

# wellcare<sup>®</sup> information for you about Coping with Low Water Levels

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## Why Water Levels Change

Pumping too much water from a well or pumping it too fast can cause low water levels. This is particularly important in times of drought and low rainfall.

Typically, water levels fluctuate on a seasonal basis, rising in wet months and falling in dry months. It takes time before you see a drop in water levels and time for the water to be replenished.

Your well will need several slow, soaking rains for the water to filter through the ground and replenish the supply. Shallower 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.

If you aren't experiencing drought conditions, consider whether there has been an impact on local ground water supplies. Has there been a major new source of ground water pumping nearby for municipal, industrial or agricultural use? Your local health department might know if increased ground water pumping is affecting local wells.

A final factor that can affect the water level is the age of your well. The life of a well is estimated at 20 to 30 years, or longer, depending on the quality of materials used during construction. However, over time the yield of the well may decline, due to sediment or mineral scale build up inside the well. If so, your well may just need to be cleaned or treated to restore it to its former condition.

## Measuring 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 if you have a well log or report from the professional who installed your well. In most states, well drillers are required to file this information with the state health department. Ask for information about the well depth and its capacity in gallons per minute when it was first drilled and/or tested in later years.

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 chalked or 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 water well professional to measure the water level or follow the directions outlined in the University of Oregon's fact sheet, *Measuring Well Levels*.

## Managing Low Water Levels

If you have a low yielding well – producing less than five to 10 gallons 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<sup>®</sup> information sheet *Water Conservation* offers tips on how to measure household water use and employ the most effective conservation options.

## Providing Greater 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.

Usually a large-size pressure tank can perform this function. 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.

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 water well professional to see how added water storage can meet your household water needs.

## Other Options

Also ask your well professional 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 water well professional 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 on coping with low water levels

*Measuring Well Levels*, W.L. Trimmer, Oregon State University Extension Service, call 800-561-6719 or go to <http://eesc.orst.edu/agcomwebfile/EdMat/html/EC/EC1368/EC1368.html>

*Understanding Your Drinking Water Well*, Pennsylvania Department of Environmental Quality: [www.dep.state.pa.us/dep/subject/hotopics/drought/facts/FS2780.htm](http://www.dep.state.pa.us/dep/subject/hotopics/drought/facts/FS2780.htm)

[wellcare®](#) information sheets – *Water Conservation*, *Selecting a Well Contractor*, *Sizing a Well Pump* and *What to Do If the Well Runs Dry* – available in print by calling 888-395-1033 or online at [www.watersystemscouncil.org/wellcare/infosheets.cfm](http://www.watersystemscouncil.org/wellcare/infosheets.cfm)

## For more information on your drinking water

The following sites provide up-to-date information on efforts to protect public water supplies and steps you can take as a private well owner:

Home\*A\*Syst Program: [www.uwex.edu/homeasyst](http://www.uwex.edu/homeasyst)

Water Quality Association: [www.wqa.org](http://www.wqa.org)

The Groundwater Foundation: [www.groundwater.org](http://www.groundwater.org)

American Water Works Association: [www.awwa.org](http://www.awwa.org)

## For more information about wells and other wellcare® publications

[wellcare®](#) is a program of the Water Systems Council (WSC). WSC is a national non-profit organization dedicated to promote the wider use of wells as modern and affordable safe drinking water systems and to protect ground water resources nationwide.



Contact us at 888-395-1033 or visit [www.wellcarehotline.org](http://www.wellcarehotline.org) or [www.watersystemscouncil.org](http://www.watersystemscouncil.org)

This publication was developed in part under Assistance Agreement No. X-82849101-1 awarded by the U.S. Environmental Protection Agency. It has not been formally reviewed by EPA. The views expressed in this document are solely those of WSC. EPA does not endorse any products or commercial services mentioned in this publication.

**Well water naturally better... Contact your local water well professional**