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## **“You don't miss the water till the well runs dry.”**

by Mick Winter

Only 2.5% of the world's water is not salty, and two-thirds of that is trapped in the icecaps and glaciers. Of what is left, about 20% is in remote areas and most of the rest comes at the wrong time and in the wrong place, as with monsoons and floods. The amount of fresh water available for human use is less than 0.08% of all the water on the planet.

*-BBC News, "Water arithmetic 'doesn't add up',"*

Water. We use too much and, increasingly, have too little. It's probably our most precious resource and we squander it. The average person in the United States uses between 100 and 250 gallons of water a day. It's possible—and you may have no choice—to get by on a lot less.

According to the California Department of Water Resources <http://www.water.ca.gov/drought>, California is facing the *most significant water crisis in its history*. After experiencing two years of drought and the driest spring in recorded history, water reserves are extremely low. With the Sacramento-San Joaquin Delta ecosystem near collapse, court-ordered restrictions on water deliveries from the Delta have reduced supplies from the state's two largest water systems by twenty to thirty percent.”

One of the indicators that the Delta ecosystem is close to collapse is the near extinction of the Delta smelt, a two-inch long fish that smells like cucumbers. It serves as the “canary in the coal mine” for the Delta. If the system doesn't provide a livable habitat for the smelt, the next species to go are salmon and sturgeon, and eventually the entire biosystem.

Last June Governor Schwarzenegger declared California to officially be in a drought, requiring that water delivery throughout California be reduced. The reaction? Local governments such as Napa County, with funding from the cities of Napa, American Canyon, Yountville and Calistoga (St. Helena does not use water from the State Water Project), are suing the state to give them the water it doesn't have.

Although Napa gets 50% or more of the water it uses from the state, it also has a major source in its own reservoir, Lake Hennessey. The city believes it has enough water to meet growth through 2020, and that residents and businesses can consume water this year at their normal rate. Note: Projections are based on studies that do *not* consider global warming and climate change. (Note to Napa: Did you not get the memo?)

Some areas of the state have already declared mandatory rationing. Although there are no plans to ask citizens to conserve water in Napa (Missed the memo on that one, too, eh?), California, with its Mediterranean climate, is *always* just one step away from being in a drought. Actually we Mediterranean climate folks are always just a few degrees away from living in a *desert*. A couple of dry winters, or a few abnormally dry snowpacks, and we're up a dry creek without a paddle.

Of course this means that Californians are always conscious of their water usage and that they carefully conserve water in their homes, gardens and agricultural fields, right? Well, no. It doesn't. But they have been in the past and could be in the future.

Although there was a serious drought from 1987-1992, the last time Californians were really careful about water was during the Great Drought of 1976-1977. And they were remarkable. Communities that needed to conserve cut their water consumption by an average of 20%; some even as much as 70%! Let's hope this current generation can do as well—or better.

## **Water – The Conservation Facts**

### **Key Websites**

House Water Saver Home  
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[www.h2ouse.org](http://www.h2ouse.org)

A guide to conserving water from the California Urban Water Conservation Council.

### **City Water Webpages**

<http://tinyurl.com/americanwater>

<http://tinyurl.com/napawater>

<http://tinyurl.com/calistogawater>

<http://tinyurl.com/sthelwater>

### **Water Saving Tips**

#### **Showers**

Keep them short. Share them. Replace any normal shower heads with low-flow. They're inexpensive, and most municipalities even give them away for free. You can reduce water usage by almost 50% and save the cost and energy of heating water as well.

#### **Faucets**

When brushing your teeth or washing your face, turn the water off except when you actually need it. You can save several gallons of water each time.

#### **Toilets**

Toilets are the largest water-wasters in the home, using up to 25% of your home's water consumption and wasting gallons of water with every flush. Toilet tanks should use no more than 1.6 gallons per flush. If your toilet predates 1994, you probably need a more efficient one. Most municipalities provide low-flush toilets at little or no charge. Check with yours.

If you can't put in a low-flush toilet, at least add plastic displacement bags to your toilets. (Don't use

bricks. They just break apart and cause problems.)

For urine only, it's not necessary to flush each time. Save the water for when it's essential. As they used to say during the 1970s drought, "Brown goes down, but yellow is mellow."

### Composting Toilets

With one flush of your toilet you're using more water than a majority of people in the world have access to in an entire day. And in most cases, you're flushing not just water, but *drinking* water. Composting toilets save huge amounts of water, since they never use *any*. The human manure ends up as compost—in a safe, sanitary and non-smelly method.

