

Protect Your Water Well During Drought

Kristine A. Uhlman, Extension Program Specialist

Diane E. Boellstorff, corresponding Author; Assistant Professor and Extension Water Resources Specialist

Mark L. McFarland, Professor and State Soil Fertility Specialist

Drew M. Gholson, Extension Program Specialist—Water Resources

Texas A&M Department of Soil and Crop Sciences, The Texas A&M University System

During severe droughts, people rely heavily on groundwater—the water held underground in aquifers. An aquifer can become depleted when more water is pumped out of it than is replenished by rainfall or other water sources. If the water level drops below the point of your pump intake, the pump could be damaged.

To protect your well equipment and water supply when the water level is low, follow these practices:

- Monitor your pump. Water levels that are low or recover slowly will make your pump cycle on and off rapidly and burn out the motor. Low water levels can also cause submersible pumps to overheat and damage PVC drop-pipes. If your pump is rapidly cycling on and off, turn it off. You may need to reduce your future pumping rate or lower the pump if the water level does not rise.
- If your pump sounds like it is sucking air, let it rest. When the water level drops, your well may begin to produce sand and air bubbles. Indications that the well may go dry include sand in the toilet tank and milky-looking tap water that clears after a short time.
- Depending on the depth of the well, you may be able to lower the pump.

This procedure will require help from a licensed pump installer. The Texas Department of Licensing and Regulation maintains a list of licensed well drillers and pump installers at <http://www.license.state.tx.us/LicenseSearch/>.

- Have the well water tested regularly during and after a drought. As the water level falls, air will enter the aquifer and change its chemistry. Oxygen in the aquifer will increase concentrations of naturally occurring contaminants such as arsenic. If your well normally contains low concentrations of arsenic, expect it to increase during a drought. The concentrations of other contaminants, such as total dissolved solids or salinity, may also change.
- Add a pumped-water storage tank if you have a low-yielding well. Adding a storage tank will help meet peak demand when your water needs exceed the pump's capacity.
- Work with your neighbors to schedule heavy water use. If everyone does laundry on Saturday, all the wells may go dry on Sunday. Distribute heavy water use over the week to help individual wells recover and to maintain the water supply in your area.
- Conserve water to preserve your well's resources during drought.



Acknowledgment

Support for this publication is provided through Clean Water Act§319(h) Nonpoint Source funding from the Texas State Soil and Water Conservation Board and the U.S. Environmental Protection Agency under Agreement No. 13-08.



Texas A&M AgriLife Extension Service

AgriLifeExtension.tamu.edu

More Extension publications can be found at *AgriLifeBookstore.org*

Educational programs of the Texas A&M AgriLife Extension Service are open to all people without regard to race, color, sex, religion, national origin, age, disability, genetic information, or veteran status.

The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating.

Produced by Texas A&M AgriLife Communications