groundwater? What do I need to know?

- Groundwater is the water that soaks into the soil from rain or other precipitation and moves downward to fill cracks and other openings in beds of rocks and sand.
- Of all the fresh water in the world (excluding polar ice caps), 95 percent is groundwater. Surface water (lakes and rivers) only make up three percent of our fresh water.
- Groundwater is naturally filtered by the earth that holds it. It can, however, be contaminated by pollutants that come into contact with the earth's surface. Care should be taken at the household, local, national, and global levels to protect ground water from pollutants.

How does a well access groundwater for use?

- Groundwater is tapped through wells placed in water-bearing soils and rocks beneath the surface of the earth. Of the total 341 billion gallons of fresh water the United States withdraws each day, groundwater is estimated to be 79.6 billion gallons, or 23 percent. There are 15.9 million water wells in the U.S., supplying groundwater for public supply, private supply, irrigation, livestock, manufacturing, mining, thermoelectric power, and other purposes.
- In this region, most, but not all wells rely on a pump to bring water to the surface. In "artesian wells," water naturally flows up the well to the surface.

Who regulates groundwater and wells in Colorado?

- It depends on the well. Many public water systems that serve whole communities or many homes in a certain area rely on groundwater wells; these systems are regulated by the Colorado Department of Public Health and Environment (CDPHE). CDPHE requires these systems to treat water safely and to test the quality of their water regularly.
- Many homeowners in more rural areas, however, use individual or shared private wells. These wells do not serve enough customers to be regulated by the state. The responsibility for safety of the water in private wells lies only with the well owner.

Groundwater Quality in this Area

Are there any health concerns for drinking water wells in this area?

- Because of our local geology, a small but significant percentage of wells throughout La Plata and Archuleta Counties have issues with contamination from metals and other minerals. Because the federal Safe Drinking Water Act (SDWA) does not apply to private wells, the responsibility of ensuring that water from a private well is safe is the responsibility of the well owner.

How can I ensure that my well is safe for drinking?

- San Juan Basin Public Health (SJBPH) recommends, as does the State of Colorado, that every private well used for drinking water be tested once per year by a certified laboratory. Most of these tests involve the well user collecting a sample at a non-aerated, non-swiveling tap (like a bathtub) in provided containers and mailing them to a laboratory for testing.
- SJBPH also recommends that wells with no history of testing, and wells that are very old, be inspected visually to ensure that its construction is sound and that the surface around the well is kept clear of possible contaminating substances.

What should I test for?

- There is no "standard suite" of potential contaminants nor "standard annual test" for drinking water wells. Many laboratories offer a package that they recommend for annual testing, but these may differ from company to company.
- At a minimum, SJBPH recommends that your annual test order include arsenic, lead, nitrate, nitrite, and coliform bacteria testing.
- If you have never tested your well before, or if its history is unclear, SJBPH recommends testing for the above substances plus fluoride, hardness, iron, manganese, pH, and total dissolved solids.
- In certain areas of southwest Colorado, including the Pine River Valley and the mesa tops between Durango and Bayfield, it may be a good idea to test for fluoride in your well annually.
- If your well was built between 1930 and 1979, if it uses a submersible pump, AND it has never been tested or its test history is unclear, SJBPH recommends having your pump inspected for polychlorinated biphenyls (PCBs) by a licensed pump installer. PCBs are dangerous chemicals sometimes used in industrial applications before they were banned in 1979. A list of licensed pump installers can be found at the [Division of Water Resources website](#).
- If your well is within one quarter-mile of a gas station, landfill, auto repair shop, dry-cleaner or oil or gas drilling site, AND if your well has never been tested or its test history is unclear, SJBPH recommends testing at least once for volatile organic compounds (VOCs).
- If your well is within one-quarter mile of an intensive (i.e. not a backyard garden) agricultural operation, SJBPH recommends that you include pesticides the first time you get your well tested.

How much does testing cost?

- This will depend on your choice of laboratory and test parameters, but it is estimated that the recommended annual testing can be done for less than \$150, and expansive testing covering many parameters might cost more than \$400.

Home Water Treatment

Why should I install some form of water treatment?

- There is no such thing as "pure" water. All water contains gases or minerals. Various techniques have been designed to remove unwanted substances from water, but the amount and type of substances removed depends on the treatment method.
- Water is polluted by both nature and human activities. In most cases, the pollution is hardly severe and is not particularly detrimental to health. However, some substances that are health hazards do occur in water. Other substances are merely undesirable because they create bad tastes and odors, stain clothing and fixtures, or ultimately cost money. Still others have little or no effect in water used for most purposes.

What type of home water treatment should I select?

- There is no one-size-fits-all treatment technology to make all drinking water safe or aesthetically acceptable. Rather, a water treatment system or systems should treat the specific substances at the levels at which they exist in your well water.
- To select the right home water treatment, it is important to have a laboratory test your drinking water. Companies that sell systems can help match your results to a treatment product. If you are still uncertain or want a second opinion, consider sharing your water test results and the treatment system specifications with SJBPH.
- A product certified by an independent testing agency such as the National Sanitation Foundation (NSF) or the Water Quality Association (WQA) has been tested and found to meet standards for drinking water treatment. This is assurance for you that the system is effective for what it is supposed to treat.

How do I inspect and maintain my home water treatment system?

- There are multiple kinds of filtration systems that use different technologies; these systems can also be installed at different points between the well itself and your point of use (some treat all water entering the home, others treat at a single faucet). Ensure that you know what kind of system you have and where it is installed.
- Filtration systems, especially advanced systems called "reverse osmosis" units, require periodic maintenance. If you follow the manufacturer's recommendation for maintaining your filter, it should remove the contaminants for which it was designed. Reverse osmosis filters are the most successful at removing contaminants from drinking water.

How do I inspect and maintain my well?

- If your well is very old or has no history of testing, SJBPH and the State of Colorado recommend that a licensed well driller or well pump installer visually inspect the well's construction and location. A list of licensed contractors for this sort of work can be found through the [Division of Water Resources](#).
- Every month or two, perform a visible inspection of the surface components of your well. Ensure that there are no cracked or corroded parts, that the well cap is not broken or missing, and that the surface seals have not settled or cracked. If they have, hire a licensed well driller or pump installer to repair the damaged parts.
- Your well cap should be at least 18 inches off the ground.
- Regardless of age, always keep the area surrounding your wellhead clear of storage tanks, septic tanks, and pooling surface water. Rainwater should drain away from the well, not toward it. Never pile fertilizer within 100 feet of your well, and never pile manure within 250 feet.
- Never mix or use pesticides, herbicides, fertilizers, fuels or cleaners within 100 feet of your well.
- Consider paving the ground immediately surrounding your well.

Public and Communal Water Systems

Do public and community water systems in this area use groundwater?

- Public water systems like cities, metropolitan districts and mutual water companies may use surface water diversions (from rivers and lakes), groundwater (from wells) or a combination of the two.
- Contact your water provider via the contact information on your water bill to learn more about their specific source of water.

How do public water systems ensure the safety of their water?

- All public water systems are required to test their water frequently against nationwide health standards and to provide test results to their customers in a “Consumer Confidence Report.” Contact your water provider for more information.