



Source Water Protection Starts at Home

Over three million people in Pennsylvania get their water from a private water system (well, spring, or cistern). Families on private water supplies need to be aware of changing water quality issues and the best methods to protect their water supply.

Unlike public drinking water systems, homeowners with private wells do not have assistance with managing water supply (including routine maintenance, water testing, and solving water quality and quantity problems). All private water system owners need to take the time to ensure everything is working correctly and that their water is always healthy to drink.

For more information on proper management of private water systems, contact a Penn State Extension educator or a volunteer from the Master Well Owner Network today!

About the Master Well Owner Network

Working through Penn State Extension, this program educates private water system owners throughout Pennsylvania. Trained volunteers help form a network to connect with community members. To find out more, visit extension.psu.edu/water/mwon.

Resources

Penn State Extension Master Well Owner Network
extension.psu.edu/water/mwon

Penn State Extension Water Resources
extension.psu.edu/water

National Ground Water Association (NGWA)
www.ngwa.org
www.wellowner.org

Pennsylvania Department of Environmental Protection (DEP)
www.dep.state.pa.us

Pennsylvania Ground Water Association (PGWA)
www.pgwa.org

U.S. Environmental Protection Agency (EPA)
Safe Drinking Water Hotline
www.epa.gov/safewater
1-800-426-4791

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extension.psu.edu/mwon

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Best Management Practices for Private Water Wells

A Guide to Proper Maintenance and Testing



PennState Extension

Why Protect Your Private Well?

In Pennsylvania, there are no state regulations that require private well owners to maintain their well or test their drinking water. Improperly constructed or poorly maintained wells can create a pathway for pollutants into your home drinking water. The owner of a private water well may be the only line of defense against contamination of that water supply. Preventing contaminated water supplies protects the health of you and your family and is less expensive and easier than fixing a water quality problem after it has already occurred. Learning about proper well maintenance is your best line of defense against a polluted water source.

Testing for Potential Contaminants

ROUTINE TESTS	
TEST	FREQUENCY
Total coliform bacteria	Every year
pH	Every three years
Total dissolved solids	Every three years

ADDITIONAL TESTS FOR SPECIFIC PROBLEMS	
SYMPTOM	TEST FOR
Gastrointestinal illness	Coliform bacteria
Cloudy or colored water	Detergents
Orange or black stains	Iron, manganese
Soap has no lather, leaves white residue	Hardness
Water tastes salty	Chloride, sodium, total dissolved solids
Odor of gas or fuel	Volatile organic compounds
Pinhole leaks, bluish stains	pH, copper, lead
NEARBY LAND USE	TEST FOR
Agricultural operations	Nitrate, coliform bacteria, pesticides
Coal mining	pH, iron, manganese
Gas drilling	Sodium, chloride, barium
Dump, landfill, or factory	Metals, volatile organic compounds
Heavily salted roadways	Sodium, chloride, total dissolved solids



Test Your Water

To ensure your drinking water is healthy, have your water tested every year. There are many tests that can be done on your water and having all of them done is usually not necessary. It is a good idea to have your water tested annually for coliform bacteria and every three years for pH and total dissolved solids. However, if you can determine what potential contaminants are threats to your water supply, you can more carefully select the type of tests and analyses that will need to be done to ensure the safety of your water. Have your water tested by a certified laboratory. It is also important to test the water in a home with a private well before purchase. If you have questions about what to test your water for or you want to locate a local certified testing lab, contact your county extension educator.

Interpreting Your Water Test Results

The results of your water test(s) will tell you the level of each of the tested substances that were found in your water supply. The presence of any specific substance does not necessarily indicate a danger to your health. Comparing your results to the state or federal drinking water standards will help you determine how problematic your results really are to the safety of your family. For help with interpretation of a water test report, visit extension.psu.edu/drinking-water-interpretation-tool-dwit.

Inspect Your Well

Every year, homeowners should do a thorough inspection of their home water well.

- Keep the area around your well clean and make sure it is always accessible.
- Limit activities like using fertilizers or pesticides within 100 feet of the well.
- Be aware of local activities that may impact your well water.
- Complete a visual inspection of your well casing to detect any cracks, holes, or corrosion.
- Replace a standard well cap with a sanitary well cap to keep out insects, small mammals, and other surface contamination.
- Check the wiring for the pump to make sure it is secured in an electric conduit pipe.
- If you have not taken measures to prevent backflow, contact a plumbing supplier to take advantage of inexpensive backflow prevention devices.

Maintaining your well is essential to protecting your family's health on a day-to-day basis. However, even with proper annual maintenance, well materials and equipment will eventually need to be replaced. For preventive maintenance, get your well inspected at least every 10 years by a qualified professional.

Keep Good Records

Well record books are a great way to keep track of your well's installation, maintenance, inspections, repairs, and water tests. Having this log of activity will assist you in detecting problems early and noticing changes over time. If something does go wrong, contact a local expert and show them your well's records for a diagnosis. Well record books can also be helpful to any future owners of the home.