



What's your water footprint?

When it comes to your water use, do you tread lightly or are you an H₂O Sasquatch?

How much water do you think you consume every day? You might initially consider the length of your daily shower, the time of day you run your sprinkler system, and how long the water runs while you brush your teeth.

Conservation in such everyday tasks is important, but water experts have begun to use a more all-encompassing survey of water use by calculating “water footprints”

for single individuals, households, and even entire corporations or countries. Because almost every daily activity can be traced back to water, your own actions are only part of your water footprint.

A water footprint is the amount of water you directly or indirectly consume. This includes “virtual water”—the amount of water needed to produce everyday things such as food, clothing, and energy. ⇨



Everyday water use:

- **1 bath = 70 gallons**
By comparison, a 5-minute shower uses 10–25 gallons.
- **1 dishwasher cycle = 9–13 gallons**
- **Watering the lawn = 750 gallons**
About a half gallon of water is needed to irrigate a single square foot of grass; watering the average American lawn requires about 750 gallons.
- **1 dripping faucet = 20 gallons**
- **1 toilet flush = 1.6–5 gallons**
Traditional, non-efficient toilets use 3.5–5 gallons of water or more per flush, while ultra-low flow toilets use 1.6 gallons per flush.
- **1 swimming pool = 19,000 gallons**
About 19,000 gallons of water fill up the average swimming pool. If left uncovered, pool water can evaporate at a rate of about 1,000 gallons a month.

Your virtual water use:

- **1 bottled drink = 1.5 gallons**
The water footprint of a pound of plastic is 24 gallons, so the average bottled water, juice, or soda uses three to five times as much water as it contains.
- **1 day of electricity at home = 4–5 gallons**
- **1 tank (18 gallons) of gasoline = 18–45 gallons**
Because between 1 and 2.5 gallons of water are needed to refine a single gallon of gasoline, the 384 million gallons of gasoline used each day in the United States translate to more than 1 billion total gallons of water per day.
- **1 beer = 30 gallons**
- **1 cheese sandwich = 34 gallons**
Growing wheat requires 156 gallons per pound; 600 gallons of water are required to make a pound of cheese.
- **1 cup of coffee = 37 gallons**
Making a cup of coffee takes about 37 gallons of water, including growing and

processing the coffee beans, while tea requires 8 gallons of water.

- **1 egg = 120 gallons**
- **1 pair of jeans = 400 gallons**
Growing cotton for a pair of jeans takes about 400 gallons.

Ways to reduce your footprint:

- If you choose to wait for your shower water to heat, place a bucket in the shower to catch the water and use it later for watering plants or cleaning.
- Cut water use in half by hand-watering your lawn or garden instead of using sprinklers, or use a drip irrigation system instead of a hose or sprinkler.
- If your family wants to play with the hose or sprinkler, make sure they do it in a dry part of the lawn that can use the water.
- After a meal, scrape off dishes into the trash rather than rinsing. Many new dishwashers don't require pre-rinsed dishes.
- Fix leaky toilets and sinks. A leaky toilet can waste about 200 gallons a day.
- If building a new home or changing the plumbing in your current one, install a graywater system, which allows you to reuse the water from your nonkitchen



sinks, laundry machine, and dishwasher for watering plants and flushing toilets. Follow local and state graywater system regulations.

- Recycling one plastic bottle and one newspaper saves more than 5 gallons of water. According to the U.S. Environmental Protection Agency (EPA), in 2007 only 12 percent of plastic waste was recycled, compared to more than half of all paper materials, even though both of these water-intensive materials can be reused and recycled.

Learn More:

- To calculate your individual water footprint, visit h2oconserve.org. H2O Conserve is a program of the Johns Hopkins University Center for a Livable Future, the Interfaith Center on Corporate Responsibility, nonprofit environmental organization GRACE, and Food & Water Watch.
- To learn more about graywater systems, visit Extension's On-site Wastewater Treatment and Reuse Web site at ossf.tamu.edu.
- Learn more about water efficiency at the EPA's WaterSense® Web site, www.epa.gov/watersense/.

Did you know?

China's population is more than 1.3 billion, and each of those individuals uses about 184,920 gallons of water per year. Japan has a population of more than 126 million, with each person's water footprint at about 303,798 gallons per year. The United States' water footprint is 660,430 gallons per year per person—multiplied by 306 million.

- For information on making your home and appliances more efficient, visit www.energystar.gov.
- Conducting a water audit of your household can result in savings of 20 gallons to 30 gallons of water per day. To learn more, see the water conservation checklist provided by Texas AgriLife Extension Service Family and Consumer Services at fcs.tamu.edu/housing/.
- To find Community Supported Agriculture programs, visit the U.S. Department of Agriculture at www.usda.gov or the National Sustainable Agriculture Information Service at attra.ncat.org. 💧

Sources:

Energy Demands on Water Resources: Report to Congress on the Interdependency of Energy and Water, U.S. Department of Energy, December 2006. <http://www.energy.gov/>.

H2O Conserve, <http://h2oconserve.org>.

Hoekstra, A.Y. and Chapagain, A.K. (2007) Water footprints of nations: water use by people as a function of their consumption pattern, *Water Resources Management*. 21(1): 35-48. http://www.waterfootprint.org/Reports/Hoekstra_and_Chapagain_2006.pdf.

Hoekstra, A.Y. and Chapagain, A.K. (2008) *Globalization of water: Sharing the planet's freshwater resources*, Blackwell Publishing, Oxford, UK.

Municipal Solid Waste in the United States: 2007 Facts and Figures, EPA, <http://www.epa.gov/epawaste/conserve/rrr/recycle.htm>.

U.S. Census Bureau, <http://www.census.gov/>.

Water Footprint Network, www.waterfootprint.org.

Water and Me, <http://waterandme.tamu.edu>.

Water Science Education, the U.S. Geological Survey, <http://ga.water.usgs.gov/edu/>.

World Water Council, <http://www.worldwatercouncil.org>.