

How to Secure Water During a Drought

The area I live in is currently under Level III water restrictions due to drought conditions. Officials are already planning to increase that to Level IV in May due to the low water levels in our reservoir and other sources that supply our municipal water system. Since we live in a small town, we actually depend on the larger city nearby for water.

As with any water shortage, the problem doesn't originate here but far upstream. Our reservoir receives water from a watershed that spans 16,656 square miles. While we are close to the coast, there hasn't been enough rainfall in that watershed to replenish the reservoir. The prognosis is not good, as we live in a fairly arid part of the country.

Fortunately, not all of our water comes from that single reservoir. Another reservoir further north provides some water to the nearby city that supplies us. That reservoir is currently 71% full, so there's no immediate danger of running out of water. At least, not for human consumption—but there is a significant risk of our lawns and gardens drying up, as we don't receive enough rainfall to sustain them without irrigation.



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This situation isn't unique to us. Several areas across the

country have been facing similar challenges. It seems that every year, I hear reports of one region or another suffering through drought.

Understanding Drought

Many people mistakenly think of drought as a total lack of water, especially in the preparedness and survival community. However, it simply means a water shortage. Anytime a local water authority declares a water shortage, that area is experiencing drought conditions. Such situations are typically caused by abnormally low rainfall but can also result from insufficient snowfall or mismanagement of water resources (often by politicians), leading to lower-than-expected reservoir levels.

Generally, these droughts last for several months, though some are shorter. They impact daily life by restricting how freely we can use water. Unfortunately, many people ignore these restrictions, worsening the situation for everyone. Even so, there is usually enough water for drinking, cooking, and cleaning.

What About Your Garden?

For many preppers, the biggest concern during a drought is their garden. More and more of us are growing at least some of our own food, which requires a fair amount of water. When water becomes scarce, officials and code enforcement officers start looking for anyone whose lawn or garden appears too green.

However, those officials have a limitation: they can only regulate the use of public water—meaning water that has gone through the municipal system. If you're using tap water to water your garden, they have a legitimate case against you. But if you can prove that you're using an alternative water

source, they have no grounds for enforcement. In fact, it can be amusing to watch them realize that the citation they just wrote is meaningless.

The key to avoiding trouble is ensuring you're harvesting your own water from natural sources. Avoid using water from any public source, including rivers, lakes, and canals. Instead, rely on your own well or rainwater collection.

I won't go into detail about installing rainwater collection systems or drilling a well here, as there are plenty of books and articles on those topics. However, I do want to introduce a few important considerations.

Weels and Water Availability

In many parts of the country, drilling a well means drilling deep—sometimes over 100 feet. The area where I previously lived had an average well depth of just over 100 feet. Where I live now, the average depth is over 500 feet. This is surprising, considering I'm now closer to the shore and not at a significantly higher elevation.

It's not that water isn't available at shallower depths—we can reach water at just five feet down. The problem is its quality. Water from a shallow well is often brackish, meaning it contains salt, though not as much as seawater.

Some plants can tolerate brackish water, but most cannot, especially vegetable crops. If you try to irrigate your garden with brackish water, at best, your plants will be stunted. At worst, they will die, leaving you without a food source.

Shallow Weels

A shallow well is typically defined as any well less than 20 feet deep. This limitation is due to the type of pump used—surface pumps, which can only pull water up from about 20

feet. The key to a successful shallow well is finding a subterranean stratum of sand. Groundwater collects in the gaps between sand grains, making it accessible. However, soil, clay, and rock don't allow water to flow easily, meaning they won't provide a reliable well.

Water Storage

Ideally, you shouldn't pump water from your well only when you need it. Instead, store it in a cistern or large container, such as an intermediate bulk container (IBC). If you plan to purify your water, consider using two IBCs—one for raw water and one for purified water. Be sure to label them clearly so visitors don't confuse the two.

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The more water you can store, the more secure you'll be. Even with a well, your water source might not be consistent. Having a reserve supply ensures that both your family and your garden can make it through the drought.

Solving the Brackish Water Problem

The U.S. has over 600 water desalination plants, with at least 400 built since 1971. Surprisingly, fewer than half of these treat seawater; the rest process brackish water.

If the government can treat brackish water to make it drinkable, so can we. The most common method used is reverse

osmosis (RO). Large-scale RO systems filter out salt, producing about 60% purified water and 40% concentrated brine.

To use RO for well water purification, you'll need a pump. RO systems require at least 40 PSI of water pressure to function. Your well pump may be able to handle this, but only if it provides sufficient pressure.

That said, not all well water needs purification. Gardens don't require perfectly clean water—if there's some mud in it, that won't hurt your plants. The only time purification is necessary is when the water is brackish, as excessive salt can kill crops.