

## Privately Owned Domestic Water Wells in Louisiana

*Nearly one out of every eight Louisianians gets their drinking water from privately owned domestic water wells.*

Most private wells in Louisiana are supplied by aquifers. An aquifer, which is a natural underground water supply, requires little-if any-treatment and is generally safe. However, some aquifers in Louisiana have high concentrations of naturally occurring elements. Nearby activities also have the potential to impact well water quality.

Pollutants such as harmful bacteria, chemicals and heavy metals can enter the water supply from above or below ground. Sources can range from natural mineral deposits and naturally occurring bacteria, to smaller or unseen pollution sources such as leaking underground storage tanks, abandoned wells or waste pits. Hurricanes, major rain storms, floods and damaged wells can also introduce contamination.

Any water well in Louisiana must be installed by a licensed water well drilling contractor. It is recommended that owners of domestic water wells have their systems routinely inspected and tested for biological and chemical contaminants each year.

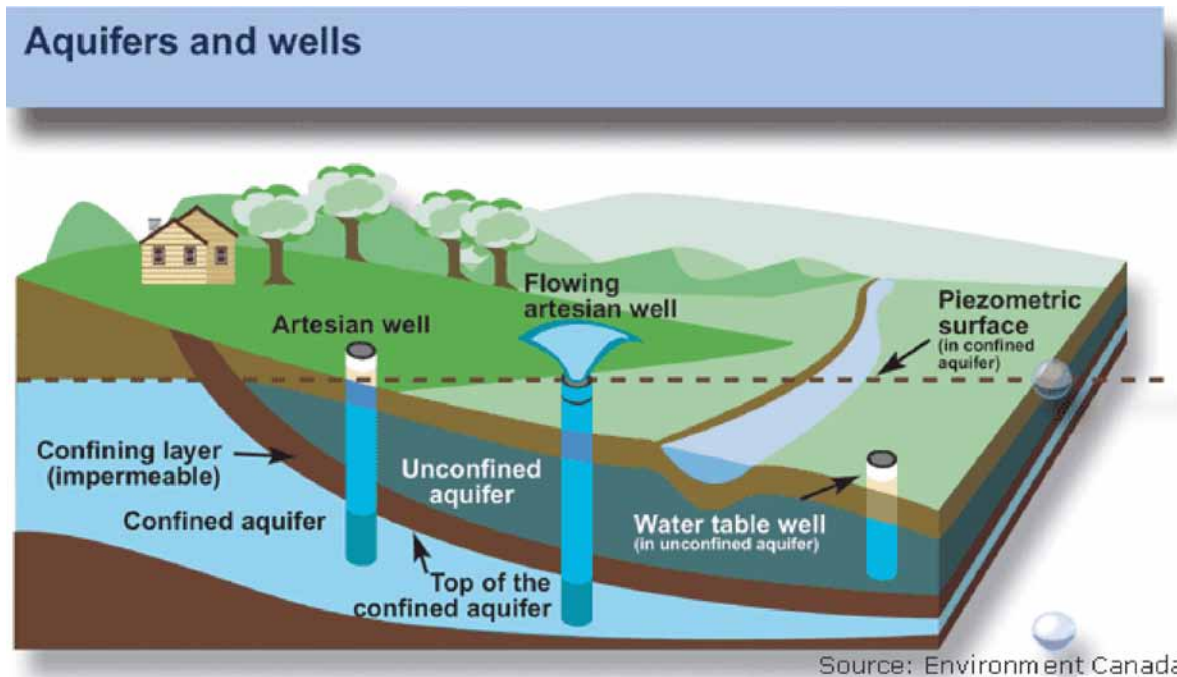
### *What is a water well?*

A hole which has been dug, bored, driven or drilled into the ground for the purpose of extracting water is a well. The source of a well is an aquifer, an underground layer of permeable soil, such as sand or gravel, that contains water and allows water passage. Aquifers are replenished as water seeps down through the soil.

### *There are two main types of wells:*

1. **Water table** (shallow) wells are those that penetrate into aquifers in which the water is not confined by an overlying impermeable layer such as clay. The level at which the soil is saturated is the water table. Pumping the well lowers the water table near it. These wells are particularly sensitive to seasonal changes and may dwindle during dry periods.
2. **Artesian** wells penetrate into ground water that has confining layers (such as clay) above and below the aquifer. Rainfall enters into the aquifer through permeable layers at high elevations, causing the ground water to be under pressure at lower elevations. Because of this pressure, the water level in the well is higher than the aquifer. A well that yields water by artesian pressure at the ground surface is a "flowing" artesian well.

