EPA United States Environmental Protection Agency
Office of Water

Ground Water and Drinking Water

Private drinking water wells

Approximately 42 million people (US Geological Survey, 1995 EXIT EPA) in the U.S. obtain water from their own private drinking water supplies. Most of these supplies are drawn from ground water through wells, but some households also use water from streams or cisterns. EPA does not oversee private wells, although some state and local governments do set rules to protect users of these wells. EPA encourages these households to take special precautions to ensure the protection and maintenance of their drinking water supplies. EPA also offers Private Wells: Guidance for What to Do After the Flood.

Testing private well water ~ Protecting private well water ~ More information

How can I test the quality of my private drinking water supply?

You should test private water supplies annually for nitrate and coliform bacteria to detect contamination problems early. Test them more frequently and for more potential contaminants, such as radon or pesticides, if you suspect a problem.

If you use a private laboratory to conduct the testing, nitrate and bacteria samples will typically cost between $10 and $20 to complete. Testing for other contaminants will be more expensive. For example, testing for pesticides or organic chemicals may cost from several hundred to several thousand dollars.

Many laboratories are available to test water quality. EPA does not test individual homes, and cannot recommend specific labs to test your drinking water, but states certify water testing labs. You may call your State Certification Officer to get a list of certified water testing labs in your state. Some local health departments also test private water for free. Phone numbers for your local, county, or state health department are available under the "health" or "government" listings in your phone book.

Most laboratories mail back the sample results within days or several weeks. If a contaminant is detected, the results will include the concentration of the contaminant and an indication of whether this concentration exceeds a drinking water quality standard. If a standard is exceeded in your sample, retest the water supply immediately and contact your public health department for assistance. Some problems can be handled quickly. For example, high bacteria concentrations can sometimes be controlled by disinfecting a well. Filters or other on-site treatment processes may also remove some contaminants. Other problems may require a new source of water, or a new, deeper well. If serious problems persist, you may need to rely on bottled water until a new water source can be obtained.

How can I protect my private water supply?

You can protect your water supply by carefully managing activities near the water source. For households using a domestic well, this includes keeping contaminants away from sinkholes and the well itself. Hazardous chemicals also should be kept out of septic systems.

- Periodically inspect exposed parts of the well for problems such as:
  - cracked, corroded, or damaged well casing.
  - broken or missing well cap.
  - settling and cracking of surface seals.
- Slope the area around the well to drain surface runoff away from the well.
- Install a well cap or sanitary seal to prevent unauthorized use of, or entry into, the well.
- Have the well tested once a year for coliform bacteria, nitrates, and other constituents of concern.
- Keep accurate records of any well maintenance, such as disinfection or sediment removal, that may require the use of chemicals in the well.
- Hire a certified well driller for any new well construction, modification, or abandonment and closure.
- Avoid mixing or using pesticides, fertilizers, herbicides, degreasers, fuels, and other pollutants near the well.
- Do not dispose of wastes in dry wells or in abandoned wells.
- Do not cut off the well casing below the land surface.
- Pump and inspect septic systems as often as recommended by your local health department.
- Never dispose of hazardous materials in a septic system.

More information about private wells

Several sources of technical assistance are available to help you protect your water supply. The organization EXIT EPA Farm*A*Syst/Home*A*Syst provides fact sheets and worksheets to help farmers and rural residents assess pollution risks and develop management plans geared toward their circumstances. For example, Farm*A*Syst helps farmers and ranchers identify pollution risks from nitrates, microbes, and toxic chemicals. Home*A*Syst reaches homeowners who face pollution risks from faulty septic systems, pesticide use, petroleum leaks, and hazardous waste disposal.

Local health departments and agricultural extension agents can also provide general technical assistance. They can be found under the "government" or "health" listings in your phone book. EPA's Safe Drinking Water Hotline also provides access to publications and technical assistance over the phone at (800) 426-4791. Among EPA's publications that may help you is the detailed "Manual of Individual and Non-public Water Supply Systems (EPA 570/9-91-004). Hotline staff may be able to direct you to sources of state and local assistance.

Many states, organizations, and university extension services offer information for private well owners. Some of the many resources available are: EXIT EPA

Testing of private wells (Michigan State University)
Information for homeowners with private wells (Wisconsin Dept. of Natural Resources)
Best Management Practices for Wellhead Protection (University of Idaho College of Agriculture)
Protecting your well and water supply (Kentucky Division of Water)
American Ground Water Trust
National Ground Water Association's page for well owners

Search | Safewater Home | EPA Home | Office of Water | Comments/Questions