

Drought Precautions for Private Water Wells

WELL MANAGEMENT SECTION

Drought occurrences

A drought occurs when drier than normal conditions lead to a decrease in water supply. The Minnesota Department of Health (MDH) is advising private well users to be even more conscious of water use and well maintenance during periods of drought.

How droughts impact groundwater and wells

Throughout the year, groundwater levels naturally fluctuate. Typically, groundwater levels reach their highest point in March and April, due to winter snowmelt and spring rainfall. This replenishes groundwater in a process known as recharge. As the late spring and summer months approach, groundwater recharge is limited due to the water used by crops, trees, human consumption, and other vegetation. Groundwater levels begin to decline in May and usually hit their lowest point in late September or October. Drought increases the natural decline in water levels during the summer because there is less groundwater recharge and an increase in pumping and extracting groundwater.

Towards the end of fall, when trees and plants stop growing and before snow starts accumulating, rainfall may cause groundwater levels to rise again. During the winter months, frozen soil limits groundwater recharge. Groundwater levels may remain stable or experience a slight decrease until spring brings snowmelt and rains, initiating the annual cycle.

Drive-point wells (“sand points”) are often the most vulnerable to drought because they are shallow, and a lack of groundwater recharge can cause them to go out of water. However, all wells are vulnerable to a side-effect of drought: high-capacity pumping. When high-capacity well owners pump much more groundwater than usual to keep lawns and crops alive during a drought, that pumping can significantly lower groundwater levels, which puts nearby wells at risk of going out of water. When pumping from one well causes another well to go out of water, that is called a “well interference”, described more below.

Current drought conditions

For current drought conditions in Minnesota, please visit the Minnesota Department of Natural Resources (DNR) website at [Drought Conditions Overview](http://www.dnr.state.mn.us/climate/journal/drought_monitor.html) (www.dnr.state.mn.us/climate/journal/drought_monitor.html).

Signs well may be going dry

There are signs to watch for that may indicate your well is going dry.

- You notice a change in the taste or appearance of your water.

- Your well water appears muddy or cloudy, and there may be sediment or sand in tap water or the toilet tank.
- You notice diminished water pressure from your tap.
- You may notice an increase in bubbles or dissolved gases in the water. This may cause the water from your tap to cough or sputter.
- Your electricity bill may have gone up due to the water pump running for longer periods of time.
- Your pump or pressure tank aren't lasting as long as they should.

If you notice any of these issues, you may want to contact a Licensed Well and Boring Contractor. A licensed well contractor can determine the cause of the problem and measure the depth to water in the well. If needed, they can help you find options for increasing yield from the existing well, such as replacing or lowering the pump in your well. If necessary, a licensed well contractor can also drill a new well. Please visit the Licensed Well and Boring Contractor Directory at the link below to find a contractor.

- [Licensed Well and Boring Contractor Directory \(http://www.health.state.mn.us/lwcsearch\)](http://www.health.state.mn.us/lwcsearch)

Well interference issues

If you suspect that nearby high-capacity pumping caused your well to run out of water, contact the Minnesota DNR. The DNR will investigate the cause of the out-of-water at no cost to you. However, before the DNR will investigate, you will need a Licensed Well and Boring Contractor to inspect your well and certify that it is in good working order. There is more information on the DNR website at the link below.

- [Well Interference Resolution Process \(https://www.dnr.state.mn.us/waters/watermgmt_section/appropriations/interference.html\)](https://www.dnr.state.mn.us/waters/watermgmt_section/appropriations/interference.html).

Manage water supply during a drought

- Private well owners should refer to the well construction record. If you do not have a copy of your well construction record, the information is available using the [Minnesota Well Index \(https://mnwellindex.web.health.state.mn.us/\)](https://mnwellindex.web.health.state.mn.us/). This record can provide useful information about the water level when the well was drilled that can be a helpful comparison to the current water level. However, many wells constructed before the 1970s do not have construction records.
- Decrease water usage by taking shorter showers and spreading out water-intensive activities such as laundry and dishes throughout the day. Reuse water when possible.
- Consider reducing or stopping lawn watering and use best practices such as watering garden beds in the evening. The DNR has information about water conservation at [Water conservation for residents \(www.dnr.state.mn.us/waters/watermgmt_section/appropriations/water-conservation-residents.html\)](http://www.dnr.state.mn.us/waters/watermgmt_section/appropriations/water-conservation-residents.html).

- Fix leaky faucets and plumbing to avoid wasting water. Consider investing in water-efficient faucets and showerheads. Learn more about conserving water and find water-efficient products at the sites below.
 - [EPA WaterSense \(https://www.epa.gov/watersense\)](https://www.epa.gov/watersense)
 - [Water Systems Council: Water Conservation \(PDF\) \(https://wellcarehotline.org/download/wellcare information sheets/other information sheets/Water-Conservation.pdf\)](https://wellcarehotline.org/download/wellcare%20information%20sheets/other%20information%20sheets/Water-Conservation.pdf).

Other health precautions

To ensure safe drinking water, MDH recommends that private well users regularly test their well water. This is especially important if there are any changes in the water quality. For more information, please visit [Water Quality/Well Testing/Well Disinfection \(http://www.health.state.mn.us/wellwater\)](http://www.health.state.mn.us/wellwater).

Droughts and extreme heat may co-occur. For information on how to protect yourself and your family during an extreme heat event, please see [Extreme Heat Events \(https://www.health.state.mn.us/communities/environment/climate/extremeheat.html\)](https://www.health.state.mn.us/communities/environment/climate/extremeheat.html).

Sources and additional information

- [University of Minnesota Extension: Protecting your private well during drought \(https://extension.umn.edu/homes-and-water/protecting-your-private-well-during-drought\)](https://extension.umn.edu/homes-and-water/protecting-your-private-well-during-drought)
- [Water Systems Council: Drought and Your Well \(PDF\) \(https://www.watersystemscouncil.org/download/wellcare information sheets/maintaining your well information sheets/Drought-and-Your-Well.pdf\)](https://www.watersystemscouncil.org/download/wellcare%20information%20sheets/maintaining%20your%20well%20information%20sheets/Drought-and-Your-Well.pdf)
- [Water Systems Council: What to Do if Your Well Runs Dry \(PDF\) \(https://www.watersystemscouncil.org/download/wellcare information sheets/maintaining your well information sheets/Runs-Dry.pdf\)](https://www.watersystemscouncil.org/download/wellcare%20information%20sheets/maintaining%20your%20well%20information%20sheets/Runs-Dry.pdf)

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To obtain this information in a different format, call: 651-201-4600.