

**wellcare<sup>®</sup> information for you about**

# **GROUNDWATER WITHDRAWALS**

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During periods of drought, many communities across the United States face restrictions on water use, imposed by local governments grappling with dwindling supplies. Such restrictions may grow as multiple demands on finite groundwater resources affect the supply.

## **Who Uses the Water?**

Well water and much of the public water supply comes from underground aquifers, which are found in the ground at different depths. Aquifers act as water storage spaces, containing different amounts of water depending on the composition of rock, sand, and gravel in which the aquifer exists.

Americans rely on an estimated 23 million household wells nationwide for drinking water and other uses. The average home in the U.S. consumes about 80-100 gallons of water per person per day, indoor use only.

Major residential development that adds hundreds of new individual households into a dense area can stress the water supply. The problem grows when conservation measures are not used by the new homeowners.

Much larger wells draw much greater amounts of groundwater for agriculture to irrigate fields, commercial uses, such as a bottled water plant, or industrial uses, such as a cement plant or computer chip manufacturing plant. These withdrawals can range from just a few hundred gallons to a half million gallons per day.

For example, a single bottling company in New Hampshire applied to state officials in 2003 to withdraw 310,000 gallons of groundwater a day. The request was denied after much public outcry over the impacts. The state formed a commission to study groundwater withdrawals before any major new withdrawal permits are issued.

## **The Impacts of Groundwater Withdrawals**

State agencies and the U.S. Geological Survey have been tracking the impacts of increasing groundwater withdrawals on aquifers and nearby surface water supplies, such as streams, and lakes. Among their findings:

Groundwater withdrawals can affect both groundwater and surface water. Intensive withdrawals have led to cases where wells, springs, and wetlands have gone dry, lake levels have dropped, stream flow has been reduced with great harm to wildlife, and contamination has prevented installation of new wells.

The drop in the water table known as groundwater mining is one problem. It occurs when water is withdrawn from an aquifer more rapidly than it is replenished. As the water table drops, water pumping costs increase. Eventually, the users run out of water.

Extensive groundwater mining may also cause subsidence, a lowering of the land surface. Subsidence occurs when the removal of water leaves underground spaces that collapse or when underlying clay shrinks from lack of moisture. The result looks like a cone of depression on the land.

Lowered water tables can also lead to greater contamination of groundwater. The reduction in surface water lowers the ability of a region's waterways to filter pollutants from water before it flows in to recharge an aquifer.

## Should You Be Concerned about Groundwater Withdrawals?

Every individual well owner should be aware of the yield of their own well and the pressures on the aquifer that supplies it. If drought conditions have stressed your well, this is even more important.

Your licensed well contractor can tell you about current conditions, based on the ease with which water is being found and at what depth today, compared to the time when your well was constructed. Your local health department or state environmental agency will have information on special water management areas in your state, areas where ground or surface water supplies are dwindling or where subsidence occurs.

You will also want to know what laws in your state govern access to dwindling water supplies. Some states give precedence to senior water users, no matter what the public need. Others balance public and commercial withdrawals. Our information sheet, [Who Owns the Water?](#), outlines the five general approaches to water use laws for each state.

## **For More Information on Groundwater Withdrawals**

Contact your licensed well contractor, local health department, state environmental agency, or the [wellcare®](#) Hotline.



## **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 an estimated 23 million households nationwide who depend on private wells (according to the U.S. EPA).

This publication is one of more than 100 [wellcare®](#) information sheets available FREE at [www.watersystemscouncil.org](http://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](http://www.wellcarehotline.org) to fill out a contact form or chat with us live!

## **JOIN THE WELLCARE® WELL OWNERS NETWORK!**

By joining the FREE [wellcare®](#) Well Owners Network, you will receive regular information on how to maintain your well and protect your well water.

Contact us at 1-888-395-1033 or visit [www.wellcarehotline.org](http://www.wellcarehotline.org) to join!