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Green Guide 121 | July/August 2007

Tapped Out: The True Cost of Bottled Water

by Solvie Karlstrom

From childhood, we're told to drink at least eight glasses of water each day. Unfortunately more and more Americans drink those eight glasses out of plastic bottles—a convenience that stuffs landfills, clogs waterways and guzzles valuable fossil fuels.

Last year Americans spent nearly \$11 billion on over 8 billion gallons of bottled water, and then tossed over 22 billion empty plastic bottles in the trash. In bottle production alone, the more than 70 million bottles of water consumed each day in the U.S. drain 1.5 million barrels of oil over the course of one year.

Banning the Bottle

Though the sale and consumption of bottled water is still on the rise, certain policy makers and activists have taken steps to reduce it. San Francisco Mayor Gavin Newsom signed an executive order in June that bars city government from using city money to supply municipal workers with bottled water, and New York City launched an ad campaign this summer encouraging residents and tourists to forego the bottled beverage for the city's tap, long considered some of the best water in the country. "New York waste and pollution is on a massive scale," says Michael Saucier of the New York City Department of Environmental Protection. "Considering that the average New Yorker consumes nearly 28 gallons of bottled water each year, New York clearly hasn't been doing enough to encourage residents to drink tap."

Even restaurateurs are doing their part to keep water bottles out of landfills. Upscale eateries in Boston, New York and San Francisco have taken bottled water off the menu, offering filtered tap instead. At the Italian restaurant Incanto in San Francisco, carafes used to serve filtered tap water are refilled 2,000 times on average before they're cracked and retired. Owner Mark Pastore explains that leaving bottled water off the menu is "a tiny thing that we can do to be a little more sustainable."

Avoiding Chemical Intruders

Not only does bottled water contribute to excessive waste, but it costs us a thousand times more than water from our faucet at home, and it is, in fact, no safer or cleaner. "The bottled water industry spends millions of dollars a year to convince us that their product is somehow safer or healthier than tap water, when in fact that's just not true," says Victoria Kaplan, senior organizer with Food and Water Watch, a nonprofit that recently launched a Take Back the Tap campaign to get consumers to ditch bottled water. "As much as 40 percent of bottled water started out as the same tap water that we get at home," she adds. A 1999 Natural Resources Defense Council study found that, with required quarterly testing, tap water may even be of a higher quality than bottled, which is only tested annually.

Water aside, the plastic used in both single-use and reusable bottles can pose more of a contamination threat than the water. A safe plastic if used only once, #1 polyethylene terephthalate (PET or PETE) is the most common resin used in disposable bottles. However, as #1 bottles are reused, which they commonly are, they can leach chemicals such as DEHA, a known carcinogen, and benzyl butyl phthalate (BBP), a potential hormone disrupter. According to the January 2006 *Journal of Environmental Monitoring*, some PET bottled-water containers were found to leach antimony, an elemental metal that is an eye, skin, and lung irritant at high doses. Also, because the plastic is porous you'll likely get a swill of harmful bacteria with each gulp if you reuse #1 plastic bottles.

While single-use water bottles should never be used more than once, some reusable water bottles simply shouldn't be used. The debate continues over the safety of bisphenol A (BPA), a hormone-disrupting chemical known to leach out of the #7 polycarbonate plastic used to make a variety of products, including popular Nalgene Lexan water bottles. New studies keep cropping up that don't bode well for BPA, demonstrating that even extremely low doses of the chemical can be damaging. Recent research has linked the chemical to a variety of disorders, including obesity and breast cancer, and one chilling 2007 study, published in the journal *PLoS Genetics*, found that BPA exposure can cross generations. Pregnant mice exposed to low levels of BPA led to chromosomal abnormalities, which possibly cause birth defects and miscarriages, in grandchildren.

Yet, in spite of mounting evidence, polycarbonate water bottles don't seem to be losing popularity. A 2006 *Green Guide* reader poll found that roughly a third of respondents still preferred the Nalgene Lexan over other reusable bottles. If you're partial to the brightly colored containers, Nalgene does manufacture safer alternatives made from #2 high density polyethylene (HDPE).

Avoid the perils of plastic altogether with a metal water bottle that can handle a variety of liquids, including acidic fruit juices, and won't leach chemicals into your beverage. **Klean Kanteen's** stainless steel bottle is lightweight, durable, and entirely chemical free. Avoid detergents that contain chlorine when cleaning Klean Kanteens; chlorine can corrode stainless steel. Another attractive alternative to plastic is the aluminum **Sigg** bottle with a taste-inert, water-based epoxy lining. Independent lab tests commissioned by the company found that the resin leached no detectable quantities of BPA, while other unlined aluminum and polycarbonate bottles subjected to the same conditions did.

Noting that the federal share of funding for water systems has declined from 78 percent in 1973 to 3 percent today, Kaplan urges consumers to "support public policies that promote safe, affordable, public tap water for future generations." Visit www.foodandwaterwatch.org and take the pledge to take back the tap, promising to choose tap water over bottled whenever possible and to support policies that promote clean public tap water for everybody. And meanwhile, invest in a safe, reusable bottle.

Better Bottles

Klean Kanteen stainless steel water bottle w/ cap, 27 fluid ounces (\$17.95; www.kleankanteen.com)

MLS Stainless Steel Thermos Bottle, 1 liter (\$22.16; www.mls-group.com)

Nissan Thermos FBB500 Briefcase Bottle, 1pt (\$35; www.coffee-makers-espresso-machines.com)

Sigg resin coated aluminum sport bottle, 25 ounces (\$19.99; www.mysigg.com)

Platypus #5 polypropylene 2+collapsible water bottle, 2.4 liters (\$9.95; www.rei.com)

Nalgene HDPE Loop-Top Bottle, 16 ounces (\$4.53; www.nalgene-outdoor.com)

For more suggestions, see our [Plastic Containers Product Report](#).