**OVER**



***How do I protect the source of groundwater from becoming contaminated?***

Because they draw from shallow water tables, shallow wells are generally more vulnerable than deeper wells to surface water contamination. Shallow wells can become contaminated by barnyards, pastures, sewers, chemicals or septic tank systems. However, a properly constructed shallow well in a good location can produce high-quality water. Both rainfall and surface water runoff can carry pollutants down into shallow aquifers and well water. Since a hole penetrating an aquifer provides a direct route for contamination, wells must be designed to prevent pollution from entering and contaminating ground water.

***A well protected water well carries the following characteristics:***

- Has no sources of pollution within a 100-foot radius and is on high ground, sloped away in all directions from the well casing to divert surface water runoff.
- Has an overlapping, tight-fitting cover or sanitary seal at the top of the casing or pipe sleeve.
- The annular space outside the well casing is sealed with cement grout or bentonite clay.
- Has a pump house to protect equipment, storage tank and piping.
- Has a well-head protection area under the control of the operator or protective covenants.

***A poorly protected water well carries the following characteristics:***

Is located within 100 feet of pollution sources and is not sloped to divert surface water runoff away.

- Does not have a sanitary well seal.
- The annular space around the well casing is not properly sealed with cement grout or bentonite clay.
- Does not have a pump house to protect the well-head, storage tank and other equipment.
- Has a well pit to house the pumping equipment or to permit access to the top of the well.
- The wellhead protection area is not under the control of the operator or purveyor.

***Who is responsible for monitoring privately owned domestic water wells?***

In Louisiana, individual well owners are responsible for testing their private wells. DHH enforces regulations such as the Safe Drinking Water Act for

public water systems, and the Louisiana Department of Environmental Quality (LDEQ), Department of Agriculture and Forestry (LDAF), United States Geological Survey (USGS), and United States Environmental Protection Agency (USEPA) monitor aquifer systems and wells for pesticides and other potential contaminants. However, private wells in Louisiana are not currently required to be regularly tested to federal or state health standards. Individual well owners must take the necessary steps to ensure their well water is safe.

***How often should I inspect and test my well?***

Annual well inspection and testing for biological and chemical contaminants is the best way to monitor your well water for any problems. It is also important to have your well inspected and water tested at the following times:

- Any time you notice a change in your water quality, especially if you notice a strange color, odor or taste;
- When a pregnant woman, infants or young children, elderly, or people with chronic disease or conditions that impair their immune system reside in the home;
- If there have been unexplained illnesses in the household, such as recurring gastrointestinal problems or skin irritation;
- If there has been a chemical or hazardous incident or spill near your home or well;
- Following a hurricane, flood or major rainfall that may have contaminated the well;
- If contaminants have been found in a neighbor's water or reported to the local community (contact your parish sanitarian for reported or known problems in your area); or
- If you live in an area that is prone to a specific type of water contamination, OR if you live near areas of extensive land development, construction (including highway expansion or repair), agriculture, animal operations, mining, oil or gas drilling, industrial or waste operations or abandoned waste sites or wells.

***Well Inspection and Maintenance - Is it functioning properly?***

Routine inspection and maintenance of your well by a licensed contractor is the best way to ensure important features are in use, intact and functioning properly.

You can locate a Louisiana-licensed contractor in your area through the Louisiana State Licensing Board for Contractors; in the yellow pages under “Environmental Services;” or by contacting a local licensed water well drilling company. Other contacts include the National Ground Water Association (NGWA) website, [www.wellowner.org](http://www.wellowner.org) and your local AgCenter or cooperative extension office. Be sure to manage the activities near the water source. This includes keeping all chemicals, gasoline, paint, pesticides and solvents away from the well-head, and preventing backflow or cross-connections when using hoses with household, gardening, agricultural or automotive chemicals.

***How do I test my water?***

Water well owners can contact their parish sanitarian, usually located at the parish health unit, to get the latest information on private water well testing. He or she

will advise you of any contaminants that are known problems in your area. Working closely with parish sanitarians and engineers through the Safe Drinking Water Program, state-certified labs may be available to perform some bacteriological or chemical tests on your private water well for a fee. A listing of state-certified labs is available at [www.dhh.la.gov](http://www.dhh.la.gov). Using the search feature, type in “laboratory certification” to get listing. In other cases, parish sanitarians may refer well owners to local or national testing laboratories.

***For additional information and to see DHH’s Private Water Well Testing in Louisiana brochure visit, [http://www.dhh.louisiana.gov/offices/publications/pubs-205/Private\\_Water\\_Wells.pdf](http://www.dhh.louisiana.gov/offices/publications/pubs-205/Private_Water_Wells.pdf)***

***For more information, visit [www.oph.dhh.la.gov](http://www.oph.dhh.la.gov).***

***[www.myhealthla.org](http://www.myhealthla.org) • [www.facebook.com/LaHealthDept](https://www.facebook.com/LaHealthDept) • [www.twitter.com/La\\_Health\\_Dept](https://www.twitter.com/La_Health_Dept)***