

# How To

## Water Conservation in the Home

by Karen and Daniel Howell

The plight of California as it enters its fifth year of below-normal precipitation has gone unnoticed and unheeded by much of the country. Mandatory rationing and drastic reductions (up to 50% for residential use and 75% for agriculture) face the Golden State. But the rest of the country is not far behind. We are exhausting our ground water supplies at an alarming rate and 40% of the domestic wells are already contaminated. The average household uses something in the range of 0.5 acre-foot of water per year, some 150,000 gallons.

In the permaculture community, we are, or should be, aware of our impact on our environment, of which water is an integral part. We applaud Guy Baldwin's article "Rainwater Collection from Roofs" [see PDJ #12/13] in which he dispels the myths associated with using rainwater. And we noted his suggested consumption of five gallons per person per day (which, by the way, is our consumption at the Running Rain Society), but we wonder if the general public has the skills needed to accomplish this low figure. To the right is a list of standard water conservation practices to help reduce your usage.

### Standard Water Conservation Practices

- Install sink faucet aerators and low-flow shower heads. (See Comparison Chart.)
- Take showers, not baths, and limit time to five minutes or less. Try getting wet, then shutting off water to soap and scrub, then rinsing. Share your bath.
- Do not let water run in the sink. Use a glass or close the drain.
- Install low-flush toilets, or use a dam in your present toilet tank.
- Use water-efficient appliances and operate only when full.
- Use greywater for plants and garden. (Use phosphate-free and biodegradable soaps and detergents.)
- Collect and use rainwater.\*\*
- Repair leaks and drips.
- Plant native and other plants that need little or no watering. Use mulch. Reduce or eliminate lawns.
- Shorten the distance from hot water heaters to sinks, tubs or showers, or save the outflowing cold water prior to hot emerging.
- Flush toilet after bowel movement but allow urine to accumulate. Don't use toilet as a trash receptacle. Try flushing with greywater.\*\*

### Device Comparison Chart

	Standard	Improved
Toilet	5-7 gal	1 qt-3 gal
Shower	5-10 gpm	1.1-3 gpm
Kitchen Faucet	5 gpm	1.5 gpm
Automatic Washer	27-54 g/load	16-20 g/load
Automatic Dishwasher	8-16 g/load	7.5 g/load

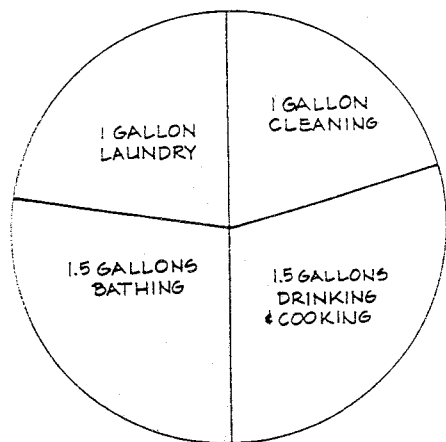


Figure 1. Per Capita U.S. Domestic Water Use: 60 Gallons per Day. Prior to delivery, up to 20% of this water is lost in transit. Urge your elected officials to repair city and state water systems.

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To achieve further reduction requires fundamental changes in water use philosophy, and may not be possible under existing laws. The list of techniques on the right can be used to achieve ultra-conservative use as illustrated in Figure 2. (Please note that achieving five gallons per person per day usage may not be possible in many situations.)

Water use philosophy starts with the concept that clean water is precious. Be conscious when you use it. If ultra-conservative use were practiced, it would be possible for a family of four to be comfortable with a rainfall of only six inches off a 2,000 square foot roof, or 7,500 gallons per year. So, even in this year of drought, with only five inches of rainfall from October through January 1991, California residents could stretch existing supplies without hardship. ♦



**Figure 2. Runoff Farm Water Use: 5 Gallons per Capita per Day. 75% of water used is recycled as greywater.**

## Techniques for Ultra-Conservative Water Use

- Take fewer baths and showers and share the water.
- Try sponge baths.
- Pre-rinse dishes in greywater and wash by hand in a measured amount of water every day.
- Use a composting toilet or treated ground disposal.\*\*
- Pre-soak clothes in greywater. Do laundry by hand or in a tub washer.\*\*
- Set water use limits for specific chores. For instance, use a bucket of water to wash the car and rinse with a bucket of clean, a glass of water to brush teeth, a gallon to wash dishes, etc.
- Use a solar water heater.
- Solar distill greywater to recycle.\*\*

\*\*Check local regulations and lobby for legalization.

### Further Reading

Killing the Hidden Waters, Charles Bowden. 1977, University of Texas Press.

Cadillac Desert, Marc Reisner. 1986, Penguin Books.

The Negev: The Challenge of a Desert, Evenari, et al. 1971, Harvard University Press.

Home Water Supply, Stu Campbell. Garden Way Publishers.

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