

wellcare® information for you about Drought and Your Well

Drought is a period of drier than normal conditions that result in water-related problems. A drought can last for months or years, or may be declared after as few as 15 days.

Groundwater, which accounts for 30 percent of the world's fresh water, occurs below ground where it is filtered and purified naturally as it passes through layers of the earth. Groundwater is stored in aquifers – layers of soil, sand and rocks, but can come to the surface naturally through a spring or brought to the surface through a well. Groundwater resources can be significantly impacted during drought and for some time afterward. This information sheet will help guide you through the steps to take as a private well owner if drought occurs in your area.

How Water Levels Change

The water level in the aquifer that supplies a well does not always remain the same. Droughts, seasonal variations in rainfall, and pumping affect the height of the groundwater levels. If wells in the area are pumped at a faster rate than the aquifer around it is recharged by precipitation or other underground flow, then water levels in the well can be lowered. This can happen during drought, due to the extreme scarcity of rain.

Your well will need several slow, soaking rains for the water to filter through the ground and replenish the supply. Shallow wells may see water levels rise more quickly with a return of rain. Deeper wells tend to withstand a drought with no problems. But if your well is affected, it can take several months of adequate rain or snow to restore the supply.

What You Can Do During Periods of Drought

During periods of drought, there are some things you can do to manage water levels and help prevent your well from going dry.

Measure Water Levels

Knowing the exact yield of your well is critical to managing the use of water or considering options to expand the supply.

First, review the well history by referring to your well log or report from the well contractor who drilled your well. In most states, well contractors are required to file this information with the state health department or environmental agency. If you do not have a copy of your well log or report, many states now provide online databases where you can search for a copy. Compare this historical information to the actual water level in your well today.

There are three ways to measure water levels: use an electric sounder or depth gauge, the wetted tape method, or the air line method. Each can be complicated to use and it is very difficult to measure water levels in a deep well. Ask your well contractor to measure the water level or review the wellcare® information sheet *Determining Static Water Level in a Well*.

Manage Water Levels

If you have a low yielding well – producing five gallons or less per minute – you should be very careful how much demand you place on it.

Water conservation practices can mean the difference between getting through a dry spell or the cost and inconvenience of having the well run dry.

Try to limit the demand on your well by spreading out your daily and weekly water-use activities, such as bathing, watering the garden, and washing dishes or clothes. Take the time to repair dripping faucets or leaking toilets. Invest in water-efficient fixtures for faucets and showerheads. Replace older toilets with low-flow models.

Even seemingly small measures can save thousands of gallons of water per year in the average household. The wellcare® information sheet *Water Conservation* offers tips on how to measure household water use and employ the most effective conservation options.

Add Water Storage

The capacity of your well and the size of your well pump determine the efficiency of your water well system. Added storage can help provide greater capacity when water levels are low. In fact, a larger water storage tank can prolong the life of your well pump, as it reduces the need for the pump to cycle as often. Most wear and tear on the well pump occurs when it stops and starts. Added storage will also give your well time to rest and recharge.

There are times when the well capacity is so low that a two-pump system is needed. In a two-pump system, the well pump supplies water to an atmospheric storage tank. A second pump, a shallow well unit, takes water from the atmospheric tank and sends it to the pressure tank or directly into the household system. Operation is controlled with a pressure switch.

Contact your well contractor to see how added water storage can help meet your household water needs.

Additional Options

Ask your well contractor about some other options to reach water within your existing well. Perhaps the well's pump can be lowered. If there is room, the pump can be placed deeper into the well's borehole.

Deepening a well, so that it reaches further below the water table, may help to ensure a more drought-resistant water supply. However, deepening a well is never a guarantee that you will get more water and it can be as expensive as drilling a new deep well.

Redeveloping an existing well may make it more efficient. Hydrofracturing, a technique that uses high-pressure water to open fractures in surrounding rock and thereby increase water flow, may improve your water supply.

Again, contact your well contractor to review your alternatives, which are also outlined in the wellcare® information sheet *What to Do If the Well Runs Dry*. Also, remember to test your well water after any maintenance, deepening, or other procedure.

FOR MORE INFORMATION to help maintain and protect your water well system:



wellcare® is a program of the **Water Systems Council (WSC)**. WSC is the only national organization solely focused on protecting the health and water supply of more than 13 million households nationwide who depend on private wells.

This publication is one of more than 100 **wellcare®** information sheets available **FREE** at www.watersystemscouncil.org.

Well owners and others with questions about wells and well water can contact the **wellcare®** Hotline at 1-888-395-1033 or visit www.wellcarehotline.org to fill out a contact form or chat with us live!

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