#### Composting Toilet

[http://en.wikipedia.org/wiki/Composting\\_toilet](http://en.wikipedia.org/wiki/Composting_toilet)

From Wikipedia.

#### Composting Toilet World

[www.compostingtoilet.org](http://www.compostingtoilet.org)

Extensive information from Envirolet, a manufacturer of composting toilets.

Waterless urinals are also available, although more often seen in commercial establishments.

### Leaks

Leaks can waste many gallons of water a day. Check for toilet leaks, as well as leaky faucets and water pipes. For toilets, put a drop or two of food coloring in your tank. If the color appears in the bowl, you've got a leak.

### Rainwater

Capturing rainwater is called "rainwater harvesting". It basically means water delivered directly to your home from the skies at no charge. You just have to catch it, clean it, and store it. Assuming you have enough rainfall in your area, it's a way to become self-sufficient—or to at least supplement your municipally-supplied water.

#### Rain Barrel Guide

[www.rainbarrelguide.com](http://www.rainbarrelguide.com)

How to use rain barrels for water collection. Excellent overview and specifics.

#### Natural Rain Water

[www.naturallrainwater.com](http://www.naturallrainwater.com)

Information, products, and how to make a rain barrel.

### Graywater

Graywater is the water from dishwashing, laundry, showering and bathing. While no one wants to drink it, plants are happy to get it. You can set up a system that will save and recycle that water to be used in your garden. To use graywater on food crops, check first with the county health department.

Graywater Central  
[www.graywater.net](http://www.graywater.net)  
All about graywater

## Laundry

The optimal and most economical use of water—and electricity—is to wash only full loads of laundry (“full” as determined by the washer manufacturer; don't cram the laundry in the washer). Smaller loads use just as much electricity, and often more water than necessary, even with water volume set on a partial amount. If you need a new washer, get the water-saving front-loading style.

## Lawns and Gardens

The best thing you can do is rip out your lawns—which are heavy users of water—and replace them with vegetable gardens. Food is more important than trying to pass off your home as an English manor house.

If you have to have a lawn, at least water it during early morning or late afternoon hours to minimize evaporation. If you have to have decorative landscaping, at least use edible landscaping.

The City of Napa has created a “waterwise” garden at Napa Fire Station No. 3, at the corner of Solano and Trower. This garden demonstrates the water-saving advantages of native and other drought-tolerant plants. It is decorative only. No vegetables are grown. In my opinion, the city missed an excellent opportunity to show how residents could grow vegetables intensively, with minimal water and labor.

There are three basic methods for removing a lawn:

- ◆ Use a hoe and spade to scrape away the turf, then turn the soil.
- ◆ Use a spade and remove the turf in pieces, cutting roots along the way.
- ◆ Cover the grass with newspaper, then cover the paper with six inches or so of topsoil. Some months later the grass will have died off and decomposed. (This method is obviously easier, but takes much longer.)

Converting Lawns to Gardens  
[www.backyardnature.net/simple/lawn2gar.htm](http://www.backyardnature.net/simple/lawn2gar.htm)

Lawns to Gardens  
[www.yougrowgirl.com/lawns\\_gardens\\_convert.php](http://www.yougrowgirl.com/lawns_gardens_convert.php)

You don't need to make major sacrifices in conserving water, just small behavior changes. You can save water, energy—and money—with a few simple changes in your everyday practices. Why not start? If we all do it voluntarily now, we might even be able to avoid mandatory conservation in the future.

[sidebar – clip and save]

## Use Less Water and Save

Here are some normal household uses of water, how much water they use normally, and how much less

they use if you try to conserve.

Shower – Normal, 25 gallons – Wet down, soap up, rinse off, 4 gallons.

Brushing teeth – Tap running, 2 gallons – Wet brush, rinse briefly, one-quarter gallon

Shaving – Tap running, 10 gallons – Fill basin, 1 gallon.

Dishwashing – Tap running, 15 gallons – Wash in dishpan or sink, 5 gallons.

Automatic dishwasher – Full cycle, 16 gallons – Short cycle, 7 gallons.

Washing hands – Tap running, 2 gallons – Fill basin, 1 gallon.

Flushing toilet – Normal, 3.5-5 gallons – Low-flow toilet, 1.6 gallons.

Mick Winter is the author of *Peak Oil Prep: Prepare for Peak Oil, Climate Change and Economic Collapse*, available at [www.peakoilprep.com](http://www.peakoilprep.com), and *Sustainable Living for Home, Neighborhood and Community*, available at [www.sustainablelivingbook.com](http://www.sustainablelivingbook.